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Applicability; public utilities other than canal, turnpike, tunnel, bridge and wharf companies.

(a) Whenever a public utility, other than a canal, turnpike, tunnel, bridge or wharf company files a tariff, revision or supplement effecting changes in the terms and conditions of service rendered or to be rendered, it shall submit to the Commission, with the tariff, revision or supplement, statements showing all of the following:

(1) The specific reasons for each change.

Response (Huwar):

The rate changes are being proposed to allow Columbia Gas of Pennsylvania a reasonable opportunity to recover revenue sufficient to cover its operating expenses and increases to rate base and provide a reasonable opportunity to earn a fair rate of return.

(2) The total number of customers served by the utility.

Response (Huwar): Refer to Exhibit No. 3.

(3) A calculation of the number of customers, by tariff subdivisions, whose bills will be affected by the change.

Response (Strauss): Refer to Exhibit No.103, Schedule No. 8.

(4) The effect of the change on the utility's customers.

Response (Strauss): Refer to Exhibit No. 103, Schedule No. 8.

(5) The direct or indirect effect of the proposed change on the utility's revenues and expenses.

Response (Huwar): Refer to Exhibit Nos. 3 and 4.

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(6) The effect of the change on the service rendered by the utility.

Response (Huwar): Service rendered by the utility will not be impacted by the changes to rates.

(7) A list of factors considered by the utility in its determination to make the change. The list shall include a comprehensive statement about why these factors were chosen and the relative importance of each. This subsection does not apply to a portion of a tariff change seeking a general rate increase as defined in 66 Pa. C.S. §1308 (relating to voluntary changes in rates).

Response (Huwar): Not Applicable.

(8) Studies undertaken by the utility in order to draft its proposed change. This paragraph does not apply to a portion of a tariff change seeking a general rate increase as defined in 66 Pa. C.S. §1308.

Response (Huwar): Not Applicable.

(9) Customer polls taken and other documents which indicate customer acceptance and desire for the proposed change. If the poll or other documents reveal discernible public opposition, an explanation of why the change is in the public interest shall be provided

Response (Huwar): No customer polls were taken to indicate customer acceptance and desire for the proposed rate changes.

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(10) Plans the utility has for introducing or implementing the changes with respect to its ratepayers.

Response (Huwar): Columbia will notify its ratepayers of the proposed changes through a bill insert in compliance with the Commission's Regulations (Pa Code Section 53.45).

(11) F.C.C., F.E.R.C. or Commission orders or rulings applicable to the filing.

Response (Huwar): There are no orders or rulings that directly apply to this change.

(b) Whenever a public utility, other than a canal, turnpike, tunnel, bridge or wharf company files a tariff, revision, or supplement which will increase or decrease the bills to its customers, it shall submit in addition to the requirements of subsection (a), to the Commission, with the tariff, revision or supplement, statements showing all of the following:

(1) The specific reason for each increase or decrease.

Response (Huwar): The rate changes are being proposed to allow Columbia Gas of Pennsylvania a reasonable opportunity to recover revenue sufficient to cover its operating expenses and increases to rate base and provide a reasonable opportunity to earn a fair rate of return.

(2) The operating income statement of the utility for a 12-month period, the end of which may not be more than 120 days prior to the filing.

Response (Huwar): Refer to Exhibit No.2.

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(3) A calculation of the number of customers, by tariff subdivision, whose bills will be increased.

Response (Strauss): Refer to Exhibit No. 103, Schedule No. 8.

(4) A calculation of the total increase, in dollars, by tariff subdivision, projected to an annual basis.

Response (Strauss): Refer to Exhibit No. 103, Schedule No. 8.

(5) A calculation of the number of customers, by tariff subdivision, whose bills will be decreased.

Response (Strauss): Refer to Exhibit No.103, Schedule No. 8.

(6) A calculation of the total decreases, in dollars, by tariff subdivision, projected to an annual basis.

Response (Strauss): Refer to Exhibit No.103, Schedule No. 8.

COLUMBIA GAS OF PENNSYLVANIA, INC
53.53 II RATE OF RETURN
A. ALL UTILITIES

13. Attach copies of the summaries of the projected two years' Company's budgets (revenues, expense, and capital).

Response:

Please see Exhibit GAS-ROR-13 for projected revenues and expenses.

Please see Exhibit GAS-ROR-14 for the projected construction budget.

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.52	**Applicability: Public Utilities Other Than Canal, Turnpike, Bridge, and Wharf Companies**					
53.52(a)	Whenever a public utility, other than a canal, turnpike, tunnel, bridge or wharf company files a tariff, revision or supplement effecting changes in the terms and conditions of service rendered or to be rendered, it shall submit to the Commission, with the tariff, revision, or supplement, statements showing all of the following:	13	3			Huwar
53.52(a)1	The specific reasons for each change.	13	1	113	1	Huwar
53.52(a)2	The total number of customers served by the utility.	3 13	1	103 113	1	Mays Huwar
53.52(a)3	A calculation of the number of customers, by tariff subdivision, whose bills will be affected by the change.	3 13	1	103 113	1	Mays Huwar
53.52(a)4	The effect of the change on the utility's customers.	3 13	1	103 113	1	Mays Huwar
53.52(a)5	The direct or indirect effect of the proposed change on the utility's revenue and expenses.	13	1	113	1	Huwar
53.52(a)6	The effect of the change on the service rendered by the utility	13	1	113	1	Huwar
53.52(a)7	A list of factors considered by the utility in its determination to make the change. The list shall include a comprehensive statement about why these factors were chosen and the relative importance of each. This subsection does not apply to a portion of a change seeking a general rate increase as defined in 66 Pa. C. S. & 1308 (relating to voluntary changes in rates)	13	1	113	1	Huwar
53.52(a)8	Studies undertaken by the utility in order to draft its proposed change. This paragraph does not apply to a portion of a tariff change seeking a general rate increase as defined in 66 Pa. C. S. & 1308.	13	1	113	1	Huwar
53.52(a)9	Customer polls taken and other documents which indicate customer acceptance and desire for the proposed change. If the poll or other documents reveal discernible public opposition, an explanation of why the change is in the public interest shall be provided.	13	1	113	1	Huwar
53.52(a)10	Plans the utility has for introducing or implementing the changes with respect to its ratepayers.	13	1	113	1	Huwar
53.52(a)11	FCC, FERC or Commission orders or rulings applicable to the filing.	13	1	113	1	Huwar
53.52(b)	Whenever a public utility, other than a canal, turnpike, tunnel, bridge or wharf company files a tariff, revision or supplement which will increase or decrease the bills to its customers, it shall submit in addition to the requirements of subsection (a), to the Commission, with the Tariff, revision, or supplement, statements showing all of the following:	13	3			Huwar

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53.52(b)1	The specific reasons for each Increase or decrease.	13	1	113	1	Huwar
53.52(b)2	The operating income statement of the utility for a 12-month period, the end of which may not be more than 120 days prior to the filing.	2 3 13	1	102 103 113	1 1	Miller Mays Huwar
53.52(b)3	A calculation of the number of customers, by tariff subdivision, whose bills will be increased.	3 13	1	103 113	1	Mays Huwar
53.52(b)4	A calculation of the total increases, in dollars, by tariff subdivision, projected to an annual basis.	3 13	1	103 113	1	Mays Huwar
53.52(b)5	A calculation of the number of customers, by tariff subdivision, whose bills will be decreased.	3 13	1	103 113	1	Mays Huwar
53.52(b)6	A calculation of the total decreases. in dollars, by tariff subdivision, projected to an annual basis.	3 13	1	103 113	1	Mays Huwar
53.52(c)1	A Statement showing the utility's calculation of the rate of return earned in the 12-month period referred to on subsection (b)(2), and the anticipated rate of return to be earned when the tariff, revision, or supplemental becomes effective. The rate base used in this calculation shall be supported by summaries of original cost for the rate of return calculation.	8		108		Covert
53.52(c)2	A detailed balance sheet of the utility as of the close of the period referred to in subsection (b)f2).	1	1	101		Miller
53.52(c)3	A summary, by detailed plant accounts, of the book value of the property of the utility at the date of the balance sheet required by paragraph (2).	8	1, 2	108		Covert
53.52(c)4	A statement showing the amount of the depreciation reserve, at the date of the balance sheet required by paragraph (2), applicable to the property, summarized as required by paragraph (3).	8	3	108	3	Covert
53.52(c) 5	A statement of operating income, setting forth the operating revenues and expenses by detailed accounts for the 12-month period ending on the balance sheet required by paragraph (2).	2	1	102	1	Miller
53.52(c) 6	A brief description of a major change in the operating or financial condition of the utility occurring between the date of the balance sheet required by paragraph (2) and the date of transmittal of the tariff, revision or supplement. As used on this paragraph, a major change is one which materially alters the operating or financial condition of the utility from that reflected in paragraphs (1) - (5).	1	2	101		Miller
53.53 I A	**53.53 I. VALUATION** **A. ALL UTILITIES**					
53.53.I.A.1	Provide a corporate history (include the dates of original incorporation, subsequent mergers and/or acquisitions). Indicate all countries and cities and other governmental subdivisions to which service is provided (including service areas outside the state), and the total population in the area served.	15	1	115		Covert

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.53.I.A.2	Provide a schedule showing the measures of value and the rates of return at the original cost and trended original cost measures of value at the spot, three-year and five-year average price levels. All claims made on this exhibit should be cross-referenced to appropriate exhibits. Provide a schedule similar to the one listed above, reflecting respondent's final claim in its previous rate case.	8		108		Covert
53.53.I.A.3	Provide a description of the depreciation methods utilized in calculating annual depreciation amounts and depreciation reserves, together with a discussion of all factors which were considered in arriving at estimates of service life and dispersion by account. Provide dates of all field inspections and facilities visited.	9	1	109	1	Spanos
53.53.I.A.4	Set forth, in exhibit form, charts depicting the original and estimated survivor curves and a tabular presentation of the original life table plotted on the chart for each account where the retirement rate method of analysis is utilized. a. If any utility plant was excluded from the measures of value because it was deemed not to be "used and useful" in the public service, supply a detailed description of each item of property. b. Provide the surviving original cost at test year end by vintage by account and include applicable depreciation reserves and annuities. (i) These calculations should be provided for plant in service as well as other categories of plant, including, but not limited, to contributions in aid of construction, customer's advances for construction, and anticipated retirements associated with any construction work in progress claims (if Applicable)	9	1	109	1	Spanos
53.53.I.A.5	Provide a comparison of respondent's calculated depreciation reserve vs. book reserve by account at the end of the test year.	9	2	109	2	Spanos
53.53.I.A.6	Supply a schedule by account and depreciable group showing the survivor curve and annual accrual rate estimated to be appropriate: a. For the purposes of this filing. b. For the purposes of the most recent rate increase filing prior to the current proceedings. (i) Supply a comprehensive statement of any changes made in method of depreciation and in he selection of average service lives and dispersion.	9	3	109	3	Spanos
53.53.I.A.7	Provide a table, showing the cumulative depreciated original cost by year of installation for utility plant in service at the end of the test year (depreciable plant only) as claimed in the measures of value, in the following form: a. Year installed. b. Original cost - the total surviving cost associated with each installation year from all plant accounts.	9	4	109	4	Spanos

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Historic Test Year Twelve Months Ended November 30, 2017 Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Schedule	Witness
	c. Calculated depreciation reserve-the calculated depreciation reserve associated with each installation year from all plant accounts. d. Depreciated original cost - (Column B minus Column C). e. Total - cumulation year by year of the figures from Column D. f. Column E divided by the total of the figure in Column D.	9	4	109	4	Spanos
53.53.I.A.8	Provide a description of the trending methodology which was utilized. Identify all indexes which were used (include all backup workpapers) and all the reasons particular indexes were chosen. If indexes were spliced, indicate which years were utilized in any splices. if indexes were composite, show all supporting calculations, include any analysis made to "test" the applicability of any index.	8		108		Covert
53.53.I.A.9	Provide an exhibit indicating the spot trended original cost at test year end by vintage by account and include applicable depreciation reserves. Include total by account for all other trended measures of value.	8		108		Covert
53.53.I.A.10	Supply an exhibit indicating the percentages of Undepreciated original cost which were trended with the following indexes: a. Boeckh. b. Handy-Whitman. c. Indexes developed from suppliers' prices. d. Indexes developed from company records and company price histories. e. Construction equipment. f. Government statistical releases.	8		108		Covert
53.53.I.A.11	Provide a table, showing the cumulative trended depreciated original cost (at the spot price level) by year installation for utility plant in service at the end of the test year (depreciable plant only) as claimed in the measures of value, in the following form: a. Year installed. b. Trended original cost (at the spot price level) - the total surviving cost associated with each installation year from all plant accounts. c. Trended calculated depreciation reserve - the calculated depreciation reserve associated with each installation year from all plant accounts. d. Depreciated trended original cost - (Column B minus Column C). e. Total-accumulation year by year of the figures from Column D. f. Column E divided by the total of the figures in Column D.	8		108		Covert
53.53.I.A.12	If a claim is made for construction work in progress, include, in the form of an exhibit, the summary page from all work orders, amount expensed at the end of the test year and anticipated in-service dates. Indicate if any of the construction work in progress will result in insurance recoveries, reimbursements, or retirements of existing facilities. Describe in exact detail the necessity of each project claimed if not detailed on the summary page from the work order. Include final completion date and estimated total amounts to be spent on each project. [These exhibits should be updated at the conclusion of these proceedings.]	8		108		Covert

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.53.I.A.13	If a claim is made for non-revenue producing construction work in progress, include, in the form of an exhibit, the summary page from all work orders, amount expensed at the end of the test year and anticipated in-service dates. Indicate if any of the construction work in progress will result in insurance recoveries, reimbursements, or retirements of existing facilities. Describe in exact detail the necessity of each project claimed if not detailed on the summary page from the work order. Include final completion date and estimated total amounts to be spent on each project. [These exhibits should be updated at the conclusion of these proceedings.]	8		108		Covert
53.53.I.A.14	If a claim is made for plant held for future use, supply the following: a. A brief description of the plant or land site and its cost. b. Expected date of use for each item claimed. c. Explanation as to why it is necessary to acquire each item in advance of its date of use. d. Date when each item was acquired. e. Date when each item was placed in plant held for future use.	8		108		Covert
53.53.I.A.15	If materials and supplies comprise part of the cash working capital claim, attach an exhibit showing the actual book balances for materials and supplies by month for the thirteen months prior to the end of the test year. Explain any abrupt changes in monthly balances. [Explain method of determining claim if other than that described above.]	8		108		Covert
53.53.1.A.16	If fuel stocks comprise part of the cash working capital claim, provide an exhibit showing the actual book balances (quantity and price) for the fuel inventories by type of fuel for the thirteen months prior to the end of the test year by location, station, etc. [Explain the method of determining claim if other than that described above.]	8		108		Covert
53.53.I.A.17	Regardless of whether a claim for net negative or positive salvage is made, attach an exhibit showing gross salvage, cost of removal, and net salvage for the test year and four previous years by account.	9	5	109	5	Spanos
53.53.I.A.18	Explain in detail by statement or exhibit the appropriateness of claiming any additional items, not previously mentioned, in the measures of value.	8		108		Covert
53.53.I.C	**53.53.I VALUATION C. GAS UTILITIES**					
53.53.I.C.1	Provide, with respect to the scope of operations of the utility, a description of all property, including an explanation of the system's operation, and all plans for any significant future expansion, modification, or other alterations of facilities. This description should include, but not be limited to the following: a. If respondent has various gas service areas, indicate if they are integrated, such that the gas supply is available to all customers. b. Provide all pertinent data regarding company policy related to the addition of new consumers in the company's service area. c. Explain how respondent obtains its gas supply, as follows: (i) Explain how respondent stores or manufactures gas; if applicable. (ii) State whether the company has peak shaving facilities. (iii) Provide details of coal-gasification programs, if any. iv) Describe the potential for emergency purchases of gas. (v) Provide the amount of gas in MCF supplied by various suppliers in the test year (include a copy of all contracts).	17		117		Covert

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
	d. Provide plans for future gas supply, as follows: (i) Supply details of anticipated gas supply from respondent's near-term development of gas wells, if any. (ii) Provide gas supply agreements and well development ventures and identify the parties thereto. e. Indicate any anticipated curtailments and explain the reasons for the curtailments. f. Provide current data on any Federal Power Commission action or programs that may affect, or tend to affect, the natural gas supply to the gas utility.	17		117		Covert
53.53.I.C.2	Provide an overall system map, including and labeling all measuring and regulating stations, storage facilities, production facilities transmission and distribution mains, by size, and all interconnections with other utilities and pipelines.	15	2	115		Covert
53.53.II.A	**53.53.II. RATE RETURN** **A. ALL UTILITIES**					
53.53.II.A.1	Provide capitalization and capitalization ratios for the last five-year period and projected through the next two years. (With short-tern debt and without short-term debt.) Company, Parent and System (consolidated)). a. Provide year-end interest coverages before and after taxes for the last three years and at latest date. (Indenture and SEC Bases.) (Company, Parent and System (consolidated)). b. Provide year-end preferred stock dividend coverages for last three years and at latest date (Charter and SEC bases).	401		401		Moul
53.53.II.A.2	Provide latest quarterly financial report (Company and Parent).	402		402		Moul
53.53.II.A.3	Provide latest Stockholder's Report (Company and Parent).	403		403		Moul
53.53.II.A.4	Provide latest Prospectus (Company and Parent).	404		404		Moul
53.53.II.A.5	Supply projected capital requirements and sources of Company, Parent and System (consolidated) for each of future three years.	405		405		Moul
53.53.II.A.6	Provide a schedule of debt and preferred stock of Company, Parent and System (Consolidated) as of test year-end and latest date, detailing for each issue (if applicable): a. Date of issue b. Date of maturity c. Amount issued d. Amount outstanding e. Amount retired f. Amount reacquired g. Gain on reacquisition h. Coupon rate i. Discount or premium at issuance j. Issuance expenses k. Net proceeds l. Sinking Fund requirements m. Effective interest rate n. Dividend rate o. Effective cost rate p. Total average weighted effective Cost Rate	406		406		Moul

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.53.II.A.7	Supply financial data of Company and/or Parent for last five years: a. Earnings-price ratio (average) b. Earnings-book value ratio (per share basis) (avg. book value) c. Dividend yield (average) d. Earnings per share (dollars) e. Dividends per share (dollars) f. Average book value per share yearly g. Average yearly market price per share (monthly high-low basis) h. Pre-tax funded debt interest coverage i. Post-tax funded debt interest coverage j. Market price-book value ratio	407		407		Moul
53.53.II.A.8	State amount of debt interest utilized for income tax calculations, and details of debt interest computations. under each of the following rate cases vases: a. Actual test year b. Annualized test year-end c. Proposed test year-end	7		107		Fischer
53.53.II.A.9	State amount of debt interest utilized for income tax calculations which has been allocated from the debt interest of an affiliate, and details of the allocation, under each of the following rate cases vases: a. Actual test year b. Annualized test year-end c. Proposed test year-end	7		107		Fischer
53.53.II.A.10	Under Section 1552 of the Internal Revenue Code and Regulations 1.1552-1 thereunder, if applicable, Parent Company, in filing a consolidated income tax return for the group, must choose one of four options by which it must allocate total income tax liability of the group to the participating members to determine each member's tax liability to the federal government. (If this interrogatory is not applicable, so state.) a. State what option has been chosen by the group. b. Provide, in summary form, the amount of tax liability that has been allocated to each of the participating members in the consolidated income tax return c. Provide a schedule, in summary form, of contributions, which were determined on the basis of separate tax return calculations, made by each of the participating members to the tax liability indicated in the consolidated group tax return. Provide total amounts of actual payments to the tax depository for the tax year. as computed on the basis of separate returns of members. d. Provide annual income tax return for group, and if income tax return shows net operating loss, provide details of amount of net operating loss allocated to the income tax returns of each of the members of the consolidated group.	7		107		Fischer

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.53.II.A.11	Provide AFUDC charged by company at test year-end and latest date, and explain method by which rate was calculated.	408		408		Miller
53.53.II.A.12	Set forth provisions of Company's and Parent's charter and indentures (if applicable) which describe coverage requirements, limits on proportions of types of capital outstanding, and restrictions on dividend payouts.	409		409		Moul
53.53.II.A.13	Attach copies of the summaries of the projected 2 year's Company's budgets (revenue, expense and capital).	13	2	113	2	Miller
53.53.II.A.14	Describe long-term debt reacquisition's by Company and Parent as follows: a. Reacquisition's by issue by year. b. Total gain on reacquisition's by issue by year. c. Accounting of gain for income tax and book purposes.	410		410		Moul
53.53.II.A.15	Set forth amount of compensating bank balances required under each of the following rate base bases: a. Annualized test year operations. b. Operations under proposed rates.	411		411		Moul
53.53.II.A.16	Provide the following information concerning compensating bank balance requirements for actual test year: a. Name of each bank. b. Address of each bank. c. Types of accounts with each bank (checking, savings, escrow, other services, etc.). d. Average Daily Balance in each account. e. Amount and percentage requirements for compensating bank balance at each bank. f. Average daily compensating bank balance at each bank. g. Documents from each bank explaining compensating bank balance requirements. h. Interest earned on each type of account.	411		411		Moul
53.53.II.A.17	Provide the following information concerning bank notes payable for actual test year: a. Line of Credit at each bank. b. Average daily balances of notes payable to each bank, by name of bank. c. interest rate charged on each bank note (Prime rate, formula rate or other). d. Purpose of each bank note (e.g., construction, fuel storage, working capital, debt retirement). e. Prospective future need for this type of financing	412		412		Moul
53.53.II.A.18	Set forth amount of total cash (all cash accounts) on hand from balance sheets for last 24-calendar months preceding test year-end.	1	3	101		Miller
53.53.II.A.19	Submit details on Company or Parent common stock offerings (past 5 years to present) as follows: a. Date of Prospectus b. Date of offering c. Record date d. Offering period-dates and number of days e. Amount and number of share of offering	413		413		Moul

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Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
	f. Offering ratio (if rights offering) g. Per cent subscribed h. Offering price i. Gross proceeds per share j. Expenses per share j. Net proceeds per share (i-j) l. Market price per share 1. At record date 2. At offering date 3. One month after close of offering m. Average market price during offering 1. Price per share 2. Rights per share-average value of rights n. Latest reported earnings per share at time of offering o. Latest reported dividends at time of offering	413		413		Moul
53.53.II.A.20	Provide latest available balance sheet and income statement for Company, Parent and System (consolidated).	414		414		Miller
53.53.II.A.21	Provide Original Cost, Trended Original Cost and Fair Value rate base claims.	8		108		Covert
53.53.II.A.22	a. Provide Operating Income claims under: (i) Present rates (ii) Pro forma present rates (annualized & normalized) (iii) Proposed rates (annualized & normalized) b. Provide Rate of Return on Original Cost and Fair Value claims under: (i) Present rates (ii) Pro forma present rates (iii) Proposed rates	2	2	102	2	Miller
53.53.II.A.23	List details and sources of "Other Property and Investments," "Temporary Cash Investments and Working Funds on test year-end balance sheet.	1	4	101		Miller
53.53.II.A.24	Attach chart explaining Company's corporate relationship to its affiliates (System Structure).	15	3	115		Covert
53.53.II.A.25	If the utility plans to make a formal claim for a specific allowable rate of return. Provide the following data in statement form: a. Claimed capitalization and capitalization ratios with supporting data. b. Claimed cost of long-term debt with supporting data. c. Claimed cost of short-term debt with supporting data. d. Claimed cost of total debt with supporting data. e. Claimed cost of preferred stock with supporting data f. Claimed cost of common equity with supporting data.	400		400		Moul
53.53.II.A.26	Provide the following income tax data: a. Consolidated income tax adjustments, if applicable. b. Interest for tax purposes (basis).	7		107		Fischer
53.53.II.C	**53.53.II. RATE RETURN** **C. GAS UTILITIES**					
53.53.II.C.1	Provide test year monthly balances for "Current Gas Storage" and notes financing such storage.	1	5	101		Miller

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53.53.III.A	**53.53.III. BALANCE SHEET AND OPERATING STATEMENT** **A ALL UTILITIES**					
53.53.III.A1	Provide a comparative balance sheet for the test year and the preceding year which corresponds with the test year date.	1	1	101		Miller
53.53.III.A2	Set forth the major items of Other Physical Property, Investments in Affiliated Companies and Other Investments.	1	6	101		Miller
53.53.III.A3	Supply the amounts and purpose of Special Cash Accounts of all types, such as: a. Interest and Dividend Special Deposits. b. Working Funds other than general operating cash accounts. c. Other special cash accounts and amounts (Temporary cash investments).	1	7	101		Miller
53.53.III.A4	Describe the nature and/or origin and amounts of notes receivable, accounts receivable from associated companies, and any other sign fact receivables, other than customer accounts, which appear on balance sheet.	1	8	101		Miller
53.53.III.A5	Provide the amount of accumulated reserve for uncollectible accounts, method and rate of accrual, amounts accrued, and amounts written-off in each of the last three years.	1	9	101		Miller
53.53.III.A6	Provide a list of prepayments and give an explanation of special prepayments.	1	10	101		Miller
53.53.III.A7	Explain in detail any other significant (in amount) current assets listed on balance sheet.	1	11	101		Miller
53.53.III.A8	Explain in detail, including the amount and purpose, the deferred asset accounts that currently operate to effect or will at a later date effect the operating account supplying: a. Origin of these accounts. b. Probable changes to this account in the near future. c. Amortization of these accounts currently charged to operations or to be charged in the near future. d. Method of determining yearly amortization for the following accounts: Temporary Facilities Miscellaneous Deferred Debits Research and Development Property Losses Any other deferred accounts that effect operating results.	1	12	101		Miller
53.53.III.A9	Explain the nature of accounts payable to associated companies, and note amounts of significant items.	1	13	101		Miller
53.53.III.A10	Provide details of other deferred credits as to their origin and disposition policy (e.g. - amortization).	1	14	101		Miller
53.53.III.A11	Supply basis for Injury and Damages reserve and amortization thereof.	1	15	101		Miller
53.53.III.A12	Provide details of any significant reserves, other than depreciation, bad debt, injury and damages, appearing on balance sheet.	1	16	101		Miller
53.53.III.A13	Provide an analysis of Unappropriated retained earnings for the test year and three preceding calendar years.	1	17	101		Miller
53.53.III.A14	Provide schedules and data in support of the following working capital items: a. Prepayments - List and identify all items b. Federal Excise Tax accrued and prepaid c. Federal Income Tax accrued or prepaid d. Pa. State Income Tax accrued or prepaid e. Pa. Gross Receipts Tax accrued or prepaid	8		108		Covert

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	f. Pa. Capital Stock Tax accrued or prepaid g. Pa. Public Utility Realty Tax accrued or prepaid h. State sales tax accrued or prepaid i. Payroll taxes accrued or prepaid j. Any adjustment related to the above items for ratemaking purposes.	8		108		Covert
53.53.III.A15	Supply an exhibit supporting the claim for working capital requirement based on the lead-lag method. a. Pro forma expenses and revenues are to be used in lieu of book data for computing lead-lag days. b. Respondent must either include sales for resale and related expenses in revenues and in expenses or exclude from revenues and expenses. Explain procedures followed (exclude telephone).	8	4	108	4	Covert
53.53.III.A16	Provide detailed calculations showing the derivation of the tax liability offset against gross cash working capital requirements.	8	4	108	4	Covert
53.53.III.A17	Prepare a Statement of Income for the various time frames of the rate proceeding including: Col. 1-Book recorded statement for the test year. 2-Adjustments to book record to annualize and normalize under present rates. 3-Income statement under present rates after adjustment in Col. 2 4-Adjustment to Col. 3 for revenue increase requested. 5-Income statement under requested rates. a. Expenses may be summarized by the following expense classifications for purposes of this statement: Operating Expenses (by category) Depreciation Amortization Taxes, Other than Income Taxes Total Operating Expense Operating Income Before Taxes Federal Taxes State Taxes Deferred Federal Deferred State Income Tax Credits Other Credits Other Credits and Charges, etc. Total Income Taxes Net Utility Operating Income Other Income & Deductions Other Income Detailed listing of Other Income used in Tax Calculation Other Income Deduction Detailed Listing Taxes Applicable to Other Income and Deductions	2 2	3 4	102	3	Miller Miller

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	Listing Income Before Interest Charges Listing of all types of Interest Charges and all amortization of Premiums and/or Discounts and expenses on Debt issues Total Interest Net Income After Interest Charges (Footnote each adjustment to the above statements with explanation in sufficient clarifying detail.)	2	3, 4			Miller
53.53.III.A18	Provide comparative operating statements for the test year and the immediately preceding 12 months showing increases and decreases between the two periods. These statements should supply detailed explanation of the causes of the major variances between the test year and preceding year by detailed account number.	2	5	102	4	Miller
53.53.III.A19	List extraordinary property losses as a separate item, not included in operating expenses or depreciation and amortization. Sufficient supporting data must be provided.	13	5	113	3	Miller Covert
53.53.III.A20	Supply detailed calculations of amortization of rate case expense, including supporting data for outside services rendered. Provide the items comprising the rate case expense claim (include the actual billings or invoices in support of each kind of rate case expense), the items comprising the actual expenses of prior rate cases and the unamortized balances.	4	4	104	4	Miller
53.53.III.A21	Submit detailed computation of adjustments to operating expenses for salary, wage and fringe benefit increases (union and non-union merit, progression, promotion and general) granted during the test year and six months subsequent to the test year. Supply data showing for the test year: a. Actual payroll expense (regular and overtime separately) by categories of operating expenses. i.e. maintenance, operating transmission, distribution, other. b. Date, percentage increase, and annual amount of each general payroll increase during the test year. c. Dates and annual amounts of merit increases or management salary adjustments. d. Total annual payroll increases in the test year e. Proof that the actual payroll plus the increases equal the payroll expense claimed in the supporting data (by categories of expenses). f. Detailed list of employee benefits and cost thereof for union and non-union personnel. Any specific benefits for electives and officers should also be included, and cost thereof. g. Support the annualized pension cost figures (i) State whether these figures include any unfunded pension costs. Explain. (ii) Provide latest actuarial study used for determining pension accrual rates. h. Submit a schedule showing any deferred income and consultant fee to corporate officers or employees.	4	5	104	5	Miller
53.53.III.A22	Supply an exhibit showing an analysis, by functional accounts, of the charges by affiliates (Service Corporations, etc.) for services rendered included in the operating expenses of the filing company for the 12-month period ended prior to the test year. a. Supply a copy of contracts, if applicable. b. Explain the nature of the services provided. c. Explain basis on which charges are made. d. If charges allocated, identify allocation factors used.	4	11	104	9	Miller

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53.53.III.A23	e. Supply the components and amounts comprising the expense in this account. f. Provide details of initial source of charge and reason thereof. Describe costs relative to leasing equipment, computer rentals, and office space, including terms and conditions of the lease. State method for calculating monthly or annual payments.	4	12	104	9	Miller
53.53.III.A24	Submit detailed calculations (or best estimates) of the cost resulting from major storm damage.	4	13	104	9	Miller
53.53.III.A25	Submit details of expenditures for advertising (National and Institutional and Local media). Provide a schedule of advertising expense by major media categories for the test year and the prior two comparable years with respect to: a. Public health and safety b. Conservation of energy c. Explanation of Billing Practices. Rates, etc. d. Provision of factual and objective data programs in educational institutions e. Other advertising programs f. Total advertising expense	4	8	104	6	Miller
53.53.III.A26	Provide a list of reports, data, or statements requested by and submitted to the Commission during and subsequent to the test year.	14	1	114	1	Bardes Hasson
53.53.III.A27	Prepare a detailed schedule for the test year showing types of social and service organization memberships paid for by the Company and the cost thereof.	4	14	104	9	Miller
53.53.III.A28	Submit a schedule showing, by major components, the expenditures associated with Outside Services Employed, Regulatory Commission Expenses and Miscellaneous General Expenses, for the test year and prior two comparable years.	4	14	104	9	Miller
53.53.III.A29	Submit details of information covering research and development expenditures, including major projects within the company and forecasted company programs.	4	9	104	7	Miller Krajovic
53.53.III.A30	Provide a detailed schedule of all charitable and civic contributions by recipient and amount for the test year.	4	15	104	9	Miller
53.53.III.A31	Provide a detailed analysis of Special Services-Account 795.	4	14	104	9	Miller
53.53.III.A32	Provide a detailed analysis of Miscellaneous General Expense-Account No. 801.	4	14	104	9	Miller
53.53.III.A33	Provide a labor productivity schedule.	4	10	104	8	Miller
53.53.III.A34	List and explain all non-recurring abnormal or extraordinary expenses incurred in the test year which will not be present in future years.	4	16	104	9	Miller
53.53.III.A35	List and explain all expenses included in the test year which do not occur yearly but are of a nature that they do occur over an extended period of years. (e.g.,-Non-yearly maintenance programs, etc.) {Responses shall be submitted and identified as exhibits.}	4	16	104	9	Miller
53.53.III.A36	Using the adjusted year's expenses under present rates as a base, give detail necessary for clarification of all expense adjustments. Give clarifying detail for such adjustments that occur due to changes in accounting procedure, such as charging a particular expense to a different account than was used previously. Explain any extraordinary declines in expense due to such change of account use.	4	16	104	9	Miller

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53.53.III.A37	Indicate the expenses that are recorded in the test year, which are due to the placement in operating service of major plant additions or the removal of major plant from operating service, and estimate the expense that will be incurred on a full-year's operation.	4	16	104	9	Miller
53.53.III.A38	Submit a statement of past and anticipated changes, since the previous rate case, in major accounting procedures.	4	16	104	9	Miller
53.53.III.A39	Identify the specific witness for all statements and schedules of revenues, expenses, taxes, property, valuation, etc.	13	3	113	3	Huwar Covert
53.53.III.A40	Adjustments which are estimated shall be fully supported by basic information reasonably necessary.	13	4	113	3	Miller Covert
53.53.III.A41	Submit a statement explaining the derivation of the amounts used for projecting future test year level of operations and submit appropriate schedules supporting the projected test year level of operations.	13	4	113	3	Miller Covert
53.53.III.A42	If a company has separate operating divisions, an income statement must be shown for each division, plus an income statement for company as a whole.	2	6	102	5	Miller
53.53.III.A43	If a company's business extends into different states or jurisdictions, then statements must be shown listing Pennsylvania jurisdictional data, other state data and federal data separately and jointly (Balance sheets and operating accounts)	2	6	102	5	Miller
53.53.III.A44	Ratios, percentages, allocations and averages used in adjustments must be fully supported and identified as to source.	13	4	113	3	Miller Covert
53.53.III.A45	Provide an explanation of any differences between the basis or procedure used in allocations of revenues, expenses, depreciation and taxes in the current rate case and that used in the prior rate case.	13	4	113	3	Miller Covert
53.53.III.A46	Supply a copy of internal and independent audit reports of the test year and prior calendar year, noting any exceptions and recommendations and disposition thereof.	13	4	113	3	Miller Covert
53.53.III.A47	Submit a schedule showing rate of return on facilities allocated to serve wholesale customers.	11		111		Balmert
53.53.III.A48	Provide a copy of the latest capital stock tax report and the latest capital stock tax settlement.	6	3	106	3	Fischer
53.53.III.A49	Submit details of calculations for Taxes, Other than Income where a company is assessed taxes for doing business in another state, or on its property located in another state.	6	4	106	3	Fischer
53.53.III.A50	Provide a schedule of federal and Pennsylvania taxes, other than income taxes, calculated on the basis of test year per books, pro forma at present rates, and pro forma at proposed rates, to include the following categories: a. social security b. unemployment c. capital stock d. public utility realty e. PUC assessment f. other property g. any other appropriate categories	6	2	106	2	Fischer
53.53.III.A51	Submit a schedule showing for the last five years the income tax refunds, plus interest (net of taxes), received from the federal government due to prior years' claims.	7		107		Fischer

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53.53.III.A52	Provide detailed computations showing the deferred income taxes derived by using accelerated tax depreciation applicable to post-1969 utility property increases productive capacity, and ADR rates on property. (Separate between state and federal, also rate used).	7		107		Fischer
	a. State whether tax depreciation is based on all rate base items claimed as of the end of the test year, and whether it is the annual tax depreciation at the end of the test year. b. Reconcile any difference between the deferred tax balance, as shown as a reduction to measures of value (rate base), and the deferred tax balance as shown on the balance sheet.	7		107		Fischer
53.53.III.A53	Submit a schedule showing a breakdown of the deferred income taxes by state and federal per books, pro-forma existing rates, and under proposed rates.	7		107		Fischer
53.53.III.A54	Submit a schedule showing a breakdown of accumulated investment tax (credits 3 percent, 4 percent, 7 percent, 10 percent and 11 percent), together with details of methods used to write-off the unamortized balances.	7		107		Fischer
53.53.III.A55	Submit a schedule showing the adjustments for taxable net income per books (including below-the-line items) and pro-forma under existing rates, together with an explanation of any difference between the adjustments. Indicate charitable donations and contributions in the tax calculation for rate making purposes.	7		107		Fischer
53.53.III.A56	Submit detailed calculations supporting taxable income before state and federal income taxes where the income tax is subject to allocation due to operations in another state, or due to operation of other taxable utility or non-utility business, or by operating divisions or areas.	7		107		Fischer
53.53.III.A57	Submit detailed calculations showing the derivation of deferred income taxes for amortization of repair allowance if such policy is followed. [Note: Submit additional schedules if the company has more than one accounting area.]	7		107		Fischer
53.53.III.A58	Furnish a breakdown of major items comprising prepaid and deferred income tax charges and other deferred income tax credits and reserves by accounting areas.	7		107		Fischer
53.53.III.A59	Provide details of the Federal Surtax Credit allocated to the Pennsylvania jurisdictional area, if applicable.	7		107		Fischer
53.53.III.A60	Explain the reason for the use of cost of removal of any retired plant figures in the income tax calculations.	7		107		Fischer
53.53.III.A61	Submit the corresponding data applicable to Pennsylvania Corporate Income Tax deferment. a. Show the amounts of straight line tax depreciation and accelerated tax depreciation, the difference between which gave rise to the normalizing tax charged back to the test year operating statement. b. Show normalization for both Federal and State Income Taxes. c. Show tax rates used to calculate tax deferment amount.	7		107		Fischer

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53.53.III.A62	Provide the accelerated tax depreciation and the book depreciation used to calculate test year deferrals in amounts segregated as follows: For: a. Property installed prior to 1970. b. Property installed subsequent to 1969 (indicate increasing capacity additions and no increasing capacity additions).	7		107		Fischer
53.53.III.A63	State whether all tax savings due to accelerated depreciation on property installed prior to 1970 have been passed through to income. (If not, explain).	7		107		Fischer
53.53.III.A64	Show any income tax loss/gain carryovers from previous years that may effect test year income taxes or future year income taxes. Show loss/gain carryovers by years of origin and amounts remaining by years at the end of the test year.	7		107		Fischer
53.53.III.A65	State whether the company eliminates any tax savings by the payment of actual interest on construction work in progress not in rate base claim. If response is affirmative: a. Set forth amount of construction claimed in this tax savings reduction. Explain the basis for this amount. b. Explain the manner in which the debt portion of this construction is determined for purposes of the deferral calculations. c. State the interest rate used to calculate interest on this construction debt portion, and the manner in which it is derived. d. Provide details of calculation to determine tax saving reduction. State whether state taxes are increased to reflect the construction interest elimination.	7		107		Fischer
53.53.III.A66	Provide a detailed analysis of Taxes Accrued per books as of the test year date. Also supply the basis for the accrual and the amount of taxes accrued monthly.	7		107		Fischer
53.53.III.A67	For the test year as recorded on test year operating statement: a. Supply the amount of federal income taxes actually paid. b. Supply the amount of the federal income tax normalizing charge to tax expense due to excess of accelerated tax depreciation over book depreciation. c. Supply the normalizing tax charge to federal income taxes for the 10% Job Development Credit during test year. d. Provide the amount of the credit of federal income taxes due to the amortization or normalizing yearly debit to the reserve for the 10% Job Development Credit. e. Provide the amount of the credit to federal income taxes for the normalizing of any 3% Investment Tax Credit Reserve that may remain on the utility books.	7		107		Fischer
53.53.III.A68	Provide the debit and credit in the test year to the Deferred Taxes due to Accelerated Depreciation for federal income tax, and provide the debit and credit for the Job Development Credits (whatever account) for test year.	7		107		Fischer

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53.53.III.A69	Reconcile all data given in answers to questions on income taxes charged on the test year operating statement with regard to income taxes paid, income taxes charged because of normalization and credits due to yearly write-offs of past years' income tax deferrals, and from normalization of investment tax and development credits. (Both state and federal income taxes.)	7		107		Fischer
53.53.III.A70	With respect to determination of income taxes, federal and state: a. Show income tax results of the annualizing and normalizing adjustments to the test year record before any rate increase. b. Show income taxes for the annualized and normalized test year. c. Show income tax effect of the rate increase requested. d. Show income taxes for the normalized and annualized test year after application of the full rate increase. [It is imperative that continuity exists between the income tax calculations as recorded for the test year and the final income tax calculation under proposed rates. If the company has more than one accounting area, then additional separate worksheets must be provided in addition to those for total company.]	7		107		Fischer
53.53.III.A71	In adjusting the test year to an annualized year under present rates, explain any changes that may be due to book or tax depreciation change and to debits and credits to income tax expense due to accelerated depreciation, deferred taxes, job development credits, tax refunds or other items. (The above refers only the adjustments going from recorded test year to annualized test year).	7		107		Fischer
53.53.III.E	**53.53.III.BALANCE SHEET AND OPERATING STATEMENT E. GAS UTILITIES**					
53.53.III.E.1	If Unrecovered Fuel Cost policy is implemented, provide the following: a. State manner in which amount of Unrecovered Fuel Cost on balance sheet at the end of the test year was determined, and the month in test year in which such fuel expense was actually incurred. Provide amount of adjustment made on the rate case operating account for test year-end unrecovered fuel cost. (If different than balance sheet amount, explain.) b. Provide amount of Unrecovered Fuel Cost that appeared on the balance sheet at the opening date of the test year, and the manner in which it was determined. State whether this amount is in the test year operating account..	1	18	101		Miller
53.53.III.E.2	Provide details of items and amounts comprising the accounting entries for Deferred Fuel Cost at the beginning and end of the test year.	1	18	101		Miller
53.53.III.E.3	Submit a schedule showing a reconciliation of test year MCF sales and line losses. List all amounts of gas purchased, manufactured and transported.	10	7	110	7	Covert
53.53.III.E.4	Provide detailed calculations substantiating the adjustment to revenues for annualization of changes in number of customers and annualization of changes in volume sold for all customers for the test year. a. Break down changes in number of customers by rate schedules. b. If an annualization adjustment for changes in customers and changes in volume sold is not submitted, please explain.	3		103		Mays
53.53.III.E.5	Submit a schedule showing the sources of gas supply associated with annualized MCF sales.	12	1	112	1	Covert

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53.53.III.E.6	Supply, by classification, Operating Revenues - Miscellaneous for test year	3		103		Mays
53.53.III.E.7	Provide details of respondent's attempts to recover uncollectible and delinquent accounts.	16		116	1	Covert
53.53.III.E.8	Describe how the net billing and gross billing is determined. For example, if the net billing is based on the rate blocks plus FCA and STA, and the gross billing is determined by a percentage increase (1, 3, 5 percent), then state whether the percentage increase is being applied to all three items of revenue - rate blocks plus FCA and STA.	3		103		Mays
53.53.III.E.9	Describe the procedures involved in determining whether forfeited discounts or penalties are applied to customers billing.	3		103		Mays
53.53.III.E.10	Provide annualization of revenues as a result of rate changes occurring during the test year, at the level of operations as of end of the test year.	3		103		Mays
53.53.III.E.11	Provide a detailed billing analysis supporting present and proposed rates by customer classification and/or tariff rate schedule.	3		103		Mays
53.53.III.E.12	Provide a schedule showing residential and commercial heating sales by unit (MCF) per month and degree days for the test year and three preceding twelve month periods.	10	1	110	1	Chen
53.53.III.E.13	Provide a schedule of present and proposed tariff rates showing dollar change and percent of change by block. Also, provide an explanation of any change in block structure and the reasons therefore.	3		103		Mays
53.53.III.E.14	Provide the following statements and schedules. The schedules and statements for the test year portion should be reconciled with the summary operating statement. a. An operating revenues summary for the test year and the year preceding the test year showing the following (Gas MCF): (i) For each major classification of customers (a) MCF sales (b) Dollar Revenues (c) Forfeited Discounts (Total if not available by classification) (d) Other and Miscellaneous revenues that are to be taken into the utility operating account along with their related costs and expenses. (ii) A detailed explanation of all annualizing and normalizing adjustments showing method utilized and amounts and rates used in calculation to arrive at adjustment. (iii) Segregate, from recorded revenues from the test year, the amount of revenues that are contained therein, by appropriate revenue categories, from: (a) Fuel Adjustment Surcharge (b) State Tax Surcharge (c) Any other surcharge being used to collect revenues. (d) Provide explanations if any of the surcharges are not applicable to respondent's operations. [The schedule should also show number of customers and unit of sales (Mcf), and should provide number of customers by service classification at beginning and end of test year.]	3		103		Mays

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	b. Provide details of sales for resale, based on periods five years before and projections for five years after the test year, and for the test year. List customers, Mcf sold, revenues received, source of Mcf sold (storage gas, pipeline gas, manufactured gas, natural or synthetic), contracted or spot sales, whether sales are to affiliated companies, and any other pertinent information	3		103		Mays
53.53.III.E.15	State manner in which revenues are being presented for ratemaking purposes: a. Accrued Revenues b. Billed Revenues c. Cash Revenues Provide details of the method followed.	3		103		Mays
53.53.III.E.16	If revenue accruing entries are made on the books at end of each fiscal period, give entries made accordingly at the end of the test year and at the beginning of the year. State whether they are reversed for ratemaking purposes.	2	7	102	6	Miller
53.53.III.E.17	State whether any adjustments have been made to expenses in order to present such expenses on a basis comparable to the manner in which revenues are presented in this proceeding (i.e.- accrued, billed or cash).	4	1	104	1	Miller Miller/ Krajovic
53.53.III.E.18	If the utility has a Fuel Adjustment Clause: a. State the base fuel cost per MCF chargeable against basic customers' rates during the test year. If there was any change in this basic fuel charge during the test year, give details and explanation thereof. b. State the amount in which the fuel adjustment clause cost per MCF exceeds the fuel cost per MCF charged in base rates at the end of the test year. c. If fuel cost deferment is used at the end of the test year, give (i) The amount of deferred fuel cost contained in the operating statement that was deferred from the 12-month operating period immediately preceding the test year. (ii) The amount of deferred fuel cost that was removed from the test period and deferred to the period immediately following the test year. d. State the amount of Fuel Adjustment Clause revenues credited to the test year operating account. e. State the amount of fuel cost charged to the operating expense account in the test year which is the basis of Fuel Adjustment Clause billings to customers in that year. Provide summary details of this charge f. From the recorded test year operating account, remove the Fuel Adjustment Clause Revenues. Also remove from the test year recorded operating account the excess of fuel cost over base rate fuel charges, which is the basis for the Fuel Adjustment charges. Explain any differences between FAC Revenues and excess fuel costs. [The above is intended to limit the operating account to existing customers' base rate revenues and expense deductions relative thereto].	12	2	112	2	Covert
53.53.III.E.19	Provide growth patterns of usage and customer numbers per rate class, using historical and projected data.	10	2	110	2	Chen
53.53.III.E.20	Provide, for test year only, a schedule by tariff rates and by service classifications showing proposed increase and percent of increase.	3		103		Mays

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53.53.III.E.21	If a gas company is affiliated with another utility segment, such as a water or electric segment, explain the effects, if any, upon allocation factors used in the gas rate filing of current or recent rate increases allowed to the other utility segment (or segments) of the company.	2	8	102	7	Miller
53.53.III.E.22	Provide supporting data detailing curtailment adjustments, procedures and policies.	10	3	110	3	Covert
53.53.III.E.23	Submit a schedule showing fuel cost in excess of base compared to fuel cost recovery for the period two months prior to test year and the test year	12	3	112	2	Covert
53.53.III.E.24	Supply a detailed analysis of Purchased Gas for the test year and the twelve month period prior to the test year.	12	4	112	2	Covert
53.53.III.E.25	Submit calculations supporting energy cost per MCF and operating ratio used to determine increase in costs other than production to serve additional load.	12	4	112	2	Covert
53.53.III.E.26	Submit detailed calculations for bulk gas transmission service costs under supply and/or interconnection agreements.	12	4	112	2	Covert
53.53.III.E.27	Submit a schedule for gas producing units retired or scheduled for retirement subsequent to the test year showing station, units, MCF capacity, hours of operation during test year, net output produced and cents/MCF of maintenance and fuel expenses.	13	6	113	4	Covert
53.53.III.E.28	Provide a statement explaining the details of firm gas purchase (long-term) contracts with affiliated and nonaffiliated utilities, including determination of costs, terms of contract, and other pertinent information.	17		117		Covert
53.53.III.E.29	Provide intrastate operations percentages by expense categories for two years prior to the test year.	4	17	104	9	Miller
53.53.III.E.30	Provide a schedule showing suppliers, MCF purchased, cost (small purchases from independent suppliers may be grouped); emergency purchases, listing same information; curtailments during the year; gas put into and taken out of storage; line loss, and any other gas input or output not in the ordinary course of business.	12	4	112	2	Covert
53.53.III.E.31	Provide a schedule showing the determination of the fuel costs included in the base cost of fuel.	12	5	112	2	Covert
53.53.III.E.32	Provide a schedule showing the calculation of any deferred fuel costs shown in Account 174. Also, explain the accounting, with supporting detail, for any associated income taxes.	1	19	101		Miller
53.53.III.E.33	Submit a schedule showing maintenance expenses, gross plant and the relation of maintenance expenses thereto as follows. (i) Gas Production Maintenance Expenses per MCF production, per $1,000 MCF production, and per $1,000 of Gross Production Plant; (ii) Transmission Maintenance Expenses per MMCF mile and per $1,000 of Gross Transmission Plant; (iii) Distribution Maintenance Expenses per customer and per $1,000 of Gross Distribution Plant; (iv) Storage Maintenance Expenses per MMCF of Storage Capacity and per $1,000 of Gross Storage Plant. This schedule shall include three years prior to the test year, the test year and one year's projection beyond the test year.	4	18	104	9	Miller
53.53.III.E.34	Prepare a 3-column schedule of expenses, as described below for the following periods (supply sub-accounts, if significant, to clarify basic accounts): a. Column 1 - Test Year b. Column 2 and 3 - The two previous years	4	3 19	104	3	Miller

Columbia Gas of Pennsylvania, Inc.
R-2018-2647577
Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
	Provide the annual recorded expense by accounts. (Identify all accounts used but not specifically listed below.)					
53.53.III.E.35	Submit a schedule showing the Gross Receipts Tax Base used in computing Pennsylvania Gross Receipts Tax Adjustment.	6	1	106	1	Fischer
53.53.III.E.36	State the amount of gas, in MCF, obtained through various suppliers in past years.	12	4	112	2	Covert
53.53.III.E.37	In determining pro forma expense, exclude cost of gas adjustments applicable to fuel adjustment clause and exclude fuel adjustment clause revenues, so that the operating statement is on the basis of base rates only.	3		103		Mays
53.53.III.E.38	Identify company's policy with respect to replacing customers lost through attrition.	10	4	110	4	Covert
53.53.III.E.39	Identify procedures developed to govern relationship between the respondent and potential customers - i.e., basically expansion, alternate energy requirements, availability of supply, availability of distribution facilities, ownership of metering and related facilities.	10	4	110	4	Covert
53.53.IV.B	**53.53.IV. RATE STRUCTURE** **B. GAS UTILITIES** Each gas utility shall submit the following simultaneously with any rate increase filing:					
53.53.IV.B.1	Provide a Cost of Service Study showing the rate of return under the present and proposed tariffs for all customer classifications. The study should include a summary of the allocated measures of value, operating revenues, operating expenses and net return for each of the customer classifications at original cost and at the 5-year trended original cost.	11		111	1 - 3	Balmert
53.53.IV.B.2	Provide a statement of testimony describing the complete methodology of the cost of service study.	11		111		Balmert
53.53.IV.B.3	Provide a complete description and back-up calculations for all allocation factors.	11		111	4	Balmert
53.53.IV.B.4	Provide an exhibit for each customer classification showing the following data for the test year and the four previous years: a. The maximum coincident peak day demand. b. The maximum coincident 3-day peak day demand. c. The average monthly consumption in Mcf during the Primary Heating Season (November-March). d. The average monthly consumption in Mcf during the Non-heating season (April-October). e. The average daily consumption in Mcf for each 12-month period	10	5	110	5	Covert
53.53.IV.B.5	Submit a Bill Frequency Analysis for each rate. The analysis should include the rate schedule and block interval, the number of bills at each interval, the cumulative number of bills at each interval, the Mcf or therms at each interval, the cumulative Mcf or therms at each interval, the accumulation of Mcf or therms passing through each interval, and the revenue at each interval for both the present rate and the proposed rates. The analysis should show only those revenues collected from the basic tariff	11		111		Strauss
53.53.IV.B.6	Supply copies of all present and proposed Gas Tariffs.	14	2	114	1	Bardes Hasson
53.53.IV.B.7	Supply a graph of present and proposed base rates on hyperbolic cross section paper.	11		111	5	Strauss

Columbia Gas of Pennsylvania, Inc.
R-2018-2647577
Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended November 30, 2017 Exhibit	Schedule	Fully Projected Future Test Year Twelve Months Ended December 31, 2019 Exhibit	Schedule	Witness
53.53.IV.B.8	Supply a map showing the Gas System Facilities and Gas Service Areas. The map should include transmission lines, distribution lines, other companies' lines interconnecting with the interconnecting points clearly designated, major compressor stations, gas storage and gas storage lines. The normal direction of gas flow within the transmission system should be indicated by arrows. Separate service areas within the system should be clearly designated.	15	2	115		Covert
53.53.IV.B.9	Supply a cost analysis supporting minimum charges for all rate schedules.	11		111	2 - 3	Balmert
53.53.IV.B.10	Supply a cost analysis supporting demand charges for all tariffs which contain demand charges.	11		111		Balmert
53.53.IV.B.11	Supply the net fuel clause adjustment by month for the test year.	12	6	112	2	Covert
53.53.IV.B.12	Supply a tabulation of base rate bills for each rate schedule comparing the existing rates to proposed rates. The tabulation should show the dollar difference and the per cent increase or decrease.	11		111	6	Balmert
53.53.IV.B.13	Submit the projected demands for all customer classes for both purchased and produced gas for the three years following the test year filing.	10	6	110	6	Chen
53.53.IV.B.14	Supply an exhibit showing the gas deliveries to each customer class for the most recent 24 month period. The exhibit should identify the source of the gas, such as "purchased" (pipeline), "production" (include purchases from local producers), "storage withdrawal", "propane/air", and "unaccounted for".	10	7	110	7	Covert
53.62	**53.62 RECOVERY OF FUEL COSTS BY GAS UTILITIES** In addition to information otherwise required to be filed by a jurisdictional natural gas distributor with gross intrastate annual operating revenues in excess of $40 million seeking a change in its base rates, each gas utility must also file updates to the information required by &53.64(c) (relating to filing requirements for natural gas distributors with gross intrastate annual operating revenues in excess of $40 million). In the case of a utility purchasing gas as defined at &53..61 (a) (relating to purpose) from an affiliated interest, it shall also file updates to the information required at &53.65 (relating to special provisions relating to natural gas distributors with gross interstate annual operating revenues in excess of $40 million with affiliated interests). These updates shall be made at the time the base rate case under 66 Pa.C.S. 1308 (relating to voluntary changes in rates) is originally filed. Deficiencies in filing will be treated as set forth at &53.51 (c) (relating to general).					
	Weather Normalization Adjustment	10	8	110	8	Chen
	Volumetric Portion of Load Growth Adjustment	10	9	110	9	Chen
	Estimated Number of Bills and Normalized Sales Volumes	10	9	110	9	Chen
	Future Test Year Sales Forecast	10	9	110	10	Chen
	Adjustment to Purchase Gas Expense	12	7	112	3	Covert
	Recovery of Fuel Costs by Gas Utilities (1307-F)	12	8	112	4	Covert

COLUMBIA GAS OF PENNSYLVANIA, INC
53.53 III. BALANCE SHEET AND OPERATING STATEMENT
A. ALL UTILITIES

40. Adjustments which are estimated shall be fully supported by basic information reasonably necessary.

Response: All adjustments made were based on annualizing and normalizing the 12 months ended November 30, 2017. The derivation and support behind the adjustments are shown on the following exhibits:

Exhibit No. 2	Income Statement
Exhibit No. 3	Revenues
Exhibit No. 4	Expenses
Exhibit No. 5	Depreciation
Exhibit No. 6	Taxes Other Than Income Taxes
Exhibit No. 7	Income Taxes
Exhibit No. 8	Measures of Value

41. Submit a statement explaining the derivation of the amounts used for projecting future test year level of operations and submit appropriate schedules supporting the projected test year level of operation.

Response: Exhibits explaining the derivation of the amounts used for projecting a future test year (12 months ending November 30, 2018) and a fully forecasted rate year (12 months ended December 31, 2019) are:

Exhibit No. 102	Income Statement
Exhibit No. 103	Revenues
Exhibit No. 104	Expenses
Exhibit No. 105	Depreciation
Exhibit No. 106	Taxes Other Than Income Taxes
Exhibit No. 107	Income Taxes
Exhibit No. 108	Measures of Value

COLUMBIA GAS OF PENNSYLVANIA, INC
53.53 III. BALANCE SHEET AND OPERATING STATEMENT
A. ALL UTILITIES

44. Ratios, percentages, allocations and averages used in adjustments must be fully supported and identified as to source.

Response: When allocation factors are used, they are identified on the appropriate exhibit.

45. Provide an explanation of any differences between the basis or procedure used in allocations of revenues, expenses, depreciation and taxes in the current rate case and that used in the prior rate case.

Response: There are no differences.

Witness: J.E. Covert

46. Supply a copy of internal and independent audit reports of the test year and prior calendar year, noting any exceptions and recommendations and disposition thereof.

Response: Please see the attached internal audits. There were no independent audit reports performed specifically for Columbia Gas of Pennsylvania during the test year and prior calendar year.

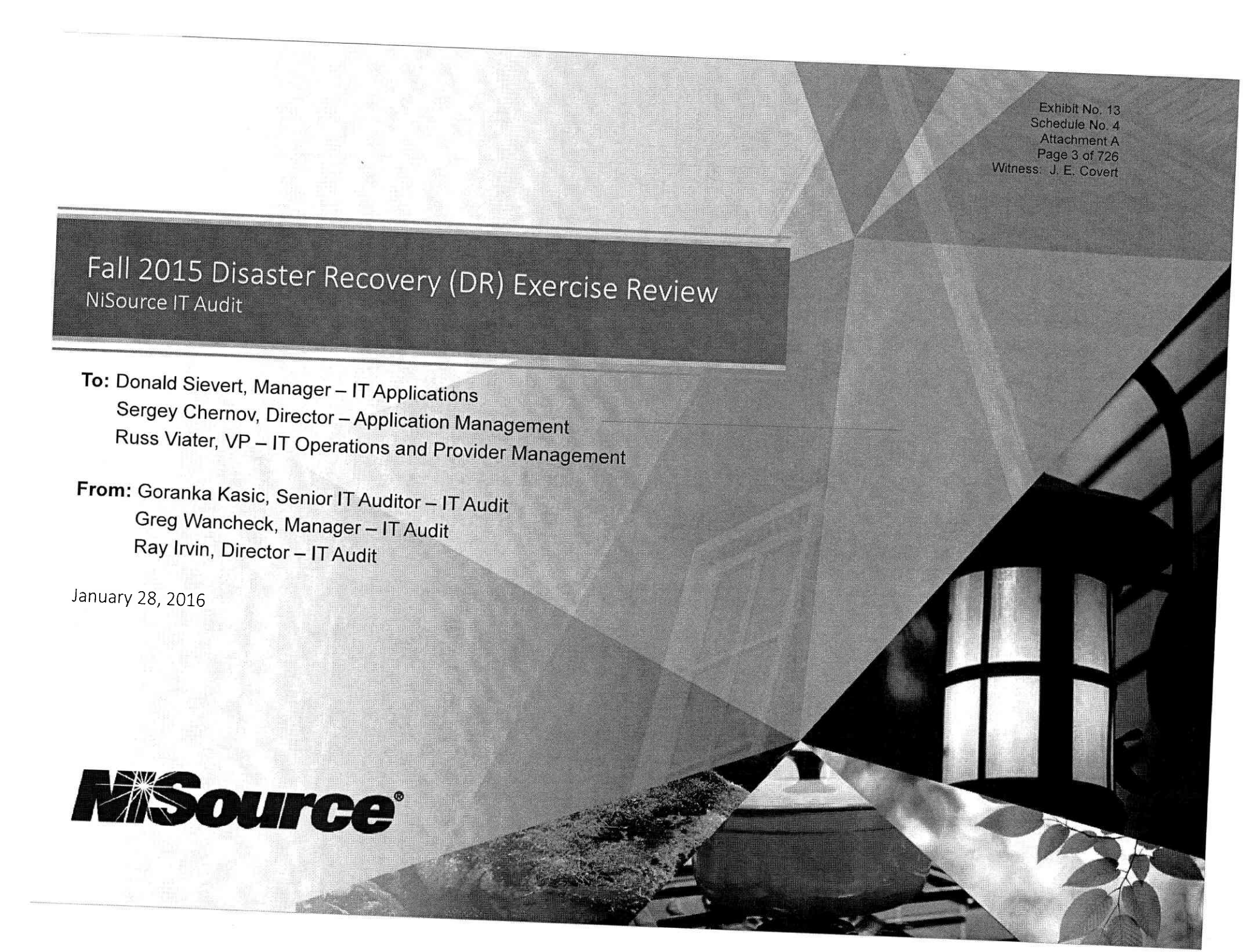
Fall 2015 Disaster Recovery (DR) Exercise Review

NiSource IT Audit

To: Donald Sievert, Manager – IT Applications
Sergey Chernov, Director – Application Management
Russ Viater, VP – IT Operations and Provider Management

From: Goranka Kasic, Senior IT Auditor – IT Audit
Greg Wancheck, Manager – IT Audit
Ray Irvin, Director – IT Audit

January 28, 2016



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Fall 2015 Disaster Recovery (DR) Exercise Review

EXECUTIVE OVERVIEW

Fall 2015 Disaster Recovery (DR) Exercise Review

Objective

The purpose of the NiSource Corporate Services, Information Technology (IT) Fall 2015 Disaster Recovery (DR) Exercise Review was to verify the capability to recover critical Mainframe and Distributed systems, as well establish connectivity to the NiSource enterprise network from the IBM Business Continuity and Resiliency Services (BCRS) recovery facility, as specified in the Disaster Recovery Exercise Plan (DREP).

The objective of IT Audit's review was to provide management with an overall opinion on NiSource's capability to recover critical systems and related business applications. Objective steps were defined as follows:

1) **Disaster Recovery Planning and Execution:** Verify the adequacy, efficiency and effectiveness of the IT Disaster Recovery plan, support personnel and contracted services in restoring critical Mainframe and Distributed systems, related business applications, and network connectivity as required to meet management's expectations in the event of a prolonged IT service disruption.

2) **Disaster Recovery Contractual Coverage:** Evaluate the Business Continuity and Recovery Services (BCRS) agreement and compare covered applications with the status of NiSource tested applications.

3) **Disaster Recovery Scripts:** Evaluate the BCRS agreement to determine requirements and ownership of documents related to recovery test "scripts" and application recovery procedures.

IT Audit reviewed various planning, status and final reports created in order to gain an understanding of results associated with the Fall 2015 Disaster Recovery Exercise. In addition to interviewing key individuals associated with the NiSource IT Disaster Recovery program, IT Audit reviewed contracts, presentations and other relevant documentation as a means to further understand the BCRS agreement.

Fall 2015 Disaster Recovery (DR) Exercise Review

Background

As a part of the IT Operations & Service Provider management organization within NiSource IT, the Disaster Recovery group is commissioned to support NiSource by identifying, defining, documenting and testing recovery plans that would be executed in the event of an unforeseen interruption in computing services.

The goal of NiSource's Disaster Recovery Exercise is to validate appropriate procedures are in place and adequately provide direction for the recovery of critical NiSource computing applications. The agreed to scope, objectives and type of exercise determines the extent to which the Disaster Recovery Exercise simulates the conditions of an actual disaster situation. By verifying the documented backup and recovery procedures, the Disaster Recovery Exercise is designed to identify gaps and areas for procedural improvement to ensure the company is prepared for a true disaster scenario.

NiSource, via its agreement with IBM, has contracted with BCRS to provide the facilities, infrastructure and computer hardware required in the event of a disaster or prolonged service interruption. Twice a year, NiSource IT Management and IBM plan a joint Exercise to test the viability of recovery plans for a defined set of applications.

The Fall 2015 Disaster Recovery Exercise was conducted between November 18-21, 2015 with an overall goal to recover thirty-nine (39) Mainframe applications residing within the Hammond Data Center and three (3) Distributed applications residing within the Charleston Data Center.

During the Fall 2015 Disaster Recovery Exercise, NiSource again recovered the Mainframe environment utilizing BCRS' hot-site rapid recovery procedure while the three (3) applications residing on the Distributed platform in Charleston (WV) were recovered via tape backup.

Fall 2015 Disaster Recovery (DR) Exercise Review

Executive Overview

Findings

Fall 2015 Disaster Recovery (DR) Exercise Review

Executive Overview

Findings (cont.)

- **IT Audit recommends NiSource IT Disaster Recovery Management establish a uniform approach to populating PlanningIT with recovery documentation for critical applications having a parent/child relationship.**

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW RESULTS

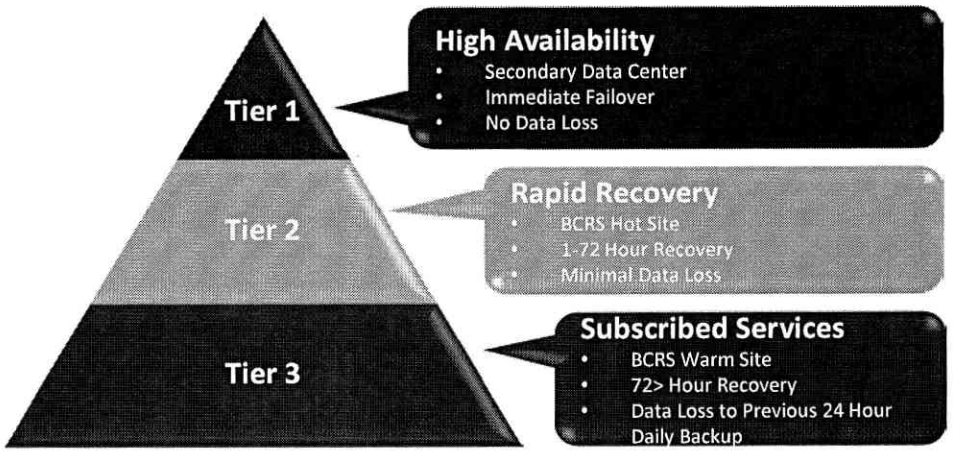
Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

While NiSource had previously used a business criticality rating of 1-5 to determine an application's priority order of recovery (POR) in the event of an actual disaster, IT Disaster Recovery Management commenced usage of a new Recovery Tier designation starting in 2015. This Recovery Tier definition for critical NiSource applications is captured within the NiSource PlanningIT application portfolio and now assigns applications into one of the following three (3) primary recovery categories:*



***Note**: A Tier 4 recovery designation exists in PlanningIT that is referred to as "best effort/hosted." This category exists either for NiSource applications not subscribing to Recovery Tiers 1-3 above (where recovery is a best effort action once Tiers 1-3 have been completed) or for NiSource applications externally hosted by a 3rd party outside of the Hammond and Charleston data centers.

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier Category:	Description of SLA Tier:	Support Level:
Gold Tier	Includes those applications identified as 'Gold Tier' (a "Gold Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the related WAN and LAN network components. Gold Tier Applications must have high availability computing platforms that have full dual site redundancy (i.e., mirrored environments with failover capability, redundant LANs within the data center and redundant data center WAN access).	Gold Tier Systems have the support on 24/7 basis.
Silver Tier	Includes those applications identified as 'Silver Tier' (a "Silver Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Full application redundancy computing platforms are not required for Silver Tier Applications, but rather they are prioritized as critical business functions that affect the end customer.	Silver Tier Systems have the following support hours: Mon – Fri 6am – 8pm CT; Sat – Sun 8am – 4pm CT.
Bronze Tier	Includes those applications identified as 'Bronze Tier' (a "Bronze Tier Application"), and also the mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Bronze Tier will cover Customer business applications that are internal facing to Customer and support internal operations. Bronze Tier Applications do not require full application redundancy computing environments.	Bronze Tier Systems have the following support hours: Mon – Fri 6:00am – 8:00pm CT.

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier*	Tier 1 High Availability Application Systems Failed Over to Secondary Data Center			Tier 2 Rapid Recovery Application System Recovered at BCRS			Tier 3 Subscribed Services Application System Recovered at BCRS or FTC			Hosted Application System Hosted & Recovered Off Premises			Total		
	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested
Gold	44	45	98				1	1	100				45	46	98
Silver	2	5	40	69	72	96	37	46	80	2	8		110	131	84
Bronze				13	13	100	20	26	77	1	17	6	34	56	61
Total	**46**	**50**	**92**	**82**	**85**	**96**	**58**	**73**	**79**	**3**	**25**	**12**	**189**	**233**	**81**

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

DR Control Sheet Metrics	"Critical" Application Population	Recovered "Critical" Applications	Never Before Tested "Critical" Applications	Gold Tier SLA "Critical" Applications	Silver Tier SLA "Critical" Applications	Bronze Tier SLA "Critical" Applications
IT Audit (Jan 12, 2016)	239	191	48	47	135	57
Executive Summary (Dec 22, 2015)	233	189	44	46	131	56
Variance	(6)	(2)	(4)	(1)	(4)	(1)

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2015 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2015 Disaster Recovery (DR) Exercise Review

REPORT DISTRIBUTION

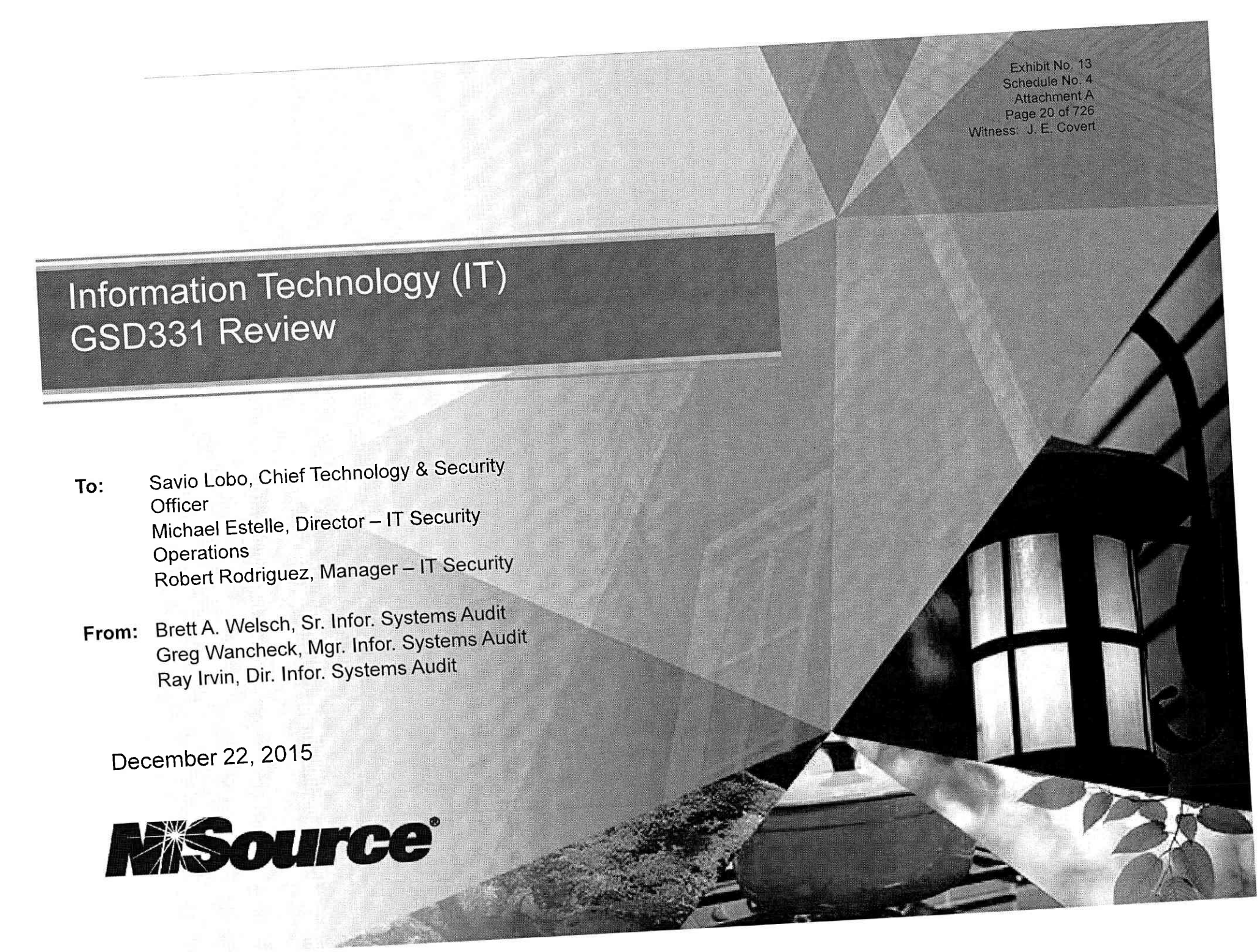
Information Technology (IT) GSD331 Review

To: Savio Lobo, Chief Technology & Security Officer
Michael Estelle, Director – IT Security Operations
Robert Rodriguez, Manager – IT Security

From: Brett A. Welsch, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

December 22, 2015

NiSource®



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- Scope
- Objectives
- Approach
- Background
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Information Technology - GSD331 Review

EXECUTIVE SUMMARY

Scope

NiSource IT Audit has completed its current-state assessment of NiSource Security Baseline Configurations as set forth within the IBM Global Security Document 331 (GSD331 Information Security Controls) document. IT Audit reviewed NiSource's management of the GSD331 Information Security Controls, the current project undertaken to review technical specifications associated with GSD331, the IBM Health Check process used to validate consistency of security settings, and performed independent testing of individual hardware device components for adherence to GSD331 technical specifications.

Objectives

The objective of IT Audit's assessment was to provide NiSource management with an overall opinion on the adequacy and effectiveness of internal controls surrounding the processes used to monitor baseline information security configuration settings used within NiSource and set forth within the GSD331 (Information Security Controls) document. Objective steps were defined as follows:

(1) **NiSource IT and IBM GSD331 Obligations:** Evaluate the contractual obligations regarding NiSource and IBM duties surrounding security configuration as set forth in the GSD331 and related documents.

(2) **GSD331 Security Configuration Changes / Updates:** Verify changes made to the GSD331 security configuration technical specifications are appropriately reviewed and approved as part of the current GSD331 Review project.

(3) **Health Check Process Review:** Review the IBM 'Health Check Process' to verify whether configuration of hardware and/or software is current with the most recent version of GSD331.

(4) **Independent Security Configuration Verification:** Verify hardware device component settings are maintaining consistency with security configuration settings outlined in GSD331.

EXECUTIVE SUMMARY

Approach

IT Audit aligned with NiSource IT Security Operations to review evidence on the processes, procedures, and controls used to review and maintain NiSource's security configuration settings as detailed in the GSD331 (Information Security Controls) document. IT Audit analyzed documentation related to the GSD331 document, reviewed evidence on the IBM Health Check process to ensure compliance with security settings, and independently reviewed hardware component configurations to ensure consistency between current settings and documented technical specifications.

Background

As part of the Master Services Agreement between NiSource and IBM, IBM is contracted to both manage and maintain security controls for NiSource computer systems. IBM uses the GSD331 document and its associated Implementation Manual to provide these services. These two documents establish the "security implementation practices for the delivery of IBM Global Services security commitments to NiSource" and define the actual implementation of these practices to specific technical specifications used within the NiSource computing environment.

The GSD331 document was originally established for NiSource at the beginning of the 2005 outsourcing Agreement and maintained a record of mutually agreed upon IT security controls and associated technical specifications in place at the time of Agreement creation. The complete settings within GSD331 are reviewed every eighteen (18) months by both NiSource IT management and IBM, with a 2015 GSD331 Review project currently being performed with expected completion by January 31, 2016.

A key component of the technical specifications defined in GSD331 is the Health Check process. This process is used to verify whether technical specification settings for each NiSource hardware device component is consistent with agreed upon settings in the GSD331 Implementation Manual (i.e. minimum password length or maximum password age). If the settings are in compliance with GSD331, no further action is necessary. If any setting is found to be in violation, a change control ticket is initiated to record the discrepancy, correct the setting and track it to resolution.

Information Technology - GSD331 Review

EXECUTIVE SUMMARY

Findings

Information Technology - GSD331 Review

EXECUTIVE SUMMARY

Findings (cont.)

Information Technology (IT)
GSD331 Review

REVIEW RESULTS

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 1: NiSource IT and IBM GSD331 Obligations

Evaluate the contractual obligations regarding NiSource and IBM duties surrounding security configuration as set forth in the GSD331 and related documents.

Results: No Exceptions Noted.

IT Audit reviewed the current NiSource / IBM Master Services Agreement, relevant contractual amendments, and the GSD331 Information Security Controls and Implementation Manual documents to understand the contractual obligations regarding NiSource and IBM duties surrounding security configurations.

NiSource security controls and controls management guidelines are outlined in both the GSD331 Information Security Controls document and the associated GSD-331 Implementation Manual. The GSD331 Information Security Controls document is used to establish the overall security posture/relationship between IBM and NiSource and is based on the Master Services Agreement. This document describes the Information Security Controls to be implemented on NiSource's systems and defines the roles and responsibilities for NiSource and IBM as they pertain to control operation. Also described is the Health Check process used to execute security evaluations of managed systems and validate compliance with technical specifications found in the GSD331 Implementation Manual.

The second GSD331 document, referred to as the Implementation Manual, contains technical specifications for the operating systems, sub systems, and other system software, along with recording the specific controls required to implement the baseline security requirements defined in this document. This GSD331 Implementation Manual document is reviewed and approved by NiSource IT management and used by IBM to manage security settings within the NiSource IT environment.

REVIEW / RESULTS

Objective 1: NiSource IT and IBM GSD331 Obligations (cont.)

IT Audit found the primary GSD331 Information Security Controls document and associated Implementation Manual are recommended for review by both NiSource and IBM every 18 months. During this review, all baseline settings for both documents are analyzed and approved. If the actual settings on a given production computing component needs updating in between this 18 month period, either due to newly identified security issues or weaknesses, these settings are modified as necessary through the defined NiSource Change Management Process.

With the current version of the GSD331 documents last approved in May 2013 and scheduled for updated review in November 2014, IT Audit noted IBM did experience a 10-month delay as updated GSD331 documents and technical specifications were not delivered to NiSource until September 2015. This delay was accepted by NiSource IT management as both IBM and NiSource IT were focused on transition and separation efforts. Although the GSD331 review process has been delayed an entire year, IT Audit found identified security updates were still made to systems on an ongoing and as-needed basis. As such, this process delay only affected the review and approval of baseline technical specifications and did not compromise relevant system security.

Finally, IT Audit noted a review of the baseline technical specifications is currently being performed by various members of NiSource IT management with a projected completion date of January 31, 2016. The status of this baseline technical specification effort is assessed by IT Audit as part of Objective 2: GSD Security Configuration Changes / Updates.

Recommendation: None.

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 2: GSD331 Security Configuration Changes / Updates

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 2: GSD331 Security Configuration Changes / Updates (cont.)

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 3: Health Check Process Review

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 3: Health Check Process Review (cont.)

Component	Number of Components Validated as Correct	IT Audit Review/Results	IT Audit Evaluation
CISCO SAN Switches	6/6 (100%)	All settings verified by the Health Check were found compliant	No Exceptions Noted
z/OS Mainframe	1/1 (100%)	One (1) violation in the listing, however validated as a non-issue with the technical specification not having been updated to include this setting as compliant.	No Exceptions Noted
AIX (OS) Servers	3/3 (100%)	Verified the records marked as 'Violation' against the technical specifications. Found exceptions were documented as allowable per the specifications.	No Exceptions Noted
Linux (OS) Servers	3/3 (100%)	Verified the records marked as 'Violation' against the technical specifications. Found exceptions were documented as allowable per the specifications.	No Exceptions Noted
MS (OS) Windows Server 2012	3/3 (100%)	Verified the records marked as 'Violation' against the technical specifications. Found exceptions were documented as allowable per the specifications.	No Exceptions Noted

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 3: Health Check Process Review (cont.)

REVIEW / RESULTS

Objective 4: Independent Security Configuration Verification

Verify component settings are consistent the security configuration settings outlined in GSD331

Results: No exceptions noted.

IT Audit met with several IBM technical specialists responsible for maintaining GSD331 security configuration settings to verify whether actual hardware device component settings are maintaining consistency with the values present in covering technical specifications. IT Audit performed this review on four (4) randomly selected NiSource device component categories, with verification provided by IBM through screen shots of supporting production component settings. Results of IT Audit's component verification assessment were as follows:

Component	Settings verified	Settings Validated as Correct	Review Results	IT Audit Evaluation
Symantec	NiS.1.1.2 - Password expiration = 60 NiS.1.1.4 - Password lockout = 5 NiS.1.1.5 - Password lockout time limit = 15	3/3 (100%)	Settings were verified to be consistent between the components and the technical specification.	No Exceptions Noted
Tivoli Federated Identity Manager (TFIM)	TFM.1.1.1 - Password Length = 8 TFM.1.1.2 - Password Expiration = 90 TFM.1.1.3 - Password History = 8 TFM.1.1.4 - Password Lockout Attempts = 5	4/4 (100%)	Settings were verified to be consistent between the components and the technical specification.	No Exceptions Noted
Top Secret	H.1.1.1.1 Password Requirements INACTIVE = INACTIVE(90) H.1.1.1.2 Password Requirements PWEXP = PWEXP(91) H.1.4.1.1 System Settings MSUSPEND = MSUSPEND(NO) H.1.4.1.2 System Settings TEMPDS = TEMPDS(NO)	4/4 (100%)	Settings were verified to be consistent between the components and the technical specification.	No Exceptions Noted
OSR Settings (z/OS)	H.1.8.5 ALL ACCESS(UPDATE) - User Catalogs H.1.8.6 ALL ACCESS(UPDATE) - SYS1.BRODCAST H.1.8.7 ALL ACCESS(NONE) - PAGE	3/3 (100%)	Settings were verified to be consistent between the components and the technical specification.	No Exceptions Noted

Information Technology - GSD331 Review

REVIEW / RESULTS

Objective 4: Independent Security Configuration Verification (cont.)

Information Technology - GSD331 Review

REPORT DISTRIBUTION

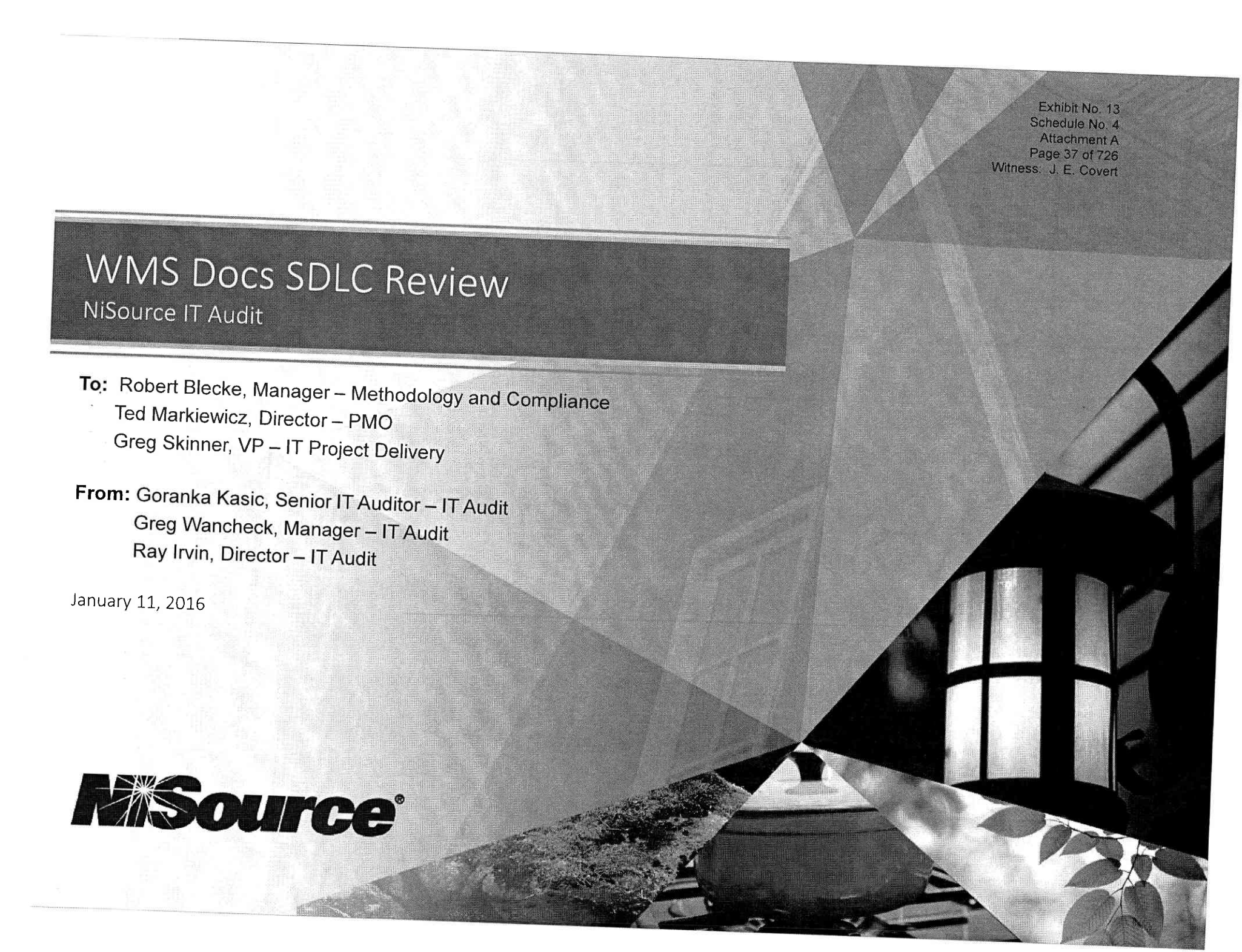
WMS Docs SDLC Review

NiSource IT Audit

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January 11, 2016



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WMS Docs SDLC Review

EXECUTIVE OVERVIEW

WMS Docs SDLC Review

Objective

The objective of IT Audit's Work Management System (WMS) Docs SDLC Review is to provide management with an overall opinion on the processes and procedures used in solution deployment and ensure the project is maintaining both its budget and schedule commitments. IT Audit aligned with the NiSource IT Project Management Office (PMO) and WMS Docs Project Team to perform a assessment over the processes, procedures, and controls associated with the following focus areas:

1) **Alignment to NiSource IT Project Management Methodology (PMM) - Initiation & Formation Phase:** Review the preliminary Initiation & Formation project phase to ensure all required deliverables have been documented and approved.

2) **Alignment to NiSource IT Project Management Methodology (PMM) - Design & Build Phases:** Review the Design and Build project phases to ensure all required deliverables have been documented and approved.

3) **Alignment to NiSource IT Project Management Methodology (PMM) - Testing Phase:** Review the Test project phase to ensure all required deliverables have been documented and approved.

4) **Alignment to NiSource IT Project Management Methodology (PMM) - Deployment Phase:** Review the Deployment project phase to ensure all required deliverables have been documented and approved.

5) **Alignment to NiSource IT Project Management Methodology (PMM) - Turnover Phase:** Review the Turnover project phase to ensure all required deliverables have been documented and approved.

6) **Project Schedule and Budget:** Review the WMS Docs projects schedule and budget commitment(s) to ensure any updates are documented and signed-off by project stakeholders.

7) **Rapid Release Model Review:** Review and evaluate the Rapid Release approach used by the NiSource IT PMO during the WMS Docs Phase 2 and Phase 3 implementations. Provide management with an overview of potential Rapid Release Model usage in future NiSource IT solution development.

WMS Docs SDLC Review

Background

Prior to implementing the WMS Docs solution, capital project design for the Columbia Distribution Companies (CDCs) historically included process documentation that encompassed both electronic and paper-based components. Though certain aspects of work management used the automated business processes resident within the WMS application, supporting material such as design drawings, detailed installation plans, and job order approvals were obtained and circulated between various locations and departments in a hard copy format. This manual process presented documentation collection and access challenges for various CDC departments such as field engineering, integration center, planning, construction, large projects, communications, engineering capital close-out and field operations due to the time and logistical requirements needed to complete the workflow and adhere to ongoing compliance standards.

Based on above mentioned challenges, the WMS Docs project was introduced with the purpose of serving as a standardized electronic document management system that eliminates the need for paper file maintenance and provides both linkage and integration points with key CDC systems such as WMS, Geographic Information System (GIS), and New Load Tracking System (NLTS). From a software perspective, WMS Docs is a web-based tool architected to provide 24/7 workflow availability with the following goals/benefits:

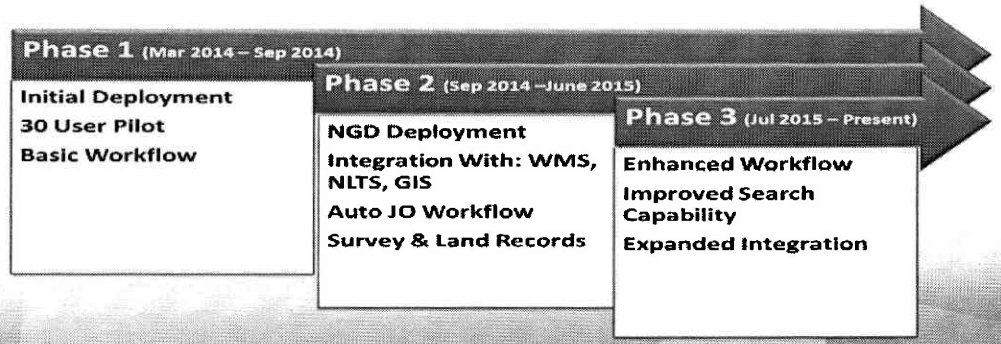
- Minimize paper usage and eliminate loss of records
- Enable electronic job order approval process
- Provide electronic routing for design requests, approvals, field work and close-out
- Provide uniform document processing and filing

WMS Docs SDLC Review

Background (cont.)

For purposes of solution delivery, the WMS Docs Project Team designed the implementation of WMS Docs in the following three (3) phased approach:

- Phase 1: established a pilot electronic workflow system to route documents used in the Job Order packet process as well as provided learnings to the WMS Docs Project Team of requirements/enhancements/defects to be addressed in future phases. Phase 1 started in March 2014 and completed in September 2014. *IT Audit's scope of review did not include Phase 1.*
- Phase 2: delivered WMS Docs to 900+ NiSource end users and included integration of the Work Management System with the WMS Docs software. Additionally, Phase 2 included two (2) unique releases that delivered both additional Job Order document management capabilities to support the expanding user base and Survey & Land record conversion and collection. Phase 2 commenced in September 2014 and completed in June 2015. *IT Audit performed a post-implementation review of Phase 2.*
- Phase 3: implementation started in July 2015, with a seven (7) release iterative approach referred to as "rapid release". The intent of this "rapid" release structure is for the WMS Project Team to visually demonstrate functionality to end users, address any viewed enhancements/defects in a more real-time fashion, and provide iterative capabilities that were not addressed within the previous phases (i.e. mobile functionality and reporting/analytics capabilities.) *IT Audit's review of Phase 3 included an assessment of Release 1 through its completion in November 2015.*



WMS Docs SDLC Review

Executive Overview

Findings

WMS Docs SDLC Review

REVIEW RESULTS

WMS Docs SDLC Review

REVIEW / RESULTS

7 Phases of the NiSource PMM Framework



WMS Docs SDLC Review

Objective 1: Alignment to NiSource IT PMM - Initiation & Formation Phase (cont.)

As Phase 1 of the WMS Docs was used as a pilot for understanding the project's business needs and requirements, IT Audit's review focused on both the two (2), unique Phase 2 Releases completed in June 2015 and the first of seven (7) Releases comprising the ongoing Phase 3 implementation targeted for full deployment in May 2016.

Initiation and Formation (I&F) Phase:

For testing purposes, IT Audit found the following IT PMM/Sarbanes-Oxley required documentation for the I&F Phase was created, authorized and retained for both Phase 2 Releases and Phase 3 (Release 1) prior to movement to the Design and Build Phases:

PMM Deliverable #	PMM Description:	IT Audit Review/Results	IT Audit Evaluation
S130.10	Project Status Report	Found adequate documentation of project status for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
I140.10	Project Schedule	Found the project schedule adequately documented for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
I150.10	Project Costing Model	Found a documented project budget and approved budget modifications for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
I200.40	Communication Plan	Found a documented Communication Plan for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
I220.10	Project Charter	Found a documented Project Charter (w/ Charter approvals) for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
N/A	Arch Board Review Solution Template	Found a documented Architecture Board Review was completed and approved for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
F320.50	Requirements	Found completed project Requirements and documented Requirement approvals from key stakeholders for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
F390.10	I & F Stage Completion Approval	Found documented Initiation & Formation Phase Completion Approvals for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description	IT Audit Review/Results	IT Audit Evaluation
C130.50	OCM Strategy	Found a documented Organizational Change Management Strategy for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
I230.10	Kick-off Meeting Agenda	Found adequate documentation supporting the commencement of the Phase 2 and Phase 3 implementations.	No Exceptions Noted
F310.10	Business Process Models	Found the Business Process Model graphically documented for both Phase 2 and Phase 3	No Exceptions Noted
D150.10	Deployment Schedule	Found a documented Deployment Schedule for both Phase 2 and Phase 3.	No Exceptions Noted
I200.10	Stakeholder Analysis	Found the Project Team addressed key stakeholders and project team members for both Phase 2 and Phase 3.	No Exceptions Noted

IT Audit was able to review documentation posted within the WMS Docs SharePoint site for both Phase 2 and Phase 3 (Release 1) and found all required documents were adequately captured, and approved where needed, as required by the NiSource PMM framework.

Recommendation: None

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description:	IT Audit Review/Results	IT Audit Evaluation
N/A	Planning IT Updates	Found documented Planning IT updates within the WMS Docs SharePoint site for both Phase 2 and Phase 3 (Release 1). IT Audit also inspected Planning IT and found updates for WMS Docs appropriately captured.	No Exceptions Noted
D110.40	Detailed Design Document	Found uniquely documented designs for both Phase 2 Releases, as well as a documented design for Phase 3 (Release 1).	No Exceptions Noted
D110.60	Data Conversion Program Design	Though the Infrastructure Records and Job Orders Phase 2 release had no required data conversion, conversion steps were documented for the Survey and Land Phase 2 release. Phase 3 (Release 1) had no associated data conversion step.	No Exceptions Noted

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description:	IT Audit Review/Results	IT Audit Evaluation
D120.10	Infrastructure Impact Assessment	Found a combined IIA document for both Phase 2 releases and a unique IIA created for Phase 3.	No Exceptions Noted
D120.20	Infrastructure Enablement Checklist	Found documented Infrastructure Enablement Checklists for both Phase 2 releases. For Phase 3, this deliverable was not part of required artifacts.	No Exceptions Noted
D160.30	Application Restoration Procedure	Found documented Disaster Recovery procedures (w/ approval obtained from the NiSource IT DR Coordinator).	No Exceptions Noted
B120.20	Security request for test environment access	Found documented security requests required for Phase 2 and Phase 3 (Release 1) implementations.	No Exceptions Noted
D170.10	Test Strategy	Found Test Strategy combined for both Phase 2 releases, with Phase 3 having its own, separate Test Strategy.	No Exceptions Noted
N/A	Action/Issue/Risk Log	Found the documented AIR log within the WMS Docs SharePoint site for both Phase 2 and Phase 3 (Release 1).	No Exceptions Noted
D180.10	Organizational Impact Assessment	Found combined Organizational Impact Assessments for both Phase 2 releases, with Phase 3 having its own unique Organizational Impact Assessment.	No Exceptions Noted
B120.80	Test Scripts	Found separate test scripts for each Phase 2 release and Phase 3 (Release 1).	No Exceptions Noted
B130.10	Training Plan	Found the training plan combined for both Phase 2 releases. A high level training plan was created for Phase 3, however the majority of training was covered via email notification.	No Exceptions Noted
B160.10	Post-Implementation Approach	Found the Deployment Plan document highlighted the plan for post-implementation support.	No Exceptions Noted
B190.10	Design/Build Completion Approval	Found Design / Build Completion Approvals obtained for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
B130.30	Course Curriculum	Found the same training curriculum was created for both Phase 2 releases. Phase 3 did not have a Course Curriculum document since there is no planned face-to-face training.	No Exceptions Noted

IT Audit was able to review documentation posted within the WMS Docs SharePoint site for both Phase 2 and Phase 3 (Release 1) and found all required Design/Build documents were captured, and approved where needed, as required by the NiSource PMM framework.

Recommendation: None

WMS Docs SDLC Review

REVIEW / RESULTS

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description:	IT Audit Review/Results:	IT Audit Evaluation
D150.10	Deployment Schedule	Found a Deployment Schedule has been adequately documented for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
B120.80	Test Scripts	Found adequately documented testing results for both Phase 2 releases and Phase 3 (Release 1) within HP ALM. Additionally noted the Project Team is using HP ALM to track defects experienced during the various testing cycles.	No Exceptions Noted
B160.10	Post-Implementation Support Approach	Found the Project Team used a Deployment Plan document to capture post-implementation support criteria.	No Exceptions Noted
T140.20	User Acceptance Test Approval	Found User Acceptance Testing Approvals documented for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
T180.10	Security request for production environment access	Found the Project Team adequately documented Security requests for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
N/A	ISM Change Ticket	Found high impact changes documented within the Infrastructure Checklist for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
T190.10	Testing Stage Completion Approval	Found Testing Stage Completion Approvals were documented and individually obtained for Phase 2 and Phase 3 (Release 1).	No Exceptions Noted

IT Audit was able to review documentation posted within the WMS Docs SharePoint site for both Phase 2 and Phase 3 (Release 1) and found all required Test phase documents were captured, and approved where needed, as required by the NiSource PMM framework.

Recommendation: None

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description:	IT Audit Review/Results:	IT Audit Evaluation
D110.60	Data Conversion Program Design	Found data conversion design was adequately documented for the Phase 2 Survey & Land release. The Infrastructure Records / Job Orders (IR & JO) Phase 2 release and Phase 3 (Release 1) had no associated data conversion requirements.	No Exceptions Noted
P110.10	User Documentation	Found user documentation (manuals, presentations, release notes, etc.) adequately prepared for both Phase 2 releases and Phase 3 (Release 1).	No Exceptions Noted
P130.10	Technical Documentation	Found technical documentation adequately prepared for both Phase 2 releases.*	No Exceptions Noted
P190.10	Deployment Phase Completion Approval	Found Deployment Stage Completion Approval was documented for both Phase 2 releases.*	No Exceptions Noted

IT Audit was able to review documentation posted within the WMS Docs SharePoint site for Phase 2 and found all required Deployment phase documents were captured, and approved where needed, as required by the NiSource PMM framework.

Recommendation: None

* IT Audit was unable to evaluate the Deployment Phase for Phase 3 (Release 1) as the Technical Documentation and Deployment Phase Completion Approval requirements supporting phase closure will be aggregated for all seven (7) Phase 3 releases.

WMS Docs SDLC Review

REVIEW / RESULTS

PMM Deliverable #	PMM Description:	IT Audit Review/Results:	IT Audit Evaluation
V120.10	Lessons Learned	Found the Project Team adequately documented Lessons Learned for Phase 2.	No Exceptions Noted
V190.10	Turnover Stage Completion Approval	Found the Turnover stage was approved by key project stakeholders.	No Exceptions Noted
N/A	Transition to Steady State	Found Steady State transition approvals were obtained and documented.	No Exceptions Noted

IT Audit was able to review documentation posted within the WMS Docs SharePoint site for Phase 2 and found all required Deployment phase documents were captured, and approved where needed, as required by the NiSource PMM framework.

Recommendation: None

* IT Audit was unable to evaluate the Turnover Phase for Phase 3 (Release 1) as documentation supporting phase closure will be aggregated for all seven (7) Phase 3 releases.

WMS Docs SDLC Review

REVIEW / RESULTS

WMS Docs SDLC Review

REVIEW / RESULTS

WMS Docs SDLC Review

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WMS Docs SDLC Review

REVIEW / RESULTS

- VP, Engineering and Construction
- Director, Engineering and Construction
- Director, Project Planning & Execution
- Manager, IT Strategy and Service
- Manager, Gas Infrastructure and Capital Analysis
- Business Applications Project Lead
- Leader, Engineering Capital Close-Out

WMS Docs SDLC Review

REVIEW / RESULTS

Item #	Comments/Suggestions
Stakeholder Comments:	
1	Having joint project leadership between the WMS Docs IT Project Manager and Business Support made the project successful.
2	Even with the Rapid Release Model allowing for project budget modifications, documented budget updates (via approved Program Change Requests) and frequent dialogue provided visibility and transparency to project sponsors.
3	While face-to-face training was provided for WMS Docs Phase 2, delivering enhancements in small iterations for Phase 3 allowed the Project Team to communicate updates via email and online directly within the WMS Docs software.
4	One concern with this Rapid Release approach is "not to burn out end users" either with repetitive training or too frequent change communication.
5	Compared to many historical NiSource IT projects where timeline delays were experienced with no/limited tangible product delivered, the WMS Docs Project Team shared tangible results early via the Rapid Release Model.
6	The historic NiSource Business perception has been that once an IT solution has been released, there is a very limited chance to change what has been delivered. By providing iterative solution releases for WMS Docs, the business was able to get an initial product that met scope, yet still see value-added enhancements with each new phase/release.
Stakeholder Suggestion:	
7	The current NiSource IT PMM framework does not integrate well for Rapid Release Model usage since its not constructed for release iterations lasting only a short duration. Two questions to address in 2016 are: • How the IT PMM framework can be flexed for implementations where only portions of the methodology are used? • How the NiSource IT PMO can better align budget and financial planning efforts with the Rapid Release Model?

WMS Docs SDLC Review

REVIEW / RESULTS

REPORT DISTRIBUTION

NI-CPG Technical Transition Review

NiSource IT Audit

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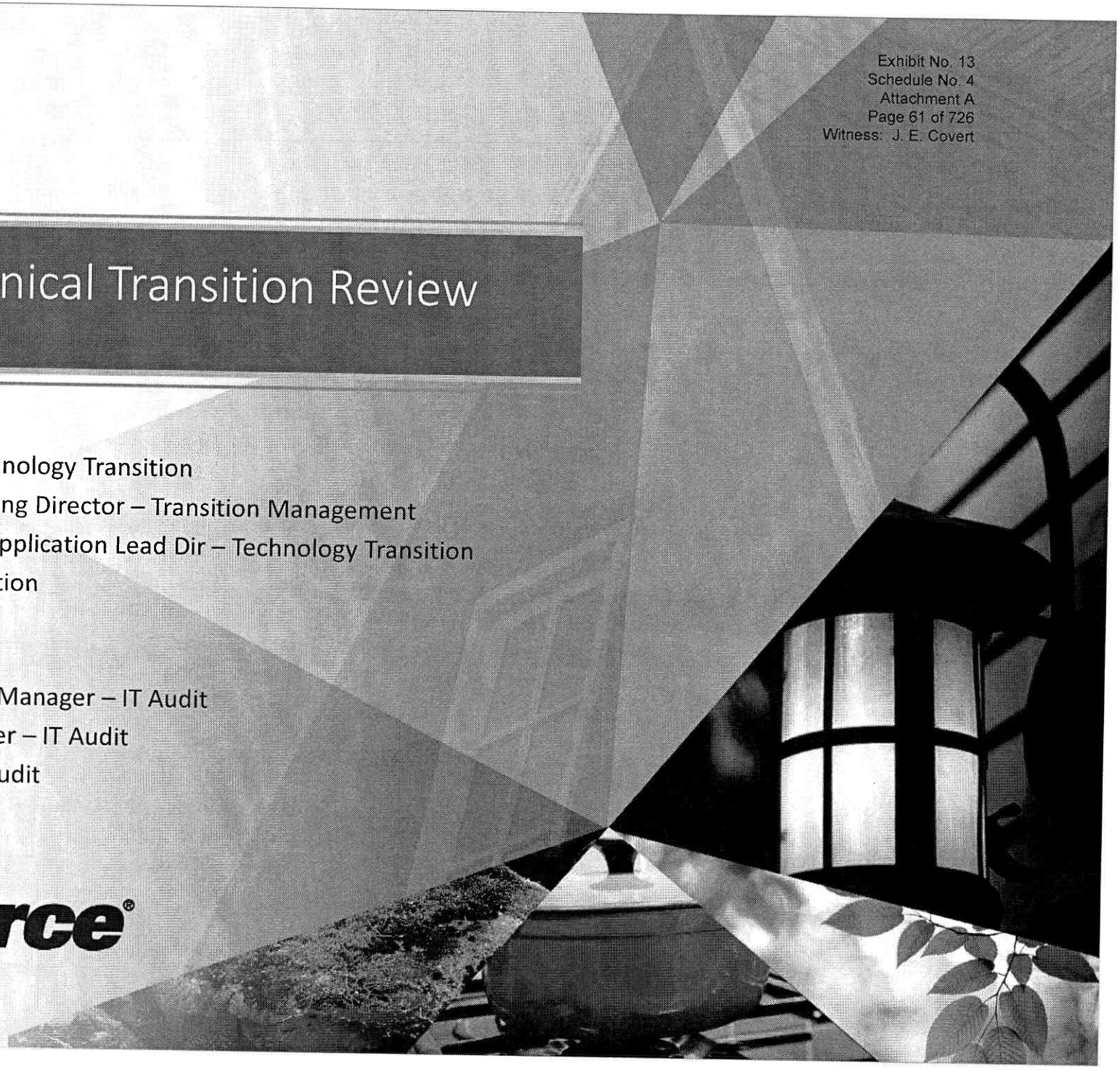
Rick Fontaine, VP – Technology Transition
Aaron Borchers, Managing Director – Transition Management
Steve Porter, Business Application Lead Dir – Technology Transition
Stuart Stern, VP - Transition

From:

John Manfreda, Project Manager – IT Audit
Greg Wancheck, Manager – IT Audit
Ray Irvin, Director – IT Audit

June 28, 2016

NiSource®



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NI-CPG Technical Transition Review

EXECUTIVE OVERVIEW

NI-CPG Technical Transition Review

Objective

The objective of IT Audit's CPG Technical Transition Review is to provide management with an on-going review of the continued utilization of policies, procedures and processes used to manage activities associated with both the overall NI-CPG Separation program and individual NI-Managed (NiSource- Managed) Separation projects, focusing on the following areas:

1) Delivery Based Controls

- Assess whether Program Scope, Cost and Schedule controls are in place and in compliance with either NiSource IT Project Management Methodology (PMM) and/or NI-CPG Separation Program Policy.
- Assess whether Program Quality controls over solution conformance to requirements are in place and are operating as designed.
- Assess whether Organizational Change Management (OCM) controls over communications and alignment with stakeholders are in place and operating as designed.
- Review Separation program user acceptance, approval activities and plans for relevant Separation projects to provide reasonable assurance NiSource corporate policy and/or program standards are followed.

2) Solution Based Controls

- Assess whether Business Process Controls (automated, interface or manual) were included in the solution development, testing and deployment processes for the EERS/Concur (MySpend), HR/Payroll Separation, WorkBrain 6.01 (NiSource only) and NCS Oracle eProcurement Separation projects.
- Assess whether general IT controls (IT GCC) were considered and included in solution development, testing and deployment processes for relevant Separation Projects.
- Assess whether Transition Service Agreement (TSA) related system security is updated in a timely manner as part of on-going TSA sunset activities.
- Assess the level of alignment and communications between NiSource and CPG SOX Compliance, NiSource IT Compliance, IT Audit and External Audit on solution based controls.
- Verify whether monthly transition services invoices are accurately calculated in accordance with the NiSource to CPG Transition Services Agreement (TSA).

3) Program Conduct Controls

- Monitor on-going integration, alignment and communications between the Technology Transition Program Team, Project Management Office, OCM and Transition Service teams to provide feedback on the approach and execution process during the review period.
- Review delivered functional solution acceptance activities (user acceptance) for the EERS/Concur (MySpend) project focusing on overall Organizational Change Management effectiveness.

NI-CPG Technical Transition Review

Background

The NI-CPG Separation Team continues its efforts within the NI-CPG Separation program to execute a successful separation of CPG technical infrastructure and business applications to enable CPG to operate as a stand alone entity. The NI-CPG Separation Team is also maintaining its usage of NiSource-Managed (one time physical separation projects) and CPG-Managed (setup of on-going CPG IT operations) designations to classify projects as established in the program's planning phase. The NI-CPG Separation Team has further segmented NiSource-Managed Separation projects into three (3) distinct types.

Technology:

- Infrastructure establishment to support a wholly separated CPG entity

Business Application Transformation:

- New systems implementation for NiSource and/or CPG

Separation:

- Systems replication between NiSource and CPG (including data/security modifications required for independent entity operation)

In February 2016, IT Audit initiated this NI-CPG Technical Transition Review to provide an independent perspective on the on-going activities associated with the NI-Managed Separation program. IT Audit specifically focused on the HR/Payroll Separation, WorkBrain 6.01 (NiSource Only), and NCS Oracle eProcurement projects. IT Audit conducted field work including, but not limited to, the following:

- Attendance at regularly scheduled Separation project Leadership meetings;
- Topical gatherings with key NI-CPG Separation project personnel;
- Needed email and phone conversations with Separation project subject matter experts (SMEs);
- Control testing documentation and deliverable reviews at both a program and project level.

Executive Overview

Findings

NI-CPG Technical Transition Review

Executive Overview

Findings (Cont)

NI-CPG Technical Transition Review

REVIEW/RESULTS

NI-CPG Technical Transition Review

DELIVERY BASED CONTROLS

NI-CPG Technical Transition Review

REVIEW / RESULTS

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REVIEW / RESULTS

Testing Responsibilities

Area	Program Test Team	Project Team
Program Test Framework	✓	
Provide Test Methodology/Process, Tool & Templates	✓	
Cross Project Testing Coordination & Consultation	✓	
Support Project Test Metrics Reporting	✓	
HP ALM Administration & Support	✓	
Point of contact for Internal Audit and SOX team	✓	
Conduct Quality Assurance Review for Process, Results & Evidence	✓	
Learning and Continuous Improvement: Methodology/Process, Tool & Templates	✓	
Requirements Documentation, Updates & Traceability		✓
Project Test Approach and Plan		✓
Test Preparation- Script, Data, Environments, Schedule		✓
Test Execution and Defect Resolution		✓
Test Execution and Defect Reporting		✓
Test Resource Staffing and Management		✓

NI-CPG Technical Transition Review

REVIEW / RESULTS

Program Level QA Reviews

Work Product	Review Activities
Test Approach	• Verify standard template is used and any variation is appropriate • Each section is reviewed for clarity, completeness and quality • Entry and Exit criteria for each stage is reviewed for consistency
Requirements	• Ensure template is completed correctly for upload to HP-ALM and to facilitate efficient mapping • Review RTM is complete and all requirements are covered by at least one test script
Stage Test Plans	• Verify standard templates are used and any variations are appropriate • Confirm any variations from Test Approach are appropriate and documented • Confirm completeness and quality of all three documents: Test Plan (PPT), Test Scripts, Execution Schedule • Entry and Exit criteria for each stage is reviewed for consistency • Ensure all scripts are scheduled and assigned in HP-ALM prior to execution
Test Scenarios and Script Inventory	• Verify all requirements are covered by scenarios • Ensure number of scripts is estimated
Test Execution	• Ensure stage containment per Test Plans, and any exceptions are documented and approved by leadership • Verify scripts are being executed in HP ALM and results are being recorded properly • Run pre-audit reports to identify potential problems – e.g. scripts without evidence, scripts without actual results
Defect Management	• Monitor defect triage and resolution • Ensure each defect has at least one linked script • Ensure each failed or blocked script has at least one linked open defect

NiSource

NI-CPG Technical Transition Review

REVIEW / RESULTS

Work Product	IT Audit Evaluation
Test Approach	No Exceptions Noted
Requirements	No Exceptions Noted
Stage Test Plans	No Exceptions Noted
Test Scenarios and Script Inventory	No Exceptions Noted
Test Execution	No Exceptions Noted
Defect Management	No Exceptions Noted

NI-CPG Technical Transition Review

REVIEW / RESULTS

Total NiSource – WorkBrain Project Scripts/Executions	Total NiSource – WorkBrain Project Scripts/Executions Sampled	Total NiSource – WorkBrain Project Scripts with Documentation Attachments to Support Test Conclusion
1503	22	22/22 (100%)

Total Defects Sampled	Total Defects with Reasonable Severity Assignment	Total Defects with Reasonable Closure Documentation
8	8/8 (100%)	8/8 (100%)

NI-CPG Technical Transition Review

REVIEW / RESULTS

OCM Project Deliverable	IT Audit Analysis	IT Audit Evaluation
Training Plan/Course Curriculum	Created, Shared and Retained on SharePoint	No Exceptions Noted
Stakeholder Analysis	Created, Shared and Retained on SharePoint	No Exceptions Noted
Organizational/Change Impact	Created, Shared and Retained on SharePoint	No Exceptions Noted
Change Champion Network (CCN)	Created, Shared and Retained on SharePoint	No Exceptions Noted
Deployment Campaign	Created, Shared and Retained on SharePoint	No Exceptions Noted

NI-CPG Technical Transition Review

REVIEW / RESULTS

#	Go-Live Checkpoint Name	Proposed Timing	Outcome Metric
1	Deployment Initiation	Beginning of IT PMM Deployment Phase	• Approval to initiate Deployment Phase activities • Action plan to address key issues and/or gaps
2	Go-Live Commitment	Week of Go-Live	• Approval to Go-Live
3	Steady State Turnover	Final week of HyperCare	• Transition approval from HyperCare to Steady State (both NiSource & CPG)
4	Transition Services Agreement (TSA) Sunset	Post IT PMM Turnover Phase	• Integration Team to conduct checkpoint as final transition confirmation

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

SOLUTION BASED CONTROLS

Solution Based Controls - Objective 1

Assess whether business process controls (automated, manual, interface and reports) were included in solution development, testing and deployment processes for applicable NiSource managed Separation projects.

Results:

IT Audit noted that SOX control efforts associated with NiSource managed Separation projects continue to follow the process collaboratively developed between the NI-CPG Separation Project and NiSource SOX Compliance teams for the NI-CPG Separation Program. IT Audit's analysis of SOX business process controls for this review focused on assessing the following four (4) NiSource Separation projects for related controls risk:

- EERS/Concur (MySpend)
- HR/Payroll Separation
- WorkBrain 6.01 (NiSource only)
- NCS Oracle eProcurement

Solution Based Controls - Objective 1 (Cont)

EERS/Concur (MySpend)

IT Audit found all relevant SOX business process controls (and identified SOX reports) related to NiSource's EERS/Concur (MySpend) application instance were successfully developed, tested and deployed prior to application Go-Live on February 1, 2016. IT Audit also aligned with NiSource SOX Compliance to perform a post Go-Live user access security review and found no exceptions, as all elevated security access necessary during the post Go-Live HyperCare period was appropriately removed prior to project closure.

NiSource IT Project Management Phase	Design Phase	Test Phase	Deploy Phase	Turnover Phase
Project Phase End Date	**10/15/15**	**1/15/16**	**2/1/16**	**2/29/16**
Action	SOX Control Tests Planned and Confirmed	SOX Control Tests Executed	SOX Report Creation Sign-Off	Post Go-Live HyperCare SOX Security Review
Automated SOX Controls	6	6	Not Applicable	**1/1 (100%)**
Manual SOX Controls	Not Applicable*	Not Applicable*	Not Applicable*	
SOX Interfaces	4	4	Not Applicable	
SOX Reports Needing Creation	6	6	6	
Total SOX Control Points	**16/16 (100%)**	**16/16 (100%)**	**6/6 (100%)**	

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

Note* Both NiSource Business Process Owners and NiSource SOX Compliance identified no Manual SOX controls (new or legacy) associated with the EERS/Concur (MySpend) implementation.

NI-CPG Technical Transition Review

Solution Based Controls - Objective 1 (Cont)

HR/Payroll Separation

IT Audit found all relevant SOX business process controls (and identified SOX reports) related to separating the PeopleSoft HR/Payroll instances between NiSource and CPG were successfully developed, tested and deployed prior to application Go-Live on April 18,2016. IT Audit also aligned with NiSource SOX Compliance to perform a post Go-Live user access security review and found no exceptions, as all elevated security access necessary during the post Go-Live HyperCare period was appropriately removed prior to project closure.

NiSource IT Project Management Phase	Design Phase	Test Phase	Deploy Phase	Turnover Phase
Project Phase End Date	**9/11/2015**	**4/1/2016**	**4/18/2016**	**5/13/2016**
Action	SOX Control Tests Planned and Confirmed	SOX Control Tests Executed	SOX Report Creation Sign-Off	Post Go-Live HyperCare Security Review
Automated SOX Controls	4	0*	Not Applicable	**1/1 (100%)**
Manual SOX Controls	0	Not Applicable	Not Applicable	
SOX Interfaces	0	Not Applicable	Not Applicable	
SOX Reports Needing Creation	0	Not Applicable	Not Applicable	
Total SOX Control Points	**4/4 (100%)**	**0/4 (0%)***	Not Applicable	

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

Note* All four (4) automated PeopleSoft HRMS SOX controls are former security-related controls which were unchanged as a result of the HR/Payroll Separation effort. Testing of these four (4) PeopleSoft HRMS SOX controls will be performed during Q2/Q3 2016 SOX testing by Management.

Solution Based Controls - Objective 1 (Cont)

Workbrain 6.01 (NiSource only)

IT Audit found all relevant SOX business process controls (and identified SOX reports) related to NiSource's Workbrain 6.01 application implementation were successfully developed, tested and deployed prior to the upcoming application Go-Live on July 5, 2016. IT Audit will also be aligning with NiSource SOX Compliance to perform a post Go-Live user access security review over removal of elevated security access needed during the HyperCare period prior to project closure in late August 2016.

NiSource IT Project Management Phase	Design Phase	Test Phase	Deploy Phase	Turnover Phase
Project Phase End Date	**1/8/2016**	**5/26/2016**	**7/5/2016**	**8/26/2016**
Action	SOX Control Tests Planned and Confirmed	SOX Control Tests Executed	SOX Report Creation Sign-Off	Post Go-Live HyperCare Security Review
Automated SOX Controls	7	7	Not Applicable	**To be performed prior to project closure in August 2016**
Manual SOX Controls	0	0	Not Applicable	
SOX Interfaces	8	8	Not Applicable	
SOX Reports Needing Creation	4	4	4	
Total SOX Control Points	**19/19 (100%)**	**19/19 (100%)**	**4/4/(100%)**	

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

Solution Based Controls - Objective 1 (Cont)

NCS Oracle eProcurement

IT Audit found all relevant SOX business process controls (and identified SOX reports) related to NiSource's Oracle eProcurement application implementation were successfully developed, tested and deployed prior to the upcoming application Go-Live on July 18, 2016. IT Audit will also be aligning with NiSource SOX Compliance to perform a post Go-Live user access security review over removal of elevated security access needed during the HyperCare period prior to project closure in August 2016.

NiSource IT Project Management Phase	Design Phase	Test Phase	Deploy Phase	Turnover Phase
Project Phase End Date	**4/30/2016**	**6/24/2016**	**7/18/2016**	**7/29/2016**
Action	SOX Control Tests Planned and Confirmed	SOX Control Tests Executed	SOX Report Creation Sign-Off	Post Go-Live HyperCare Security Review
Automated SOX Controls	5	5	Not Applicable	**To be performed prior to project closure in August 2016**
Manual SOX Controls	7	Not Applicable	Not Applicable	
SOX Interfaces	0	Not Applicable	Not Applicable	
SOX Reports Needing Creation	10	10*	10*	
Total SOX Control Points	22	**5/15 (33%)***	**0/10 (0%)***	

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

Solution Based Controls Recommendations: None

Note* SOX relevant reports supporting the execution of NCS eProcurement manual controls were in process as of this review date. These SOX reports are on track for conclusion in tandem with the planned July 2016 go-live date.

NI-CPG Technical Transition Review

REVIEW / RESULTS

Separation Project	NiSource IT General Computing Controls (GCC)	Testable NiSource IT GCC (for individual project)	IT GCC Test Results Review
EERS/Concur (MySpend)	29	4/29*	4/4/ (100%)
HR/Payroll Separation		4/29*	4/4/ (100%)
Workbrain 6.01 (NiSource only)		4/29*	4/4/ (100%)
NCS Oracle eProcurement		10/29**	2/10 (20%)

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

IT General Computing Control Recommendations: None

Note* Only four (4) NiSource IT GCC controls were applicable to the MySpend, HR/Payroll and Workbrain 6.01 implementations.

Note ** As of June 20, 2016, only two (2) NCS Oracle eProcurement IT GCC controls had been successfully tested. The remaining eight (8) applicable IT GCC controls will be tested either closer to the July 18, 2016 Go-Live or as part of standard SOX IT GCC testing by Management in Q3/Q4 2016.

NI-CPG Technical Transition Review

REVIEW / RESULTS

Separation Project	IT Audit Review Results	IT Audit Conclusion
HR/Payroll	8 of 8 (100%) Quality Attributes exhibited in the HR/Payroll Conversion Plan and Deployment Checklist.	No Exceptions Noted

NI-CPG Technical Transition Review

REVIEW / RESULTS

Separation Project	Associated Application	IT Audit Test Conclusion
EERS/Concur (MySpend)	Concur	No Exceptions Noted
HR/Payroll	PeopleSoft HRMS	No Exceptions Noted
WorkBrain 6.01 (NiSource only)	WorkBrain 6.01	To be reviewed prior to project closures in August 2016
NCS Oracle eProcurement	PeopleSoft eProcurement	

Key	Completed (No Exceptions Noted)	In Process (as of June 20, 2016)	Exception(s) Noted

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

PROGRAM CONDUCT CONTROLS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

Note*: NiSource employee types interviewed included MySpend users both within, and outside of the NI-CPG Separation Project Change Adoption Survey.

NI-CPG Technical Transition Review

REVIEW / RESULTS

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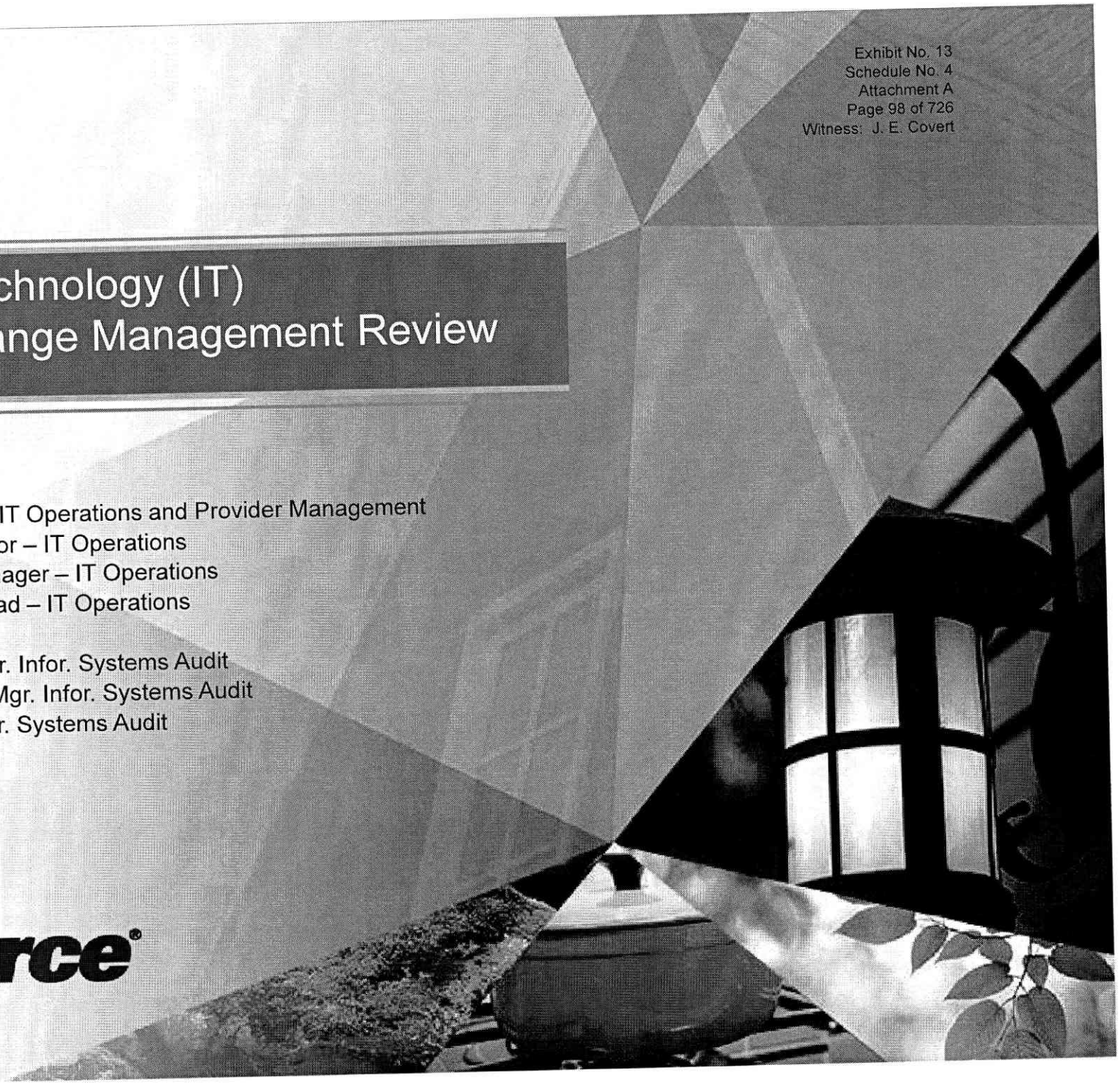
Information Technology (IT) Enterprise Change Management Review

To: Russ Viater, VP – IT Operations and Provider Management
Patti Davis, Director – IT Operations
Angela Vegh, Manager – IT Operations
Amanda John, Lead – IT Operations

From: Brett A. Welsch, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

April 12, 2016

NiSource®



Index

- Scope
- Objectives
- Approach
- Background
- Findings

Information Technology – Enterprise Change Management Review

EXECUTIVE SUMMARY

Scope

The purpose of the NiSource Enterprise IT Change Management Review is to evaluate the processes and procedures utilized by NiSource IT management to implement changes to IT applications, data, assets and infrastructure. The objective of this review is to provide management with an overall opinion on the adequacy and effectiveness of NiSource IT management's methods of executing these application, data, asset and infrastructure changes in the NiSource technical environment.

Objectives

Objective steps were defined as follows:

Application and Data Change Management Practices: Verify whether the criteria for application development, incident management and data changes has been clearly defined and documented. Review the processes and procedures being performed for a random sample of non-Sarbanes Oxley (SOX) applications and data changes to ensure alignment with the NiSource Enterprise IT Change Management Policy.*

Technical Asset and Infrastructure Change Management Practices: Verify whether the criteria for asset and infrastructure changes has been clearly defined and documented. Review the processes and procedures being performed for a random sample of NiSource asset and infrastructure changes to ensure alignment with the NiSource Enterprise IT Change Management Policy.

Emergency Change Management Practices: Review the criteria for classifying a change as 'Emergency' and whether the emergency change process has been documented in accordance with NiSource change management procedures. Review a selection of emergency changes to ensure both adequacy of classification and approval alignment with the NiSource Enterprise IT Change Management Policy.

Information Technology – Enterprise Change Management Review

EXECUTIVE SUMMARY

Objectives (cont.)

Business As Usual (BAU) Change Management Practices: Review the criteria for classifying a BAU change and whether the BAU change process has been documented in accordance with NiSource change management procedures. Review a selection of BAU changes to ensure both adequacy of classification and approval alignment with the NiSource Enterprise IT Change Management Policy.

Change Management Data Analytics: Perform analytics over NiSource change management ticketing data to provide an independent opinion on maturity of the change management program.

Information Technology – Enterprise Change Management Review

EXECUTIVE SUMMARY

Approach

IT Audit reviewed the NiSource Change Management Process Interface Manual (PIM), and other related change management documents, to gain an understanding of the processes and procedures leveraged when making application, data, asset and infrastructure changes in the NiSource IT environment. IT Audit also obtained ticket changes created in IBM's Integrated Service Management (ISM) tool from January 2014 through December 2015 to test a sample of individual changes for adherence to the Enterprise IT Change Management process. In addition, IT Audit reviewed and tested the Emergency and Business As Usual (BAU) change management processes for alignment with NiSource Enterprise Change Management practices. Lastly, IT Audit leveraged data analytic techniques for performing independent enterprise change management trend analysis.

Background

Information Technology – Enterprise Change Management Review

EXECUTIVE SUMMARY

Findings

Information Technology – Enterprise Change Management Review

EXECUTIVE SUMMARY

Findings (cont.)

Information Technology (IT)
Enterprise Change Management Review

REVIEW RESULTS

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 1: Application and Data Change Management Practices

Verify whether the criteria for application development, incident management and data changes have been clearly defined and documented. Review the processes and procedures being performed for a random sample of non-Sarbanes Oxley (SOX) application and data changes to ensure alignment with the NiSource Enterprise IT Change Management Policy.

Results: No Exceptions Noted.

The NiSource Change Management Process Interface Manual (PIM) specifies the required procedures for making changes to NiSource applications and data. Within the PIM document, a change is categorized as 'anything that alters the status of a configuration item (CI)' and typically includes anything that adds to, deletes from or modifies the IT environment. The definition of a change is 'the addition, modification or removal of approved, supported or base-lined hardware, network, software, application, environment or system.'

In addition to defining a change, the PIM document also outlines the following processes and procedures:

- Creating a change request
- Approving/rejecting the change request
- Establishing classification and categorization schemes to assist with the change assessment
- Defining change types (i.e. Planned, Standard, Emergency, etc.)
- Coordinating the implementation of the change
- Increasing the visibility/communication of the change
- Roles and responsibilities of various change management team members
- Required documentation for each change
- Required approval structure for all change types

REVIEW / RESULTS

Objective 1: Application and Data Change Management Practices (cont.)

Through review of the PIM document, IT Audit determined each change request ticket within NiSource's ISM (Integrated Service Management) software is required to document the Backout and/or Recovery Plan, Impact Analysis and Test Plan/Results. Inclusion of these items helps ensure the change is appropriately reviewed, tested and approved prior to implementation. In addition to the required supporting documentation, the PIM also states the required change approvers based on the application's risk classification designating within ISM. Specifically, IT Audit noted the following approval requirements by risk classifications defined with the PIM:

- Risk 1 (Critical) - Requires approvals from the NiSource Change Advisory Board, NiSource Service Delivery, Change Management Team and the Technical Groups
- Risk 2 (Major) - Requires approvals from the NiSource Change Advisory Board, NiSource Service Delivery, Change Management Team and the Technical Groups
- Risk 3 (Medium) - Requires approvals from the NiSource Service Delivery, Change Management Team and the Technical Groups
- Risk 4 (Minor) - Requires approvals from the NiSource Service Delivery, Change Management Team and the Technical Groups
- Risk 5 (BAU) - Requires approvals from the Change Management Team and the Technical Groups
- Emergency Change (All Risk Levels) – Requires approvals from the Change Management Team and the Manager/Lead of the change owner

REVIEW / RESULTS

Objective 1: Application and Data Change Management Practices (cont.)

Along with the PIM, IT Audit also reviewed the following supplemental documentation leveraged in the NiSource IT change management process:

- The ISM 7.2 Change Management Procedures document provides a guide to using ISM and step-by-step instructions on managing a change from the point it is entered to its completion, including values that should be selected, approvals required and a FAQ section on commonly performed tasks and processes.

- The IT Ops Change Management Approvals document provides an approval timeline showing when, by day of week, changes need to be approved and documented to meet lead time requirements for the Change Approval Board (CAB). Additional guidelines in this document include when changes are to be reviewed and when changes CANNOT be deployed into production due to the lack of a dark window or potential downstream effect on a NiSource user group (i.e. Call Center, Field Operations, etc.).

- The Change Management - 8 Day Change Window for Internal IT document details the process implemented in October 2015 of allowing approved, non-emergency production changes to be implemented in one of only eight (8) specified windows per month. This document also highlights that changes scheduled to start in the upcoming 48 hours are reviewed at the Daily Service Review Call, while all changes scheduled to start in the upcoming 7 days are reviewed during the Weekly CAB Meeting. Finally, the document includes an exception process, along with any required authorizations necessary, should a change require an expedited / emergency implementation outside a defined change window.

IT Audit found all NiSource and CPG applications and data are covered under the NiSource IT Enterprise Change Management process. The only exceptions are those applications which are either completely supported - data, application, and hardware, by NiSource Business users or Cloud based applications covered under a third-party vendor agreement (SSAE 16 supported). Further, and as NiSource/CPG Separation efforts continue, CPG will be standing up their own Enterprise Change Management process that will initially mirror current NiSource Change Management processes.

REVIEW / RESULTS

Objective 1: Application and Data Change Management Practices (cont.)

For testing purposes, IT Audit obtained a system-generated ISM extract of all application and data changes made in the 2014 - 2015 timeframe to validate whether they met the requirements as stated in the NiSource Change Management Process Interface Manual (PIM). IT Audit filtered the ISM extract results to focus on non-SOX production application and data changes, as SOX production application and data changes are already subject to multiple audits throughout a calendar year by various NiSource and external compliance entities. Based on the filtered application and data change population, IT Audit randomly selected twelve (12) records covering the January 2014 to December 2015 time span for validation against field requirements from the PIM and ISM 7.2 Change Management How-to guide.

IT Audit's review found no issues or missing information in any of the twelve (12) randomly sampled application and data change records, as all necessary supporting documentation, approvals, change dates, and requisite ISM fields were populated as required.

Recommendation: None.

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 2: Technical Asset and Infrastructure Change Management Practices

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 3: Emergency Change Management Practices

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 3: Emergency Change Management Practices (cont.)

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 4: Business As Usual (BAU) Change Management Practices

Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 4: Business As Usual (BAU) Change Management Practices (cont.)

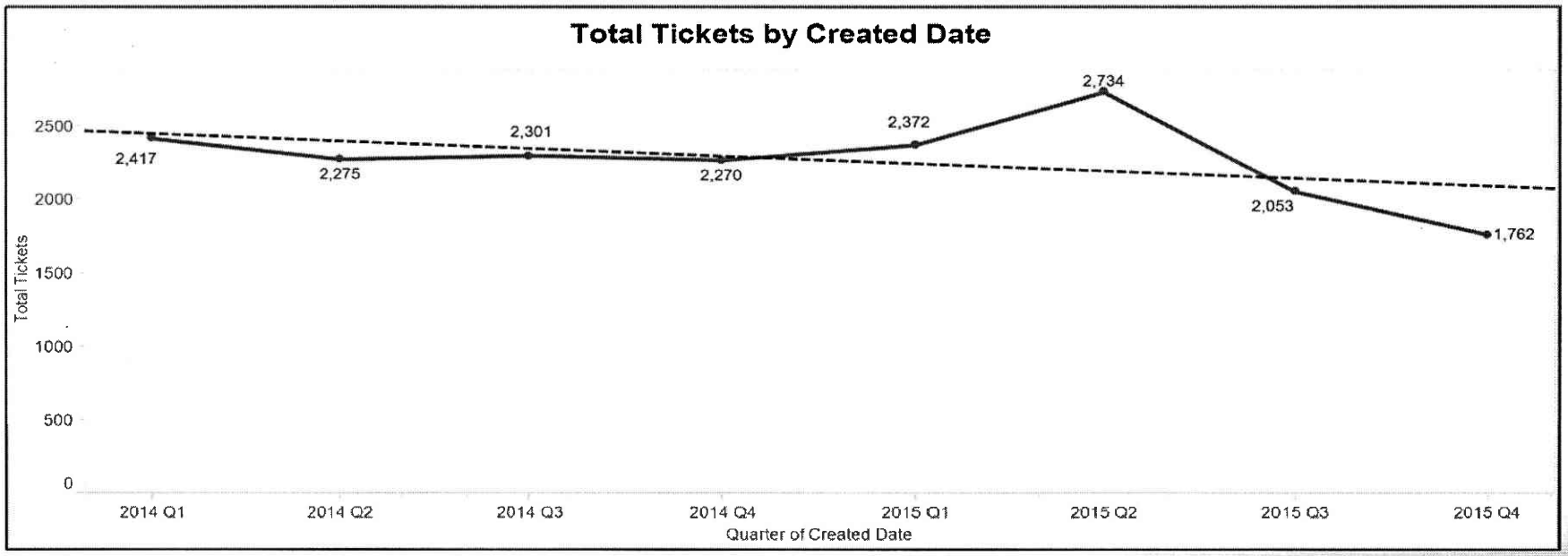
*Note: BAU00012 (Network Additions to Active Directory) was omitted from testing as the BAU type had no corresponding change records during the 2014-2015 review period.

REVIEW / RESULTS

Objective 5: Change Management Data Analytics

Perform analytics over change management data to provide an independent opinion on maturity of the change management program.

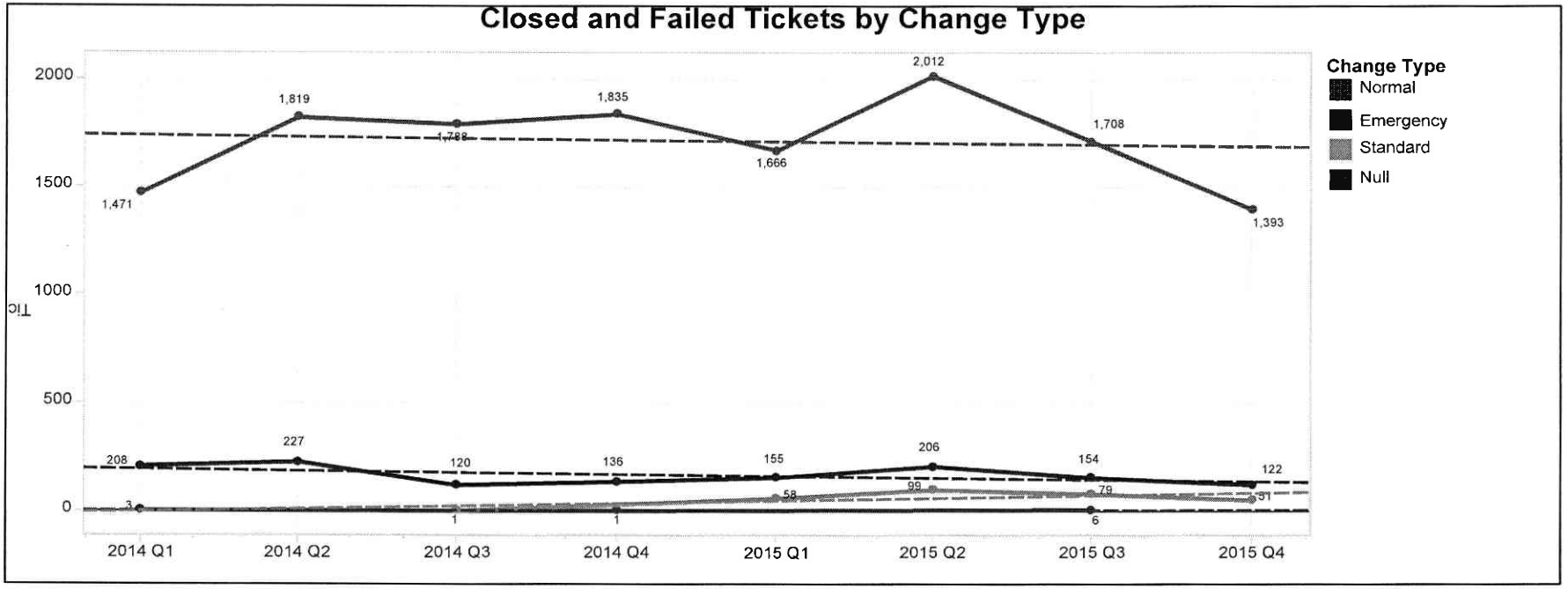
Utilizing the entire population of ISM change control tickets created from January 2014 through December 2015, IT Audit performed data analytic testing to understand trends of the ticketing information. Overall, the number of change tickets continues to decline for NiSource, which supports management's objective of creating a more stable IT environment.



Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 5: Change Management Data Analytics (cont.)



Normal: Tickets processed using the normal change procedures
Emergency: Tickets processed in an emergency manner, usually after the change has been implemented
Standard: Tickets processed to record information about a 3rd party change, i.e. – telecom changes
Null: Tickets with blank Change Type code

Information Technology – Enterprise Change Management Review

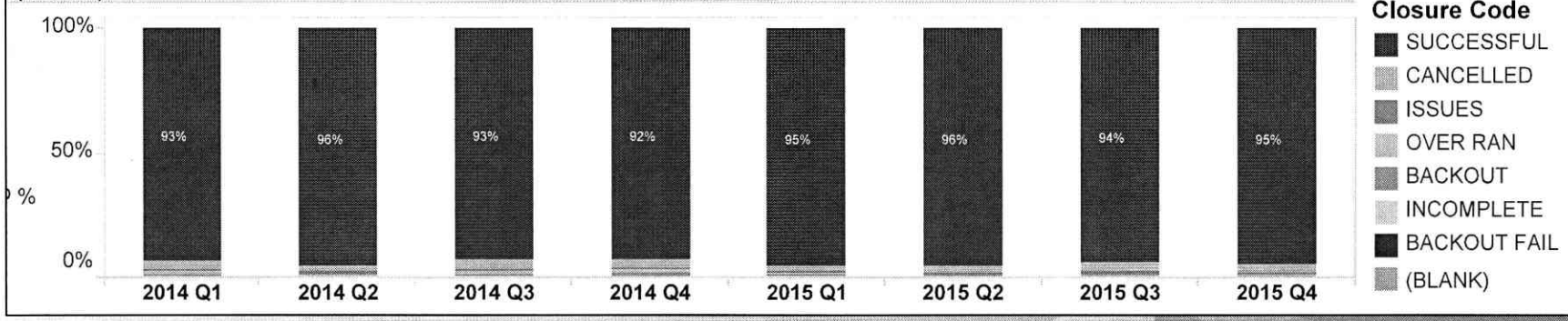
REVIEW / RESULTS

Objective 5: Change Management Data Analytics (cont.)

Closed and Failed Tickets by Closure Code

Quarter of Status Date

Closure Code	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
SUCCESSFUL	1,565	1,954	1,767	1,824	1,790	2,213	1,833	1,484
CANCELLED	61	43	81	72	43	50	66	48
ISSUES	12	15	15	16	7	13	22	14
OVER RAN	25	13	20	24	14	7	7	4
BACKOUT	9	13	15	23	14	10	10	12
INCOMPLETE	10	8	8	10	11	22	9	3
BACKOUT FAIL			1	2		2		
(BLANK)			2	1				1



Information Technology – Enterprise Change Management Review

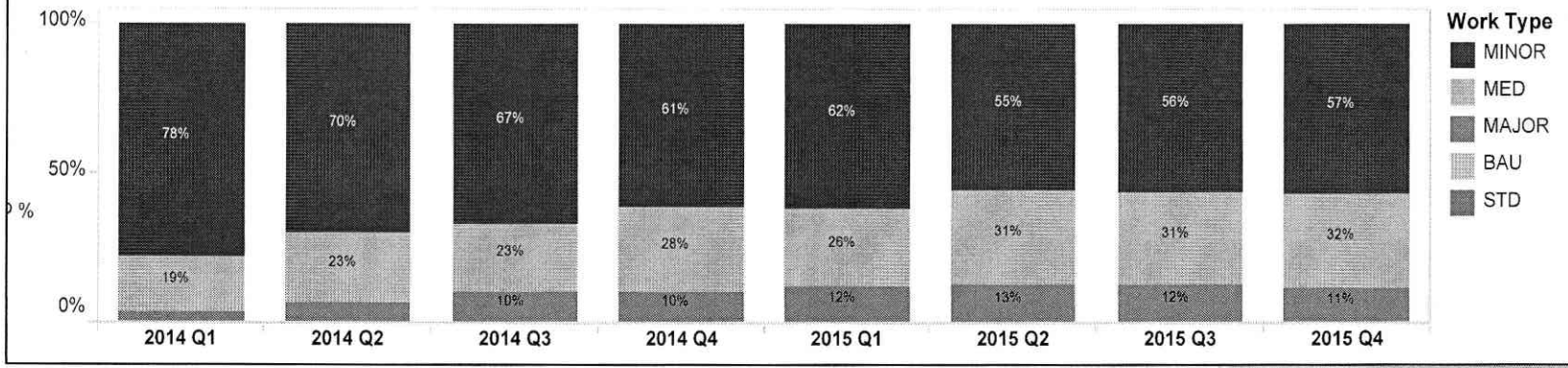
REVIEW / RESULTS

Objective 5: Change Management Data Analytics (cont.)

Closed and Failed Tickets by Work Type

Quarter of Status Date

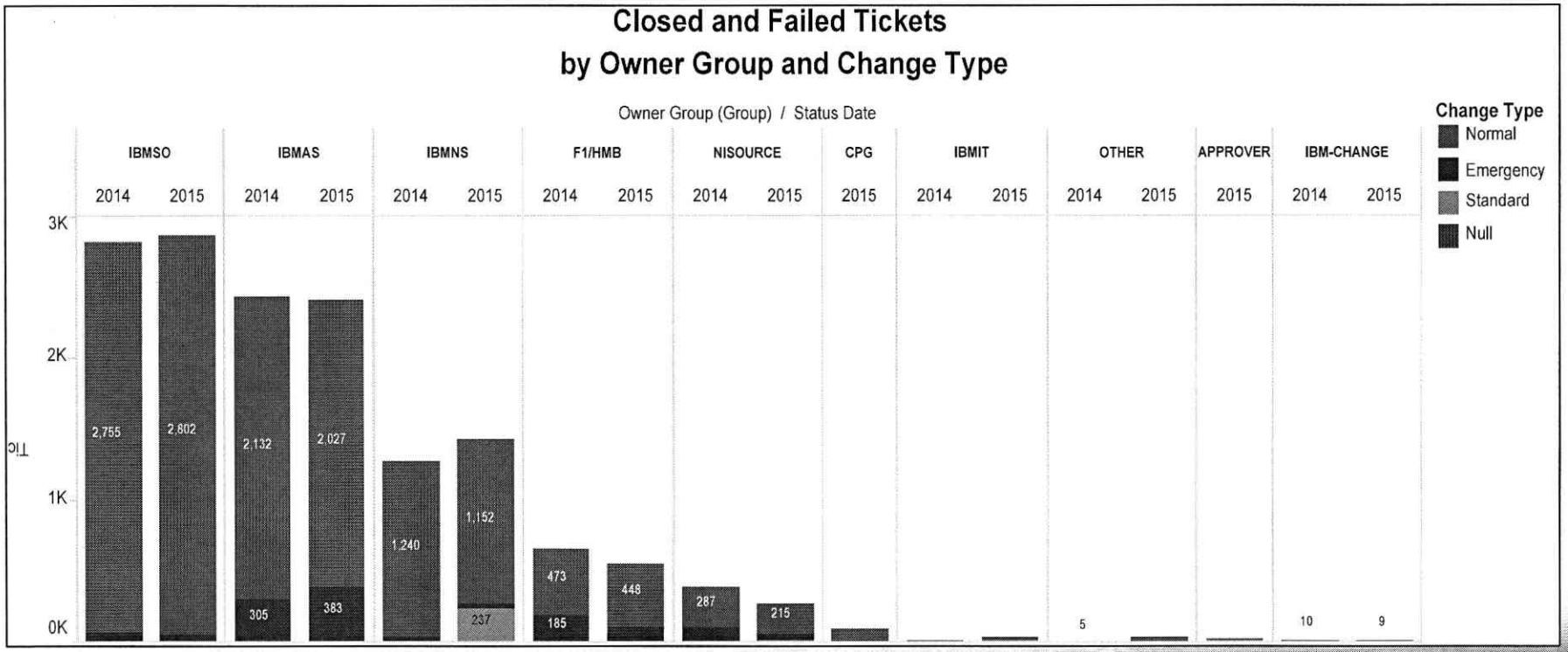
Work Type	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
MINOR	1,305	1,429	1,276	1,207	1,157	1,284	1,093	887
MED	318	476	438	555	492	726	598	495
MAJOR	52	133	185	198	217	297	239	174
BAU	7	8	10	12	12	10	17	10
STD					1			



Information Technology – Enterprise Change Management Review

REVIEW / RESULTS

Objective 5: Change Management Data Analytics (cont.)



* Owner groups are how NiSource IT defines the functional teams responsible for supporting the various areas of the NiSource computing environment.

Information Technology – Enterprise Change Management Review

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NiSource Cybersecurity assessment 2016

April 22, 2016

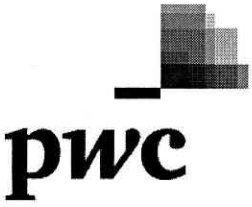


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Disclaimer

Our Services were performed and this Deliverable was developed in accordance with our engagement letter dated February 12, 2016 and are subject to the terms and conditions included therein.

Our Services were performed in accordance with Standards for Consulting Services established by the American Institute of Certified Public Accountants ("AICPA"). Accordingly, we are providing no opinion, attestation or other form of assurance with respect to our work and we did not verify or audit any information provided to us.

Our work was limited to the specific procedures and analysis described herein and was based only on the information made available through April 8, 2016. Accordingly, changes in circumstances after this date could affect the findings outlined in this Deliverable.

This information has been prepared solely for the use and benefit of, and pursuant to a client relationship exclusively with, NiSource Inc. ("NiSource"). PwC disclaims any contractual or other responsibility to others based on its use and, accordingly, this information may not be relied upon by anyone other than NiSource.

1. Engagement overview

1.1. Assessment objectives

From March 14, 2016 to April 8, 2016, NiSource engaged PricewaterhouseCoopers LLP ("PwC") to assess NiSource's cybersecurity program capabilities within the context of the organization's business objectives, security and compliance requirements, and relevant industry practices. The objectives of the evaluation were to assess current-state capabilities of NiSource's cybersecurity program, perform a gap analysis against industry practices, provide recommendations to address gaps, and develop a high-level roadmap that prioritizes the recommendations.

1.2. Scope

The assessment evaluated people, processes, and technology components across two different models, the PwC ATLAS™ Framework (used in the assessment performed by PwC in 2013) and the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF). These models include the following cybersecurity domains:

PwC security ATLASTM functional areas and key security activities	Description
I. Organization/Security Management	
• Knowledge Management • Personnel Management • Portfolio Management • Enterprise Security Steering • Third Party Relationship Management • Third Party Contract Management	The capabilities required to define the security program areas, align these to business and regulatory requirements, monitor risk, and manage the investments for direct business benefit. The capabilities required to measure and report the effectiveness of all security functional areas.
II. Security Awareness & Education	
• Awareness • Education • Communication	The capabilities required to educate, communicate, and periodically reinforce security roles and responsibilities.
III. Information Security Architecture	
• Enterprise Requirements Analysis and Prioritization • IT Security Reference Architecture • Common Security Services Infrastructure • Security Implementation Methodology (SDLC)	The capabilities required to establish leading practices, incorporate security into the development process, and create technology standards and patterns for the deployment of security services for the organization.

PwC security ATLASTM functional areas and key security activities	Description
IV. Threat & Vulnerability Management (TVM)	
• Intrusion Monitoring • Malicious Program Detection • Security Information Management • Vulnerability Management • Threat Management • Incident Response/Disaster Recovery • IT Asset Management	The capabilities required to protect the enterprise from threats and vulnerabilities. This includes the capabilities to stay informed about the constantly changing threat environment, processes to identify potential vulnerabilities, and resolve potential exposures. The capabilities required to track, secure, monitor, patch, and dispose of information assets. The capabilities required to respond to security incidents in a timely and efficient manner in order to minimize the impact to the organization.
V. Identity Management	
• Authentication • Authorization & Role Management • User Management and Provisioning • Identity Storage/Data Integration	The capabilities required to verify user identity, control access to protected resources, manage user's digital identities and provision them access to the appropriate systems to perform functions that are appropriate to their responsibilities.
VI. Regulatory & Compliance	
• Regulatory Compliance • Policies and Standards Management • Policy and Standards Compliance	The capabilities required to consolidate business and regulatory requirements into defined information security policies and standards, and measure and monitor compliance. The capabilities required to publish and maintain information security policies and standards, and measure and monitor compliance.
VII. Privacy & Data Protection	
• Classification, Discovery & Governance • Storage Protection • Use, Monitoring & Enforcement	The capabilities required to classify, identify, and properly govern information with the organization. The capabilities to adequately protect data throughout the data lifecycle.

NIST CSF core functions and categories	Description
I. Identify	
• Asset Management • Business Environment • Governance • Risk Assessment • Risk Management Strategy	The activities in the Identify Function are foundational for effective use of the Framework. Understanding the business context, the resources that support critical functions and the related cybersecurity risks enables an organization to focus and prioritize its efforts, consistent with its risk management strategy and business needs.
II. Protect	
• Access Control • Awareness and Training • Data Security • Information Protection Processes and Procedures • Maintenance • Protective Technology	The Protect Function supports the ability to limit or contain the impact of a potential cybersecurity event.
III. Detect	
• Anomalies and Events • Security Continuous Monitoring • Detection Processes	The Detect Function enables timely discovery of cybersecurity events.
IV. Respond	
• Response Planning • Communications • Analysis • Mitigation • Improvements	The Respond Function supports the ability to contain the impact of a potential cybersecurity event.
V. Recover	
• Recovery Planning • Improvements • Communications	The Recover Function supports timely recovery to normal operations to reduce the impact from a cybersecurity event.

For each domain, PwC conducted a series of workshops to get a high-level understanding of the people, processes, and technologies supporting NiSource's cybersecurity program. In addition, PwC also reviewed the documents provided by NiSource to get a better understanding of NiSource's cybersecurity capabilities. This iterative process helped the team gather relevant information in each domain, formulate observations, and identify gaps against industry practices. The resulting observations were validated by applicable stakeholders.

1.3. Approach

PwC performed a high-level evaluation of people, processes, and technology for each of the two frameworks (i.e., ATLAS™ and NIST CSF). The approach for each framework consisted of the following five phases.



Assess

The objective of the Assess phase was to understand the current state of NiSource's cybersecurity program. PwC held a series of workshops with key stakeholders responsible for managing and/or executing parts of the cybersecurity domains in both the NiSource IT and OT environments. The stakeholders included several executives, directors, and managers from areas such as the Cybersecurity Sub-Committee, Risk Management Committee, IT, OT, Operations, Legal, and Regulatory & Compliance. A complete list of the interviewed stakeholders can be found in Appendix A.4.

Analyze

The objective of this phase was twofold:

1. Compare NiSource's current state, as aligned to the ATLAS™ framework, against:
   - Results from the 2013 PwC and 2014 NiSource IT Audit cybersecurity assessments
   - Current initiatives and roadmap
   - Identified target state from the 2013 PwC assessment
2. Create and analyze NiSource's current state and future state profiles against the NIST CSF.

   In addition to the output data from the Assess phase, PwC leveraged the following key inputs to perform the gap analysis:
   - Our insight into, and experience with, our clients in the utility sector
   - The 2013 PwC and 2014 NiSource IT Audit cybersecurity assessment results
   - Result of previously conducted assessments by external service providers

The output of this phase was an understanding of the gaps between the current and target state of NiSource's cybersecurity program. PwC reviewed these outputs with the appropriate NiSource teams and stakeholders.

Recommend

The objective of the Recommend phase was to develop high-level recommendations for the gaps identified during the Assess and Analyze phases. Recommendations were developed, in collaboration with NiSource, to help the organization move from its current capabilities towards the target state. These recommendations were based on an understanding of practices across multiple industries, as well as familiarity with similarly sized North American utilities.

Plan

The Plan phase focused on prioritizing the recommendations, by cybersecurity functions, to develop a high-level roadmap. The roadmap provides a high-level estimate of time to implement each of the prioritized recommendations.

Report

The Report phase focused on the consolidation of observations, recommendations, and outputs from prior phases. The assessment report contains the below sections:

- **Executive Summary** – A high-level summary of activities performed during the engagement, including key themes and recommendations
- **ATLAS™ Refresh Summary** – A high-level update to 2013 PwC and 2014 NiSource IT Audit assessment report observations and recommendations
- **NIST CSF Summary** (IT and OT) – An analysis of current, planned, and target state profiles using the NIST CSF framework
- **Recommendations Roadmap** (IT and OT) – A prioritization of recommendations from the NIST CSF IT and OT sections of the report

2. Executive summary

2.1. Executive summary

NiSource has made several improvements to its cybersecurity program over the past two years, driven by support from the executives and dedicated cybersecurity focused resources. These improvements are evident in the 2016 ATLAS™ scoring as seen in figure 1 below. Key improvements include:

- Maintenance and improvement of business continuity, incident response, and disaster recovery plans
- Continued development of Identity and Access Management capabilities to include process automation and matured access controls
- Enhancements to risk management capabilities that include a risk register and mappings of policies and procedures to the NIST CSF
- Investment and usage of cybersecurity specific tools such as WebSense, Proofpoint (PoC), NitroSecurity, Veracode, Nessus, and Nexpose

It is important to note that there are recommendations outlined in the report that are not new. They have been identified previously in the 2013 PwC assessment and/or by NiSource in subsequent years. The repeat findings are not an indication of NiSource's reluctance to address them, rather an indication of management handling internal shifts due to the CPG separation and budget cuts. During 2014 and 2015, NiSource had initiatives planned or in-progress (e.g., QRadar SIEM implementation). However, because of events outside of management's control they were unable to complete those initiatives. These initiatives were either put on hold or canceled. NiSource should continue with plans to reinitialize some of these efforts.

While the organization has made efforts and developed initiatives to address findings from the 2013 and 2014 assessments, there is evidence that components of those efforts and initiatives have not been implemented which are limiting NiSource's ability to reach the next level of maturity. For example, the 2013 PwC assessment reported a gap with third-party cybersecurity risk and compliance. To address this gap, NiSource has recently integrated cybersecurity-specific contractual language for new contracts. However, to date, NiSource has not implemented ongoing evaluations of its third-parties to assess compliance with its cybersecurity requirements.

PwC identified high-level areas that require attention from NiSource. These include:

- Developing and executing a strategy for IT and OT cybersecurity convergence
- Continue to develop cybersecurity risk management efforts such as enhancing the current risk register and improving third party cybersecurity risk management capabilities
- Continue development and create awareness of cybersecurity policies, standards, and procedures
- Enhancing current continuous monitoring capabilities

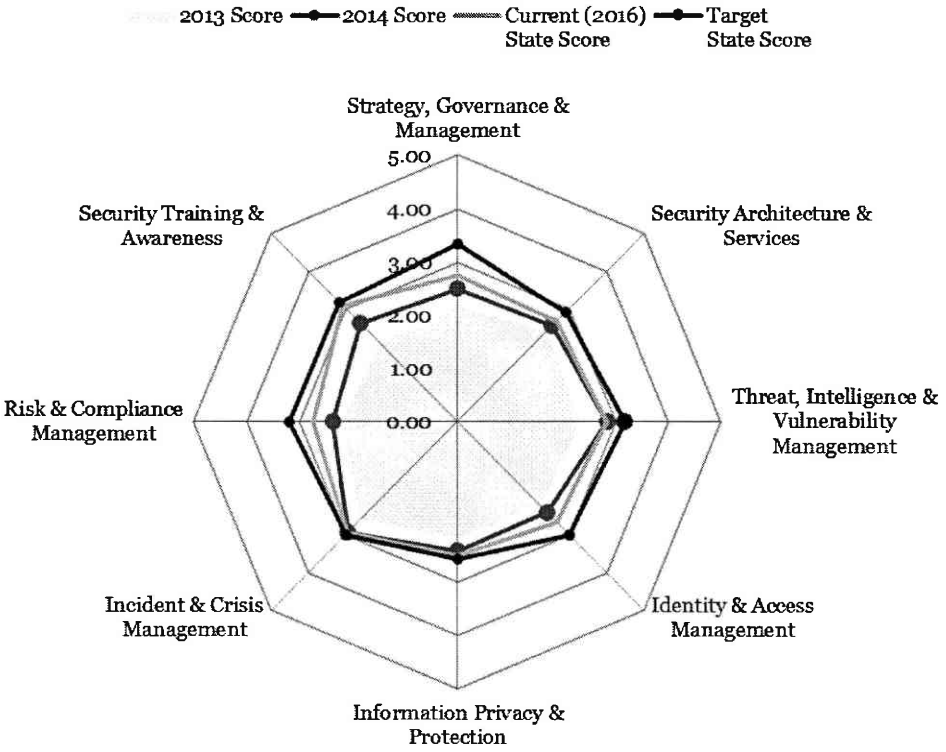
PwC identified ATLAS™ domains that are approaching, when factoring in recommendations and current planned initiatives, target state scores that were defined in the 2013 PwC assessment. NiSource should be commended for continuing to work towards this level of maturity. As NiSource continues to enhance their capabilities, they should reassess their target state scores to address the changing threat landscape and industry shifts.

There is increased awareness and focus on the utilities industry, driven by the White House's Cybersecurity National Action Plan (CNAP), which has increased federal spending on cybersecurity by 35% for 2017, while increasing awareness and focus on the utilities industry. As cybersecurity needs in the utilities industry shift (e.g., emerging threats, Internet of Things (IoT), and smart grid); NiSource should be proactive in identifying and addressing the shifts through re-evaluation of its target state. For example, PwC has seen its clients reassess their target states due to the influx in usage of Advanced Metering Infrastructure (AMI) and Home Area Networks (HAN) that exponentially increases a utilities attack surface and blur the lines of their network boundaries.

The below charts outline NiSource's cybersecurity posture (including both IT and OT) against the ATLAS™ Framework and NIST CSF. Cybersecurity maturity ratings and tier levels (see Appendix A.2 for definitions) were used to evaluate NiSource's Cybersecurity Program. The maturity rating for ATLAS™ includes a comparison of 2013 PwC and 2014 NiSource IT Audit assessment scores. The tier levels for the NIST CSF include the current 2016 state, the estimated impact of planned initiatives, and target state scores.

Figure 1 shows the ATLAS™ rating for the 2013, 2014, and 2016 assessments, and the target state score set in 2013. Additional details for this chart are in sections 3.

Figure 1 – ATLAS™ Ratings for 2013-2016 and Target State Score



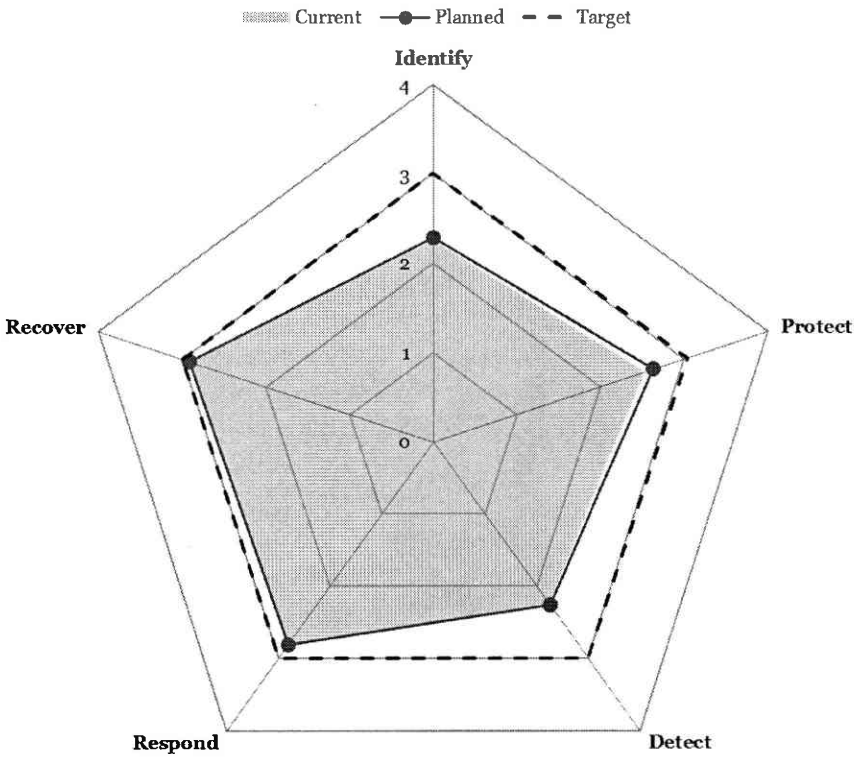
0 – Nonexistent 1 – Initial/Ad hoc 2 – Repeatable but intuitive 3 – Defined process 4 – Managed and Measurable 5 – Optimized

Table 1 – Current state scores for ATLAS ™

Strategy, Governance & Management	Security Architecture & Services	Threat, Intelligence & Vulnerability Management	Identity & Access Management	Information Privacy & Protection	Incident & Crisis Management	Risk & Compliance Management	Security Training & Awareness
2.75	2.64	2.83	2.65	2.50	2.95	2.75	3.08

Figure 2 shows the NIST CSF tier rating for NiSource (IT and OT integrated). There are differences in tier level scores between IT and OT, and the chart below uses the lowest of the two scores. Additional details for this chart are found in sections 4 and 5.

Figure 2 – NIST CSF tier ratings for IT and OT



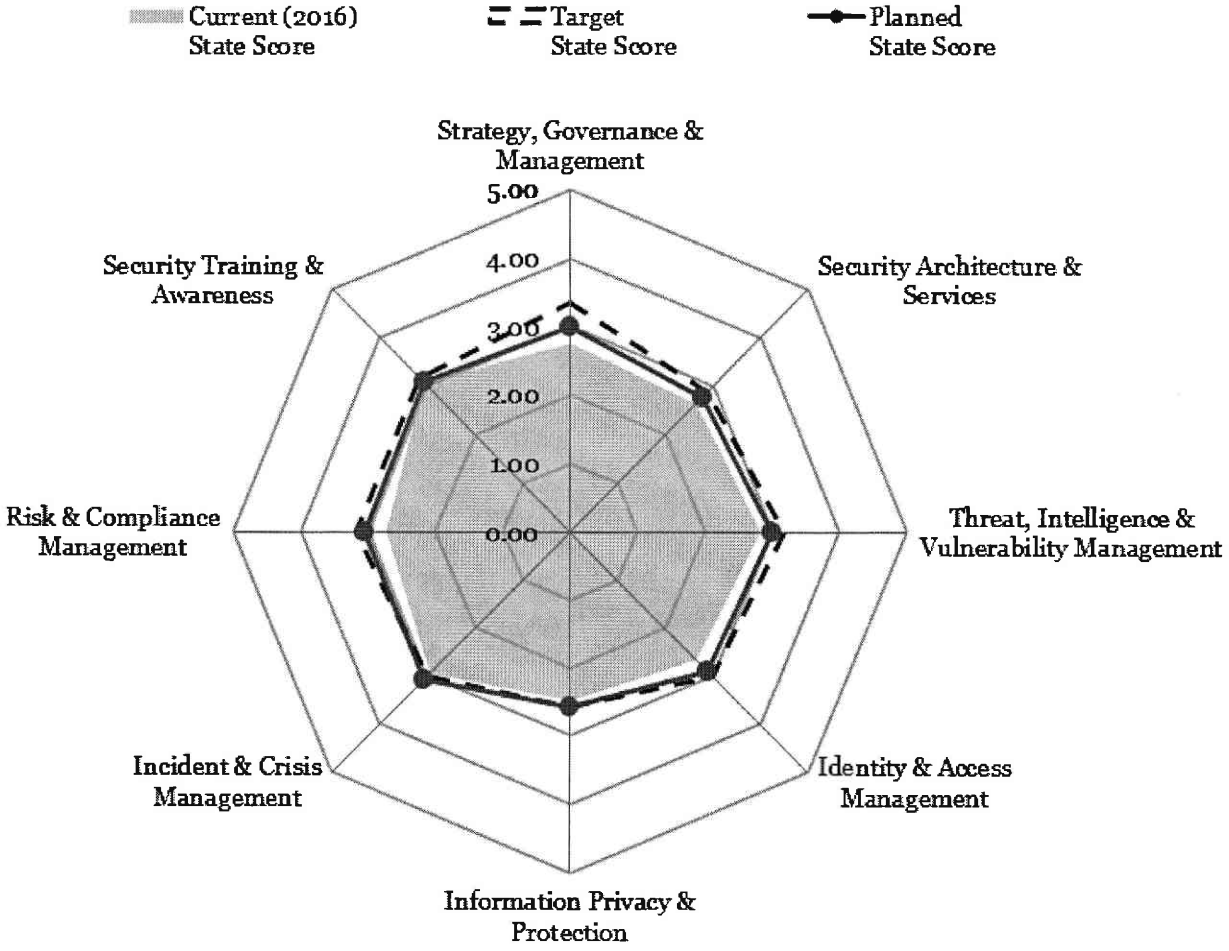
1 – Partial 2 – Risk Informed 3 – Repeatable 4 – Adaptive

Table 2 – Current state scores for NIST CSF (IT and OT)

Identify	Protect	Detect	Respond	Recover
2.26	2.54	2.24	2.82	2.92

Figure 3 below illustrates the planned state score that factors in the 2016 strategy initiatives. It is important to note that the target state scores have not been updated since 2013. NiSource should consider an update to their information security strategy that will drive an updated target state profile that reflects changes in the utilities industry.

Figure 3 – ATLAS™ Ratings for 2016, target, and planned state



2.2. IT and OT convergence

While the goal of the assessment was to establish IT and OT NIST CSF tier ratings, it became apparent that NiSource has started to explore the convergence of IT and OT. This is an emerging trend across the industry, and the IoTs will continue to influence the operational technology environment. Opportunity exists for NiSource to be more proactive; consideration for cybersecurity convergence should be included in future planning. This will require further investigation and effort to develop the appropriate approach for NiSource.

Based on observations and discussions, NiSource is addressing physical security and procurement activities at the enterprise level and not separately for IT and OT. Similar opportunity may exist for more complex technology systems.

The following potential areas for convergence were discussed during this assessment. These are not recommendations but rather observations identified by stakeholders. NiSource should research feasibility and applicability for the below potential convergence areas:

- Security operations center (SOC); this may require two separate environments that are co-located but have no restrictions for sharing resources and knowledge (further investigation required in order to fully understand NERC-CIP impacts);
- Third-party cybersecurity risk management;
- Vulnerability management program;
- Coordination of training efforts where applicable (e.g., secure code and network analysis training);
- Alignment of enterprise policies with IT and OT standards and procedures where applicable;
- Leverage a tool (i.e., GRC) for managing and tracking compliance with different standards and policies.

3. ATLAS™ refresh summary

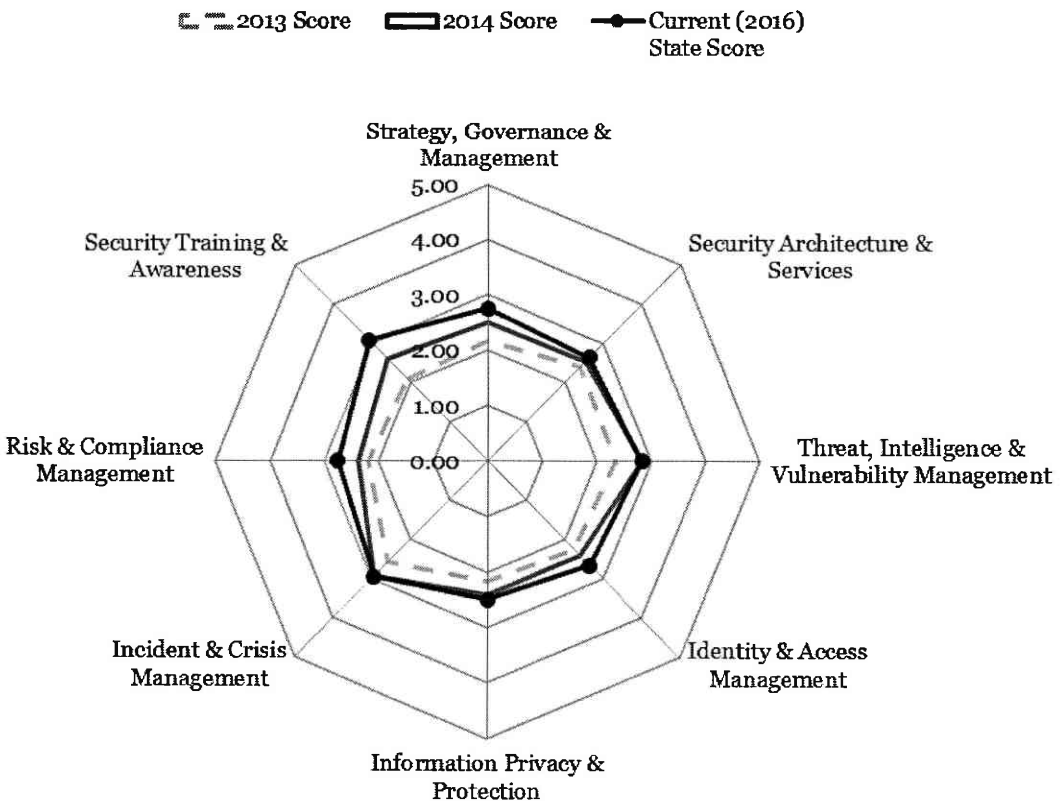
The following information details NiSource's capabilities and maturities as defined in PwC's proprietary ATLAS framework. This information includes assessments performed in 2013 and 2014 and is intended for comparison with previous years. This assessment analyzes the current state and demonstrates the changes since 2013 as well as opportunities to mature and meet the target state.

3.1. ATLAS™ summary

Overall growth from 2013 – 2016

The below spider graph (Figure 4) summarizes NiSource's overall growth since 2013. Key initiatives that provided the greatest maturation of NiSource's cybersecurity effort include the formalization of a cybersecurity Sub-Committee, investment in computer-based training, development of incident response plans, integration of cybersecurity contractual language into the procurement process, and continued growth of the Identity and Access Management and core cybersecurity domains (e.g., Security Information and Event Management (SIEM) and Threat Intelligence).

Figure 4 – ATLAS™ ratings for 2013-2016

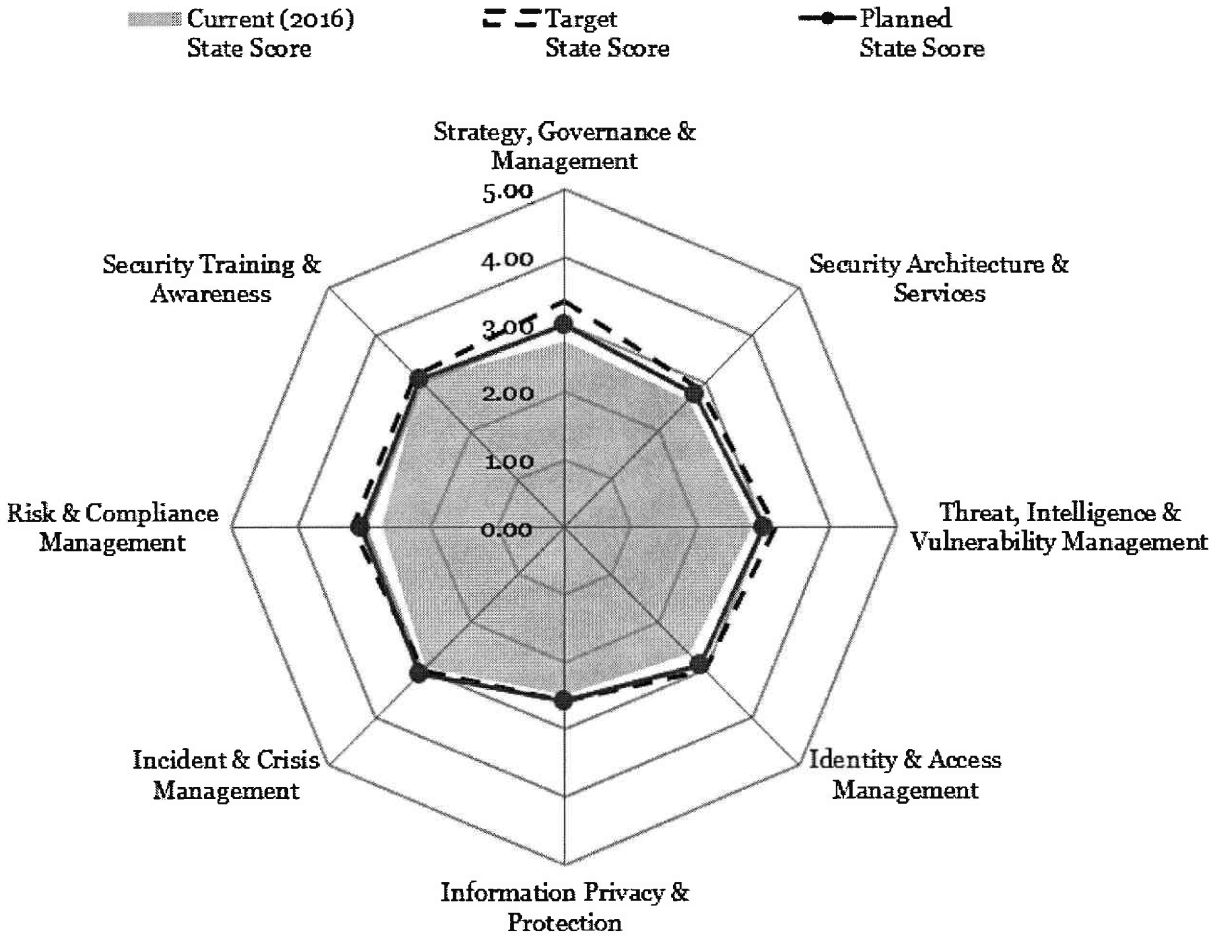


Current and target state summary

To achieve the target state scores set in 2013, NiSource should continue to plan strategic initiatives as identified in the 2016 roadmap. NiSource must mature current processes and continue to enhance program capabilities. Key areas to mature include third-party cybersecurity risk management, vulnerability management, and monitoring capabilities.

Figure 5 below illustrates the planned state score that factors in the 2016 strategy initiatives. It is important to note that the target state scores have not been updated since 2013. NiSource should consider an update to their information security strategy that will drive an updated target state that reflects changes in the utilities industry.

Figure 5 – ATLAS™ current, target, and planned state scores



Security strategy, governance, and management

Key Capabilities: The Cybersecurity Sub-Committee and core team collaborate and meet regularly to understand the cybersecurity posture of NiSource. There is more invested interest in incorporating cybersecurity throughout NiSource from the board of directors down to the lines of business. NiSource has completed an initial exercise to map current policies and standards to the NIST CSF framework for compliance tracking and measuring.

Key Opportunities: NiSource should continue to mature and document policies, standards, and procedures. This effort was put on hold due to the CPG separation. Additional detail for this recommendation is in section 4.1. In line with the 2016 roadmap initiative, "Cybersecurity Capabilities Assessment", NiSource should continue to conduct assessments annually to provide a view of its cybersecurity posture.

Figure 6– Security strategy, governance, and management ratings 2013-2016

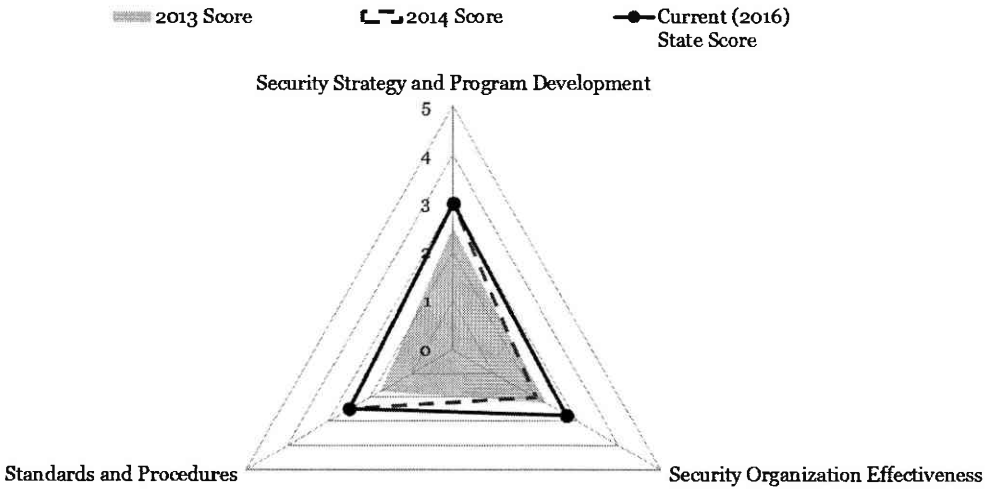
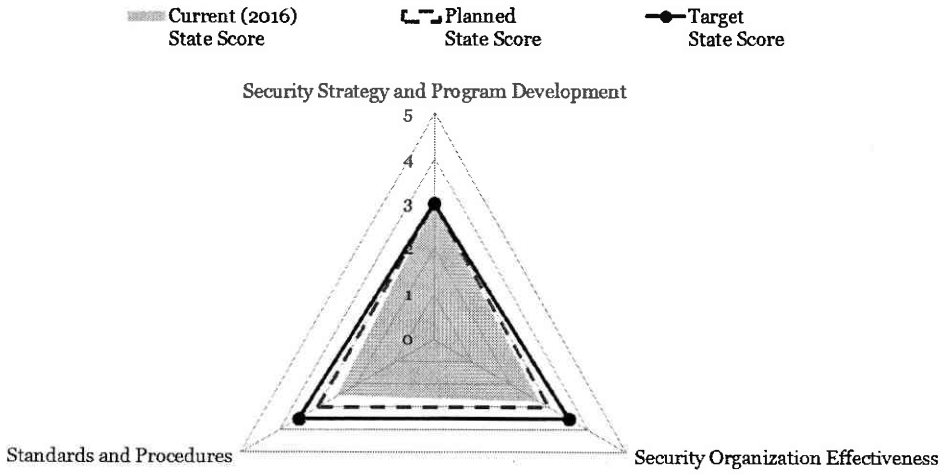


Figure 7 – Security strategy, governance, and management ratings for 2016, planned, and target state



Security architecture & services

Key Capabilities: McAfee NitroSecurity continues to provide SIEM services until an enterprise alternative can be agreed on. Project implementations, including security architecture reviews, occur on a regular basis. Physical security assessment findings were remediated.

Key Opportunities: NiSource should formalize its vendor security risk management program; additional detail for this recommendation is in section 4.1. NiSource should enhance current SIEM capabilities to provide increased coverage (e.g., database logs and privileged user activity) and continue to assess whether their SOC capabilities should mature internally to provide 24x7 coverage.

Figure 8 – Security architecture & services ratings 2013-2016

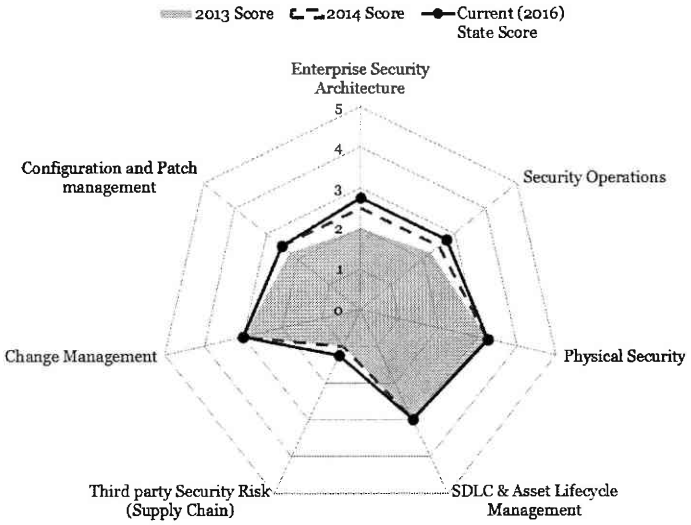
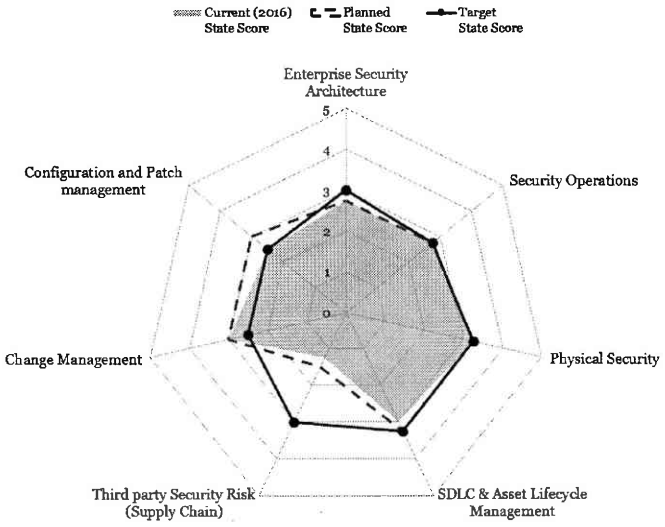


Figure 9 – Security architecture & services ratings for 2016, planned, and target state



Threat, intelligence, and vulnerability management

Key Capabilities: NiSource completed remediation efforts of findings from external penetration assessments through Project Fender. Increase in threat intelligence sharing with external communities and partners.

Key Opportunities: NiSource should formally define a vulnerability management program; additional detail for this recommendation is in section 4.1. Completion and operationalization of the 2016 Threat, Intelligence, and Vulnerability Management projects (e.g., Network Access Control (NAC), Endpoint Protection, and Application Scanning) will enhance NiSource's capabilities.

Note: The 2014 IT Audit reported number for Vulnerability Identification and Management was adjusted due to being erroneously reported; the 2014 number was based on invalid assumptions. The below chart represents the mentioned update and reflects accurately reported scores.

Figure 10 – Threat, intelligence, and vulnerability management ratings 2013-2016

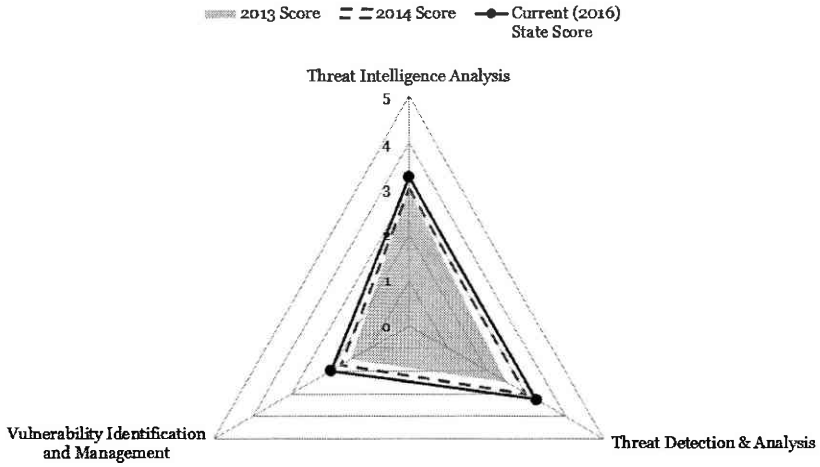
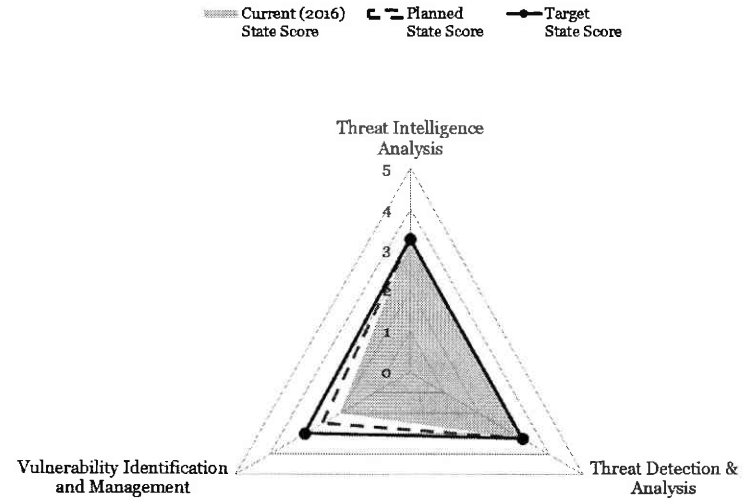


Figure 11 – Threat, intelligence, and vulnerability management ratings for 2016, planned, and target state



Identity and access management

Key Capabilities: NiSource has continued to mature its identity and access management capabilities since 2013. NiSource implemented multi-factor authentication for remote VPN connections, including remote SCADA access.

Key Opportunities: NiSource should continue progress on 2016 initiatives, which include risk-based authentication for webmail, privileged access manager and identity manager upgrades and implementations, and other initiatives outlined in the ITSEC-IAM Project Status Report. Additionally, NiSource should implement user access recertification; additional detail for this recommendation is in section 4.2.

Figure 12 – Identity and access management ratings 2013-2016

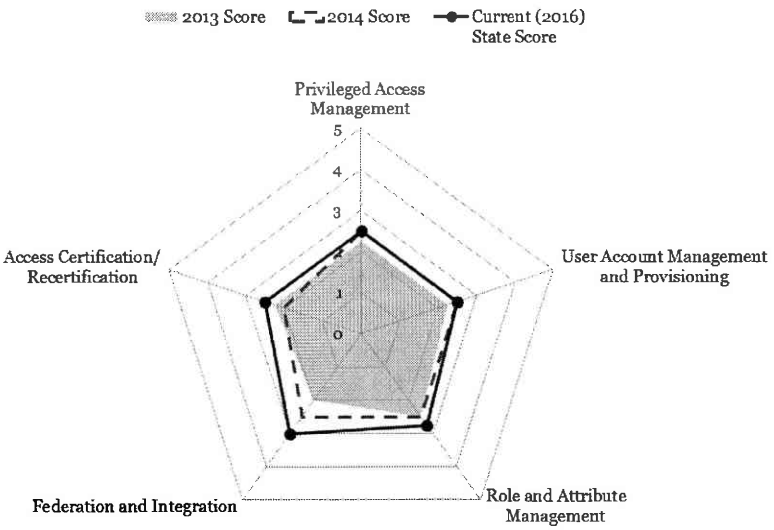
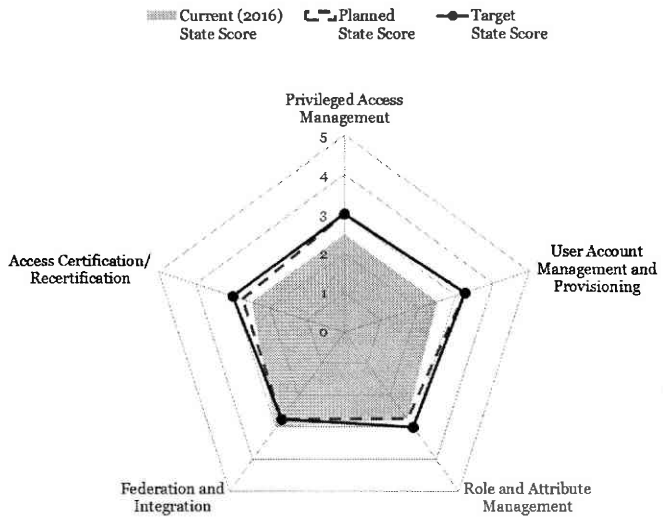


Figure 13 – Identity and access management ratings for 2016, planned, and target State



Information privacy and protection

Key Capabilities: NiSource has continued to mature the use of WebSense DLP, which is currently monitoring email communications. In addition, NiSource has established a Data Privacy Committee tasked with governance of data privacy.

Key Opportunities: NiSource should continue developing the capabilities of dedicated staff and expand coverage to sensitive environments. It should enhance current protection capabilities for data at rest and in transit. Additional details for these recommendations are in section 4.2.

Figure 14 – Information privacy and& protection ratings 2013-2016

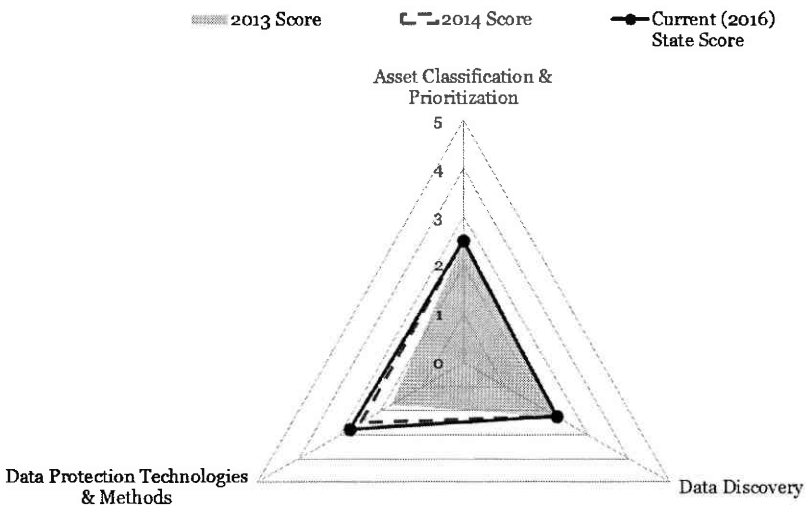
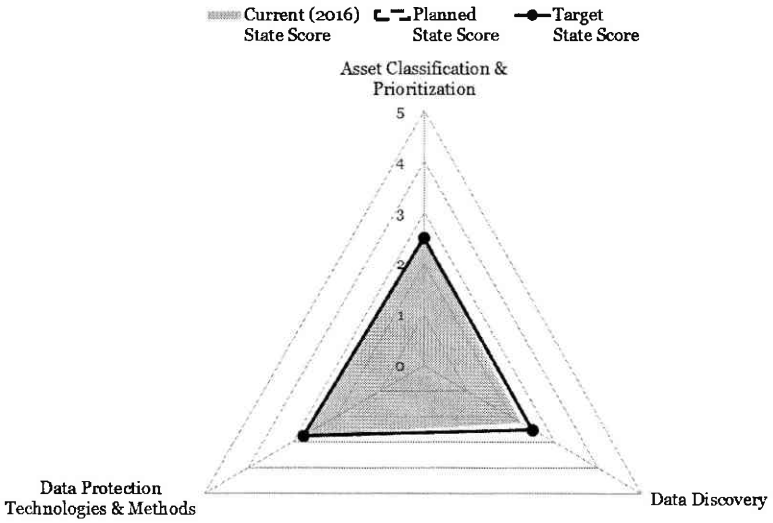


Figure 15 – Information Privacy and Protection Ratings for 2016, Planned, and Target State



Incident and crisis management

Key Capabilities: NiSource has formal incident and breach response plans as well as disaster recovery plans. There is continuous proactive effort to develop plans and ensure potential threats are addressed through strategic planning and preparedness. NiSource has invested in e-Discovery that supports necessary legal holds and investigations.

Key Opportunities: NiSource should continue to mature and formalize current forensic investigation capabilities. Additional detail for this recommendation is in section 4.4. NiSource should continue to conduct tabletop exercises at different levels of the organization to focus on different aspects of incident and crisis management.

Figure 16 – Incident and crisis management ratings 2013-2016

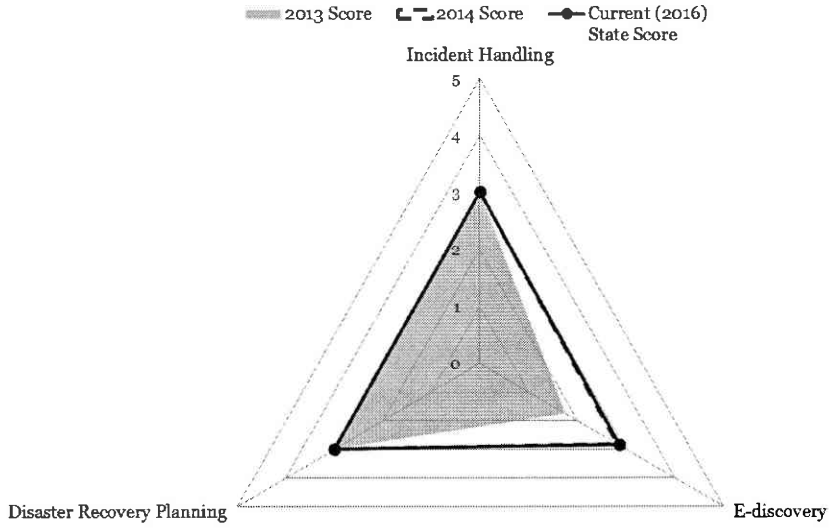
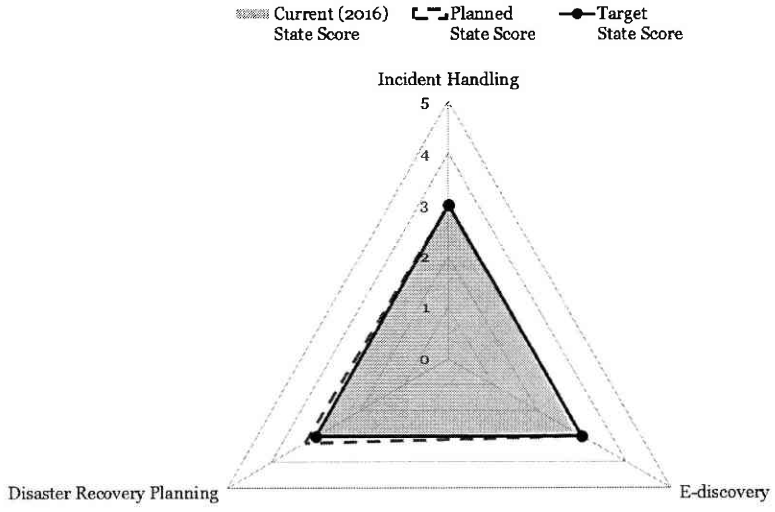


Figure 17 – Incident and crisis management for 2016, planned, and target state



Risk & compliance management

Key Capabilities: NiSource is continuing to standardize on a common security controls framework. NiSource has also developed a Cybersecurity Sub-committee and a Risk Management Committee to increase the organization's awareness and management of risks. In addition, NiSource has identified opportunities to increase cybersecurity awareness for vendor management.

Key Opportunities: NiSource should continue to align and map current policies, standards, and procedures to the NIST CSF framework and associated NIST controls. In addition, risk management activities should be incorporated into cybersecurity planning and NiSource should continue to mature third-party cybersecurity risk management. Additional details for these recommendations are in sections 4.1.

Figure 18 – Risk & compliance management ratings 2013-2016

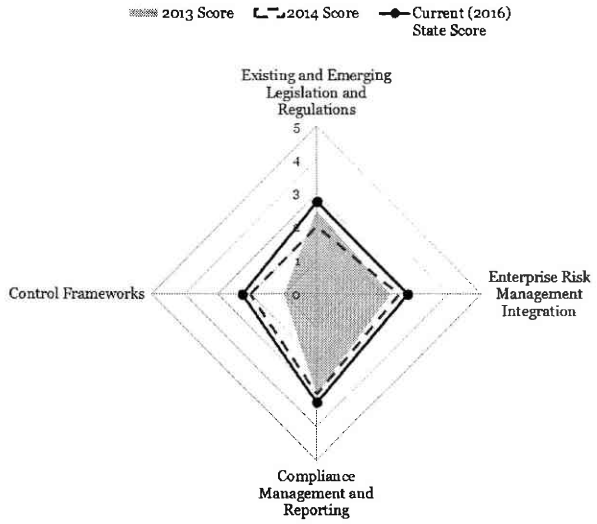
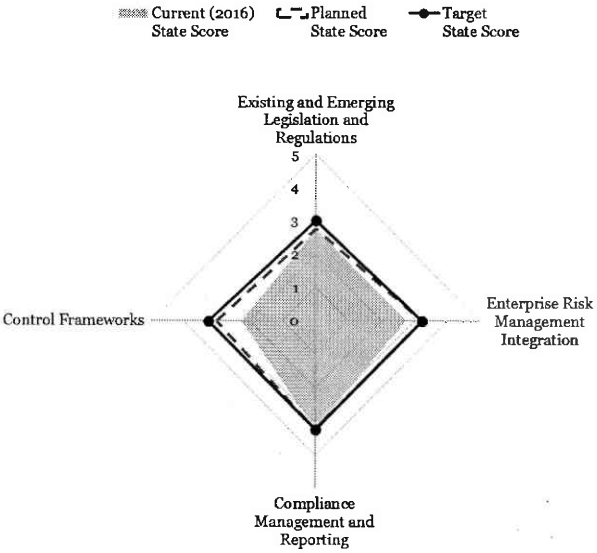


Figure 19 – Risk & compliance management ratings for 2016, planned, and target state



Security training and awareness

Key Capabilities: NiSource has expanded its awareness training, which now includes computer-based training, monthly bulletins, and awareness articles. NiSource has also started to leverage phishing exercises.

Key Opportunities: NiSource should identify dedicated resources to mature the cybersecurity training and awareness program. In addition, NiSource should continue to formalize processes and policies for phishing exercises. Additional detail for this recommendation is in section 4.2.

Figure 20 – Security training and awareness ratings 2013-2016

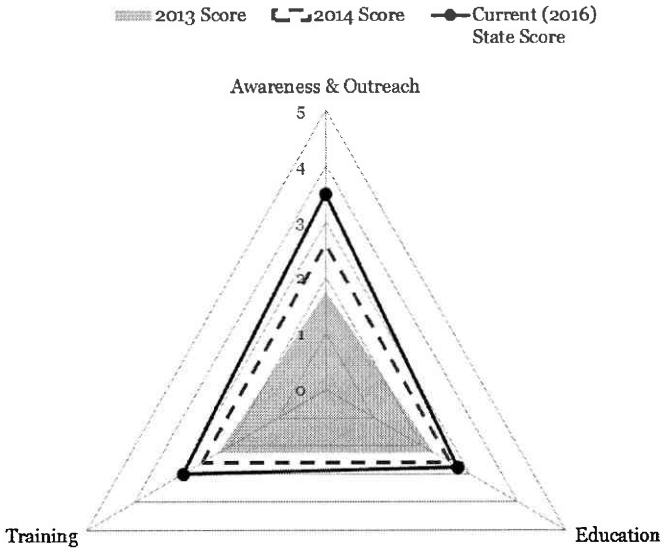
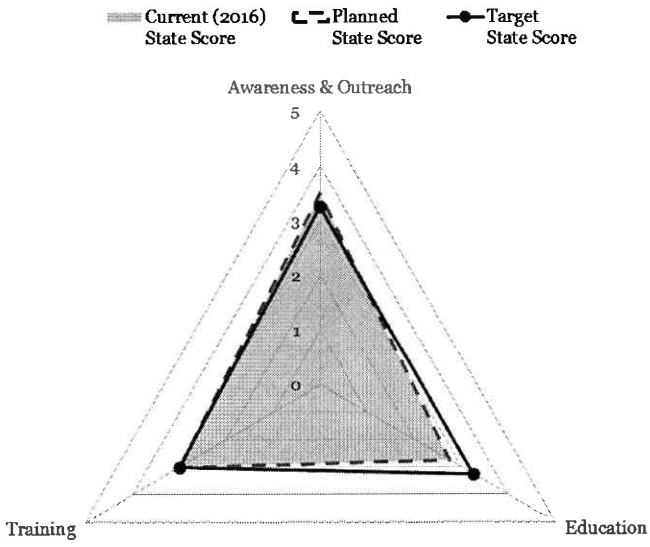


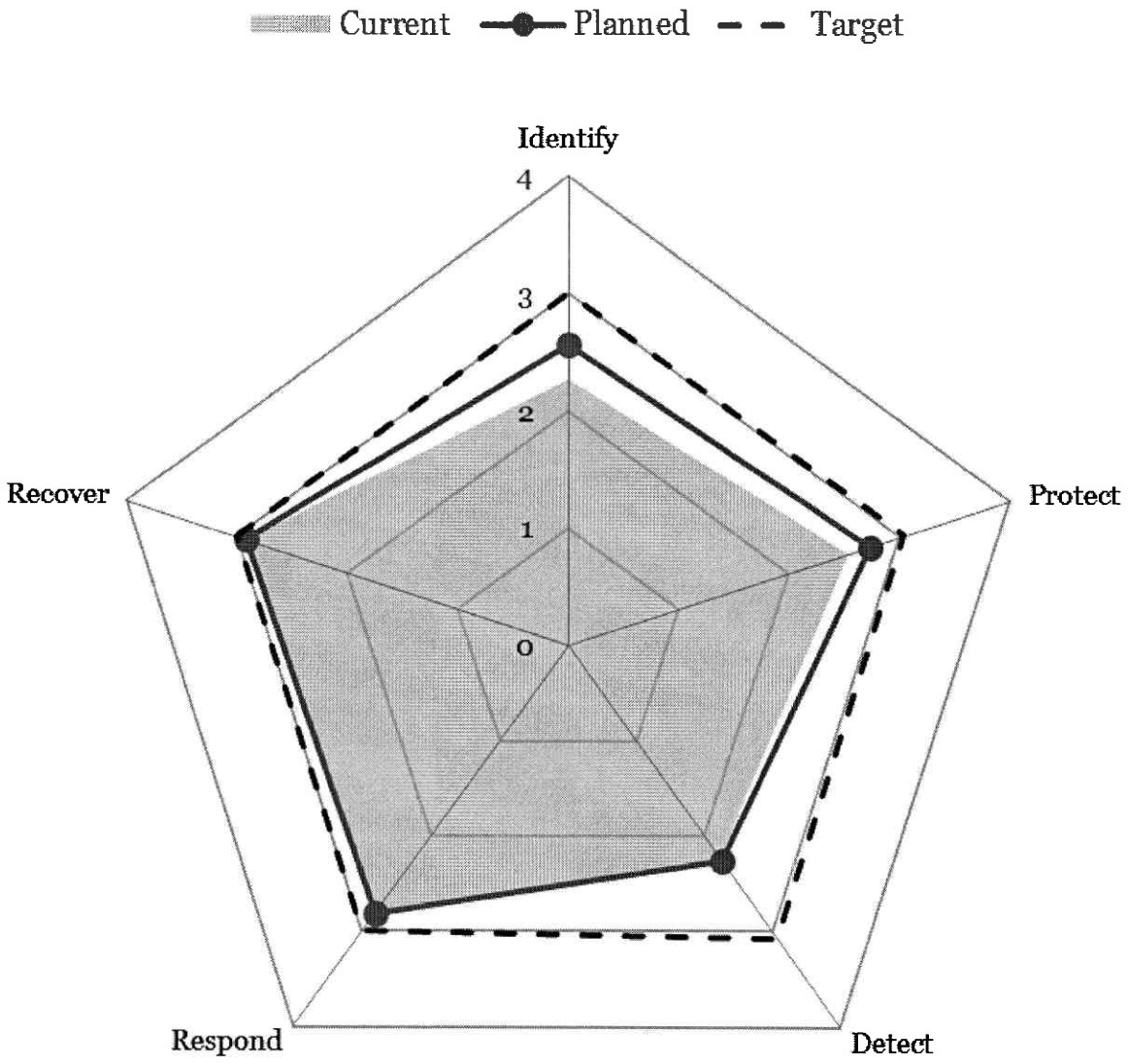
Figure 21 – Security training and awareness ratings for 2016, planned, and target state



4. NIST CSF Summary (IT)

This section describes the overall current state of cybersecurity for NiSource IT. The proceeding sections provide observations and recommendations for each of the NIST CSF functions (i.e., Identify, Detect, Protect, Respond, and Recover). Figure 22 provides a high-level summary of NiSource IT's current, planned, and target state profiles based on the NIST CSF functions.

Figure 22 – NIST CSF ratings for 2016, planned, and target state



4.1. Identify

Policies, standards, and procedures

Observation

Policies at NiSource serve to address regulatory compliance and to outline how NiSource protects information across the enterprise. Cybersecurity policies are defined and updated on a regular basis. The current set of cybersecurity policies leaves room for subjective interpretation because of a lack of supporting standards and procedures that align with the current set policies. There are limited standards that support current policies (i.e., Data Encryption Standard); additionally, there are noted gaps between supporting standards and procedures to provide any enforceable mechanisms for policy compliance. The documentation of standards and procedures would allow for better accountability and visibility to the organization.

It should be noted that NiSource begun to address this domain but that efforts were put on hold due to the CPG separation. NiSource should reignite these efforts and develop a policy, standard, and procedure structure that aligns to previously conducted policy assessment recommendations.

NiSource currently does not have an automated method to effectively track and monitor governance, risk, and compliance (GRC) efforts. However, initial mapping of current policies and standards to NIST CSF has been completed to identify policy gaps.

Recommendation

Reinitialize the maturation of policies and standards during or after the separation of CPG. Ensure the development of the current set of policies and additional policies, standards, and procedures align with NIST cybersecurity controls (i.e., NIST 800-53 Rev.4). Leverage the existing mapping of policies to NIST CSF to identify policy gaps. Enhance policies by developing standards that define controls for enforcement. Standards and procedural documents should map to policies. Implement a tool to support GRC efforts. GRC is a potential area where IT and OT cybersecurity teams can collaborate to deliver a single perspective.

Third-party cybersecurity risk management

Observation

NiSource currently has contracts with more than 4,000 vendors that provide various levels of access, some of which provide remote access to sensitive systems. NiSource is currently managing contracts and vendors through a centralized procurement process that has defined roles and responsibilities for Supply Chain, Legal, and IT. Currently, there is no formal third-party cybersecurity risk management program to assess NiSource's vendors. Management does not address third-party cybersecurity requirements within its company policies, nor does it have mechanisms in place to measure third-party compliance to industry standard practices, regulatory requirements, or NiSource cybersecurity policies.

IT Security has made progress in incorporating cybersecurity language into third-party contracts and completing ad-hoc risk assessments for a few high-risk vendors.

Recommendation

Develop a third-party cybersecurity risk management program that manages cybersecurity risks associated with business partners, marketing partners, consultants, government agencies, and any vendors that are provided access to NiSource's data and/or networks. Third-party cybersecurity risk management is a potential area where IT and OT cybersecurity teams can collaborate to deliver a single perspective on third-party cybersecurity risk.

In addition to incorporating security language into vendor contracts, management should define responsibilities for third-party cybersecurity risk management and appoint a resource(s) responsible for the development and operation of this program. The program should develop third-party cybersecurity policies and integrate with the existing procurement and contract management processes. The program should implement a third-party risk assessment process to evaluate the ongoing risks with third parties and their compliance with NiSource's cybersecurity requirements.

Risk management program

Observation

NiSource has developed a risk register for prioritization and management of cybersecurity risks. In addition, NiSource conducts various penetration tests and capability assessments. Regular updates to the current risk register do not occur. Assessments and penetration testing can be considered ad hoc and are not defined as part of a formal cybersecurity risk management program.

Recommendation

Develop a prioritization process that maps risks to cybersecurity strategy and planning. The prioritization process should leverage the existing risk register tool found in the NiSource IT Risk Assessment Workbook v3. However, the risk register tool needs to be regularly reviewed and updated to identify new risks or existing, but previously unidentified, risks. It should be noted that the Threat and Vulnerability Management team uses a "risk register" that is used for vulnerability prioritization and tracking and should not be confused with the existing risk register tool.

Formulate a process for identifying cybersecurity risks and measuring NIST CSF progress through annual capability assessments. Additionally, a penetration-testing program should be developed to regularly assess implemented controls for potential gaps. A scheduled assessment cycle allows for management visibility and measureable metrics into compliance and related risks. Additionally, the penetration testing cycle should focus on testing specific domains. For example, year one may focus on the OT environment while year two may focus on external web applications. The benefit of this process allows for depth of testing as opposed to a breadth of testing.

Vulnerability management

Observation

NiSource has implemented several functions of a successful vulnerability management program such as monthly external scans, weekly demilitarized zone (DMZ) scans, pre-production scans, and externally supporting penetration assessments. In addition, vulnerability scans are conducted based on new threats (e.g., new adobe vulnerability). However, vulnerability scans are limited to blackout windows, and penetration testing is not a formal requirement.

NiSource is in the process of implementing Veracode for static and dynamic code scanning during the development life cycle; however, formal usage requirements and responsibilities for using Veracode are not currently defined.

Recommendation

Formalize current vulnerability scans to be independent of blackout windows. In addition, management should define a formal vulnerability management program that clearly defines goals, scope, guidelines, roles, responsibilities, technology, and procedures. The program should expand the current capabilities of the team performing these functions to include regular vulnerability scanning beyond blackout windows, completion of various vulnerability assessments, and responsibility for tracking identified vulnerabilities to closure. A schedule should be defined for scanning using a risk-based approach based on the type of data the asset contains. Defined metrics and reporting requirements should be provided to management on a regular basis and should include external, internal, and pre-production scanning metrics. Vulnerability management is an area where IT and OT cybersecurity teams can collaborate to deliver a cohesive perspective.

Additionally, prior to the completion of the Veracode implementation, IT Security should define requirements for development teams to scan and provide evidence on addressing identified vulnerabilities during the software development life cycle. IT Security should define the required documentation needed to confirm that the appropriate level of scanning and remediation occurred prior to promoting any code into production environments.

4.2. Protect

Access control

Observation

Currently NiSource maintains separate repositories for the identities of NiSource contractors and users. Provisioning and de-provisioning have monitored service level agreements and automation is built into the identity creation process. Additionally, the provisioning of a user's identity and access relates to responsibility and job role. While NiSource does perform recertification of roles to entitlements every 18 months, it is not performing user access recertification beyond those required by SOX compliance and ad-hoc requests from business supervisors. Additionally, internal access to the SCADA (gas) environments does not require two-factor authentication. NiSource has several projects in place that include the implementation of a password manager tool, privileged access management, and deploying BeyondTrust on file servers.

Recommendation

Continue with current planned initiatives for identity and access management, which includes privileged access management and automation of identity and access management functions. Ensure an annual user recertification process is developed and implemented for user identities beyond SOX environments. The recertification process should confirm that users still require the access assigned to them based on their current job responsibilities and role. Implementing a user recertification program presents an opportunity to analyze currently defined roles to confirm they are still required and appropriate.

In addition to the above-mentioned general access control recommendation, two-factor authentication should be evaluated for use on sensitive and critical internal environments. Deploying two-factor authentication on the internal SCADA (gas) environment will provide an additional layer of protection to this critical system.

Network Access Control (NAC) is on the 2016 strategy, however as of February 16, 2016 this project is behind schedule and implementation encompasses only the Lexington location. NAC should be deployed throughout NiSource's locations and require robust profile verification (e.g., antivirus definitions, patch levels, and system configuration) prior to allowing access to the NiSource network.

Security architecture

Observation

The NiSource network uses firewalls to segment externally facing systems from the internal environment. Additionally, external traffic must pass through the IBM DataPower gateway before it can enter the internal network. While segmentation between the external and internal network is in place, the internal network does not currently employ any segmentation or zoning apart from the DMZ.

Recommendation

Many organizations typically implement internal network segmentation, along with the segmentation between internal and external networks, to provide additional security layers. NiSource should implement segmentation on the internal network. The network segmentation design should factor in the different levels of criticality of applications, databases, and systems on NiSource's internal network. A segmented internal network significantly reduces the impact an attacker or a malicious insider can have. Internal network segmentation also provides benefit beyond cybersecurity; segmentation may reduce network traffic congestion and reduce the impacts on any non-cybersecurity-related network events.

System Development Life Cycle (SDLC)

Observation

NiSource has a formally defined SDLC process for information systems and applications. The different phases of the SDLC process feature Concept, Initiation & Formation, Design, Build, Test, and Deploy. The Architecture Review Board (ARB), headed by the enterprise architecture team, includes security architects, network architects, IT security team, infrastructure team, and other key individuals. The architecture team provides gate reviews in the SDLC process and has the authority for design approval on applications and systems across NiSource IT. The ARB holds a review at the Concept, Initiation & Formation, and Design phases of the SDLC process to identify and mitigate the security risks at the early stages of the project. Although the architecture team provides formal approval based on inputs from key members and groups, there is no formal requirement for IT Security in this process.

The application development process has separate environments for development, testing, and production. However, the information systems used for the gas operations (SCADA systems and DIS) do not have separate environments; development and testing are performed directly in the production environment.

Recommendation

Projects that have critical cybersecurity impacts, as defined by the organization, should formally involve IT Security for approval as a part of the ARB review approval process.

NiSource should use policies and standards to enforce separate environments for development and testing. This will avoid exposing sensitive information to unauthorized people and prevent unsecure code deployments.

Security awareness and training

Observation

NiSource employees are required to complete ten computer-based training (CBT) security modules through the Learning Management System (LMS). Active distribution of security bulletins and emails provides end users with an increased awareness on emerging threats and steps to protect themselves and NiSource. While the current resources have maintained a consistent and valuable program, there are resource constraints due to a lack of a dedicated role in this area. Without dedicated personnel for this program, it will be difficult to maintain the existing program while also addressing new initiatives and needs.

For example, phishing exercises were completed in 2015 and additional licenses were purchased to increase coverage from 500 to 5,000 users. However, the phishing program has not been formalized to develop how and when phishing exercises will take place and how to address end users' concerns for when they fall victim to phishing tests.

Recommendation

Adding a dedicated resource and/or team responsible for managing security awareness and training will provide multiple benefits, such as:

- A core team capable of addressing new needs that will further enhance a "security as a culture" program throughout NiSource, such as additional training for users with privileged access
- Ability of current resources who are managing this program to shift their focus back into their core job responsibilities
- Ability to formalize and manage enterprise wide phishing exercises

Data protection

Observation

Data protection capabilities are currently in place to provide initial protection and mitigation against data exposure. These capabilities include, but are not limited to, a data encryption standard; an external data transfer policy; and a DLP technology that currently monitors, via alerting, email for potential sensitive data leakage.

A standard for data encryption is in place, however, there is currently no policy that enforces and/or requires encryption for data at rest and in transit. Encryption of data at rest is limited to laptops and desktops and data in transit is not encrypted. This leaves the internal data at an increased level of exposure. There are no restrictions to limit unauthorized usage of removable media. Additionally, current Mobile Device Management (MDM) does not restrict a user's ability for transferring NiSource data from the MDM container into non-NiSource-controlled folders.

Recommendation

Continue with the current proof of concept for Proofpoint as a potential replacement for Websense and expansion of capabilities to provide enhanced email and network DLP capabilities. Continue with current effort to enable MobileIron features that would restrict a user's ability to download and/or transfer data outside the NiSource-controlled container. An analysis of these projects' objectives will confirm that the intended operational state will provide the expected levels of protection. Additional resources to manage these new technologies appropriately may be necessary.

In addition to continuing the already active projects above, enforce and confirm compliance to the encryption standard. A centralized encryption key management program is recommended for NiSource. The organization should also restrict the usage of unauthorized removable media in critical and sensitive environments.

4.3. Detect

Continuous monitoring

Observation

NiSource uses a managed security service provider for the majority of its cybersecurity operations and has established daily calls, reporting structures, and points of contact for transparency and accountability into quality of services provided. The Security Information and Event Management (SIEM) used by the managed service provider for event monitoring has reached end of life; there are no known projects to migrate the service provider's

SIEM onto a new and supported platform. Internally, NiSource uses McAfee NitroSecurity for SIEM in addition to the monitoring services delivered by a managed service provider. NiSource is not monitoring for potentially suspicious activities such as changes to systems that may be related to software installation, changes to system settings (i.e., integrity checking), malicious code, and unauthorized mobile code.

Finally, the current internal team is tasked with performing standard monitoring activities and proactive network analysis (i.e., threat hunting); however, they do not have the necessary resources to conduct proactive network analysis for identifying/hunting unidentified threats that normal signature or rule based monitoring devices are not able to capture.

Recommendation

NiSource should continue to mature the management and monitoring capabilities for SIEM and integrity checking. Expanding on these capabilities, in addition to documenting processes and procedures, will strengthen NiSource's ability to detect and respond to incidents as well as support continuous operations in the event of staff turnover. Developing a co-located SOC for IT and OT cybersecurity teams is recommended (pending feasibility investigation).

4.4. Respond

Forensics

Observation

NiSource has invested in e-Discovery and forensics tools (e.g., Fred and Clearwell) that support necessary legal holds and investigations. In addition, NiSource has two service providers on retainer for forensics and incidents in addition to in house capabilities. While NiSource is currently performing forensics investigation tasks, these efforts are driven by a single individual. The lack of a defined process and procedural documentation for NiSource forensic processes may affect the consistency of these practices and pose a significant risk to the organization if a major security breach or investigation occurred.

Recommendation

Management should define the forensic investigation function by creating procedural-level documentation defining the tactical activities already being performed by the cybersecurity team. Defining these procedures will allow NiSource to be less dependent on a single individual to perform these functions. Because of the critical nature of forensic investigations, specific attention to procedures around evidence handling and chain of custody is recommended.

4.5. Recover

Observation

NiSource IT addresses recovery of systems and services through business continuity, application restoration procedures, disaster recovery, and incident response plans. All critical systems have disaster recovery plans in addition to site recovery plans.

Recommendation

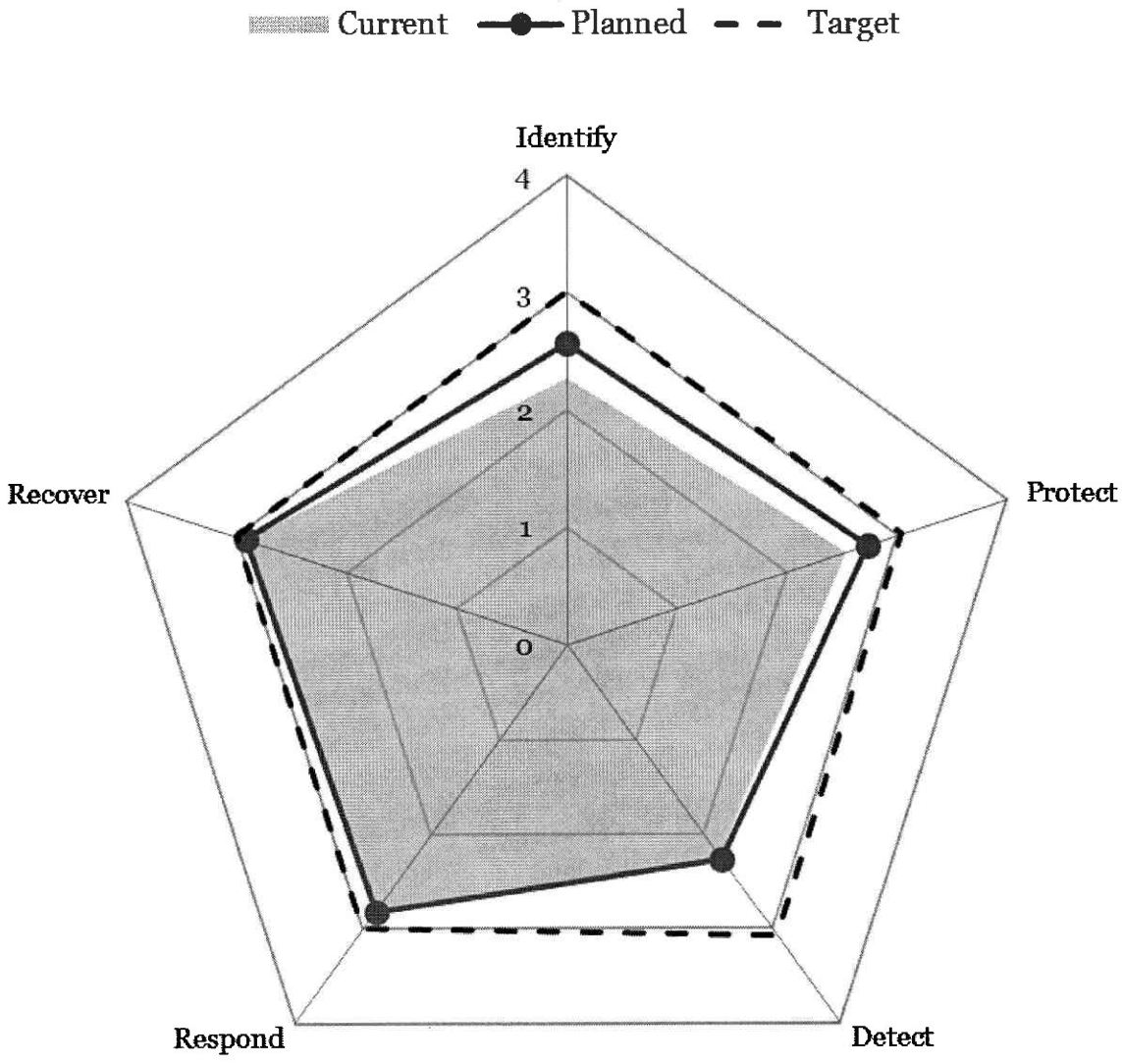
There were no notable observations in the Recover functional area.

5. NIST CSF summary (OT)

This section describes the overall current state of cybersecurity for NiSource OT. The proceeding sections provide observations and recommendations for each of the NIST CSF functions (i.e., Identify, Detect, Protect, Respond, and Recover)

Figure 23 provides a high-level summary of NiSource OT's current, planned, and target state profiles based on the NIST CSF functions.

Figure 23 – NIST CSF ratings for 2016, planned, and target state



5.1. Identify

Asset management

Observation

NiSource OT has an asset management process that uses a centralized spreadsheet to record and maintain internal assets. The asset inventory spreadsheet includes appropriate asset information. The Networks Group manages any new network components such as information systems, devices, and software.

Although the asset management process is formalized, the documentation of assets through a spreadsheet could result in the integrity of information being compromised because of manual maintenance requirements. Hardware assets follow a defined life cycle from procurement to destruction; however, formal processes are not documented for the management of unused or out of date software.

The organization restricts the communication of external assets by restricting vendor access to the test environment, however, there is no documentation of the external third-party systems that are communicating with the internal test environment; in cases where vendors need additional environment access, the network team manually provides a temporary connection.

Recommendation

Define a life cycle for software assets. Create new policies to enforce prompt removal of software that has reached end-of-life or identified as "unused" or "unnecessary" by the organization. In addition, the organization should develop an inventory of third-party service provider assets that are connecting to the internal test environment with relevant details (e.g., device type, MAC address, and IP). This inventory will provide increased insight into the systems communicating to the internal environment and, in turn, identify the potential risks and threats that could arise from these systems.

Migration to Asset Core is one of the items on the roadmap for NiSource OT. NiSource should continue with this effort to mature its asset management capabilities.

Risk management program

Observation

NiSource has an enterprise level Risk Management Committee and Cybersecurity Sub-committee that oversees risks for both NiSource OT and IT. The cybersecurity planning and prioritization does not formally incorporate a risk-based approach and is heavily compliance focused. While NiSource IT has developed a formal risk register, NiSource OT does not have a risk register. Assessments and penetration testing can be considered ad hoc and are not defined as part of a formal cybersecurity risk management program.

Recommendation

Develop a prioritization process that maps risks to cybersecurity strategy and planning. The prioritization process should leverage a risk register similar to the one used by NiSource IT. The risk register tool needs to be regularly reviewed and updated to identify new risk or existing but previously unidentified risks.

Formulate a process for identifying cybersecurity risks and measuring NIST CSF progress through annual capability assessments (leverage the annual IT capability assessment for OT). Additionally, a penetration-testing program should be developed to assess implemented controls for potential gaps. A scheduled assessment cycle allows for management visibility and measureable metrics creation for compliance and related risks.

Third-party cybersecurity risk management

Observation

NiSource OT only has four vendors who are provided with test environment access. This access is strictly controlled to limit lateral movement in the OT environment.

As identified in the NIST CSF IT section, NiSource IT currently has contracts with more than 4,000 vendors that provide various levels of access. Currently, there is no formal third-party cybersecurity risk management program leveraged to assess any of NiSource's vendors. Management does not address third-party cybersecurity requirements within its company policies, nor does it have mechanisms in place to measure third-party compliance to industry standard practices, regulatory requirements, or NiSource cybersecurity policies.

IT Security has made progress in incorporating cybersecurity language into third-party contracts. However, a formalized third-party cybersecurity risk management program should use risk assessments to assess vendors based on their potential risk and/or impact to NiSource. Third-party cybersecurity risk management is a potential area where IT and OT cybersecurity teams can collaborate to deliver a single perspective on third-party cybersecurity risk.

Recommendation

Due to the smaller vendor footprint, it is recommended that NiSource OT leverages future programs developed by NiSource IT third-party cybersecurity risk management developments.

Develop a third-party cybersecurity risk management program that manages cybersecurity risks associated with business partners, marketing partners, consultants, government agencies, and any vendors that are provided access to NiSource's data and/or networks. Collaborate between IT and OT cybersecurity teams.

As recommended in the 2013 PwC report (which focused on NiSource IT), management should define roles and responsibilities for third-party cybersecurity risk management and dedicate resources to focus on the development and operation of this program. This program should develop third-party cybersecurity policies and integrate with the existing procurement and contract management processes. In addition, this program should implement a third-party risk assessment process to evaluate the ongoing risks with third parties and their compliance with NiSource's cybersecurity requirements.

Vulnerability management

Observation

Annual vulnerability scans are conducted which addresses NERC CIP compliance requirements. The assessments identify and classify the vulnerabilities based on the exposed threat and the impact on critical systems. The organization then addresses and resolves these vulnerabilities based on their criticality through informal processes.

There is no formal penetration testing program that identifies scope, guidelines, roles, responsibilities, technology, and types of testing. However, remediation of the 2015 OT penetration testing findings were completed and approved by NiSource management.

Recommendation

As recommended in the 2013 PwC assessment (which focused on NiSource IT), management should define a formal vulnerability management program that clearly defines goals, scope, guidelines, roles, responsibilities, technology, and procedures. The program should expand the current capabilities of the team performing these functions to include regular vulnerability scanning, completion of various vulnerability assessments, and responsibility for tracking identified vulnerabilities to closure. A schedule should be defined for scanning using a risk-based approach based on the type of data the asset contains. Define metrics and reporting to be provided to management on a regular basis and it should include external, internal, and pre-production scanning metrics.

Vulnerability management is a potential area where IT and OT cybersecurity teams can collaborate to deliver a cohesive perspective.

NiSource OT is considering integration of Veracode into its formal SDLC process. Incorporating such a tool in the SDLC process, similar to NiSource ITs plan, will help the organization identify and eliminate vulnerabilities at the early phases of the systems development process. System and application development teams should work together to identify the right phases in the SDLC process for the integration of Veracode scanning.

Policies, standards, and procedures

Observation

NiSource OT has ingrained principles for security as a culture in its daily operations; however, there is no formal documentation, which creates a high reliance on key individuals. Examples include documented:

- Requirements for high availability and resilient infrastructure
- Baseline configurations for assets
- Forensics processes and procedures

NiSource OT currently does not have a process method to track, monitor, and provide metrics for governance, risk, and compliance (GRC) efforts effectively. Current compliance efforts are managed through NERC CIP audits.

Recommendation

The organization should document system requirements, and processes and procedures for daily cybersecurity operations for applicable roles (e.g., forensic and SIEM monitoring processes and procedures). These documents should be regularly reviewed and updated. This will enable knowledge transfer across the organization and improve operational stability.

Implement a tool to automate GRC efforts. GRC is a potential area where IT and OT cybersecurity teams can collaborate to deliver a single perspective.

5.2. Protect

Access controls

Observation

A role-based access control approach is used to grant logical and physical access to the OT users. Access controls are managed by a system called Work Request Management System (WRMS). Access requests are submitted to this system for review and approval.

External remote connections into the NiSource OT environment uses multi-factor authentication. External connections are authenticated using NiSource generated certificates. Additionally, systems connected on the internal network require registration (using MAC addresses) before access is granted. Systems that do connect to the OT network are scanned by ePo and Lumension to confirm anti-virus and patch levels.

User recertification for logical access requires manual processes (e.g., manual report generation and email notifications) in the CIP environment and is not performed in the Non-CIP environment.

Recommendation

Enhance annual recertification process with automated capabilities.

NAC should be deployed throughout OT and require robust profile verification (e.g., antivirus definitions, patch levels, and system configuration) prior to allowing access to the NiSource network.

Data protection

Observation

Desktops and laptops outside the control room and internal network communications are encrypted while desktops in the control room are not encrypted; there are planned initiatives to address control room desktop encryption. Servers and databases are not encrypted. Email clients include an encryption tool, and there is a policy requirement for the users to leverage this tool to encrypt any sensitive files and data sent through email. Mobile phones are not permitted to access the OT network.

NiSource OT does not have a defined data encryption standard. Although encryption is used, there are potential risk areas where there is no encryption.

Removable media is restricted in the control center using USB locks and by disabling USB ports in workstation BIOS. However, there is no restriction on the usage of removable media on end user devices (i.e., laptops), leaving them susceptible to data leakage and social engineering attacks.

Recommendation

Develop a formal documented standard for data encryption on different platforms, servers, and databases. The standard should clearly specify the minimum expected encryption requirements for systems based on their criticality and data classification. Ensure desktops in the control room are encrypted during the planned control room upgrade.

The organization should continue with NERC CIP v6 plans to formalize restrictions to be imposed on removable media. Consider requiring administrative privileges to connect to a USB drive or enforce a group policy on data

transfers to limit or restrict removable media usage. It is recommended that USBs in particular are restricted from use on systems with network access to OT critical services and operations.

5.3. Detect

Continuous monitoring

Observation

NiSource OT uses several tools for continuous monitoring and detection such as Splunk, InterMapper, and Lancope. Logging and auditing are turned on for events such as login activities, activities from privileged accounts, activities of third-party service providers, and activities on critical systems. Sourcefire is used as the IDS on network traffic, and McAfee HIPS is installed on servers and systems within the CIP perimeter.

There is formal documentation of processes and procedures for monitoring activities as defined and required by NERC-CIP. Logging beyond NERC-CIP requirements are being practiced which are not formally documented and are based on key individual subject matter specialist knowledge. Continuous monitoring after business hours is dependent on pre-configured alerts.

Recommendation

NiSource OT should document processes and procedures for monitoring, logging, and auditing activities outside of those that are defined and required by NERC-CIP.

Developing a co-located SOC for IT and OT cybersecurity teams is recommended (pending feasibility investigation). This would provide an added benefit of 24x7 continuous monitoring, which exists in the NiSource IT environment.

5.4. Respond

Forensics

Observation

Currently, forensics investigations are performed by the Networks Group by using the Mandiant HX tool. Although forensics investigations are performed for legal and compliance related cases, the organization does not have documented processes and procedures outside of those included in the Incident Response Plan per NERC-CIP requirements.

Recommendation

NiSource OT should clearly define their responsibilities as they pertain to forensic investigation processes. NiSource OT should document the forensic investigation processes and develop procedural-level documentation defining the day-to-day activities already being performed by the OT cybersecurity team.

5.5. Recover

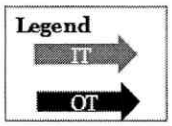
Observation

NiSource OT conducts annual recovery testing over a 2-day period. The recovery testing is documented and updated annually as required by NERC CIP.

Recommendation

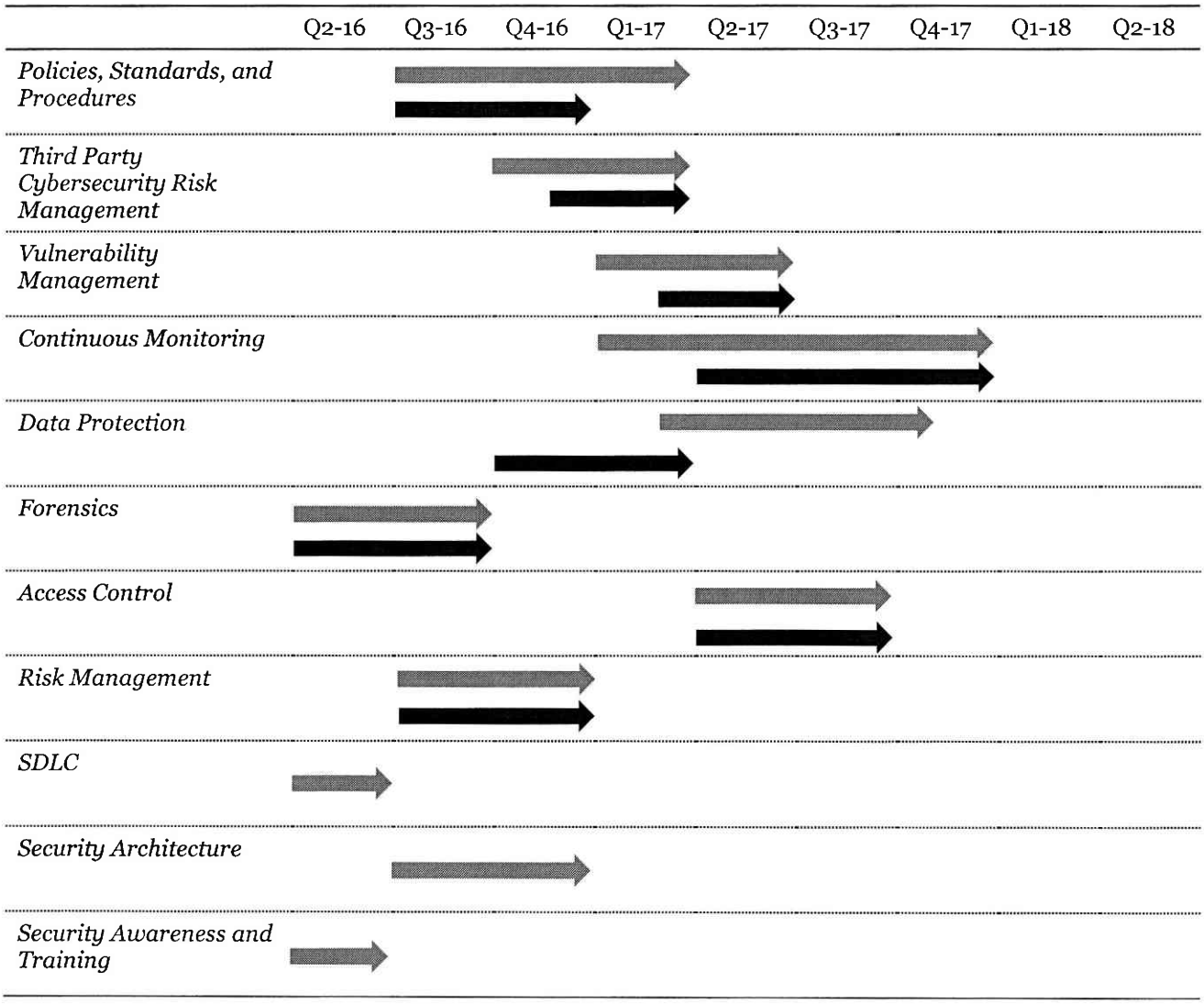
There were no notable recommendations in the Recover domain.

6. Recommendation roadmap



The below roadmap outlines previously identified recommendations from the NIST IT and OT sections of this report. This prioritized roadmap is based on a high-level understanding of time requirements and required implementation effort. Completing specific initiatives in advance may have positive impacts on proceeding initiatives (e.g., Security Architecture (i.e., network segmentation) in advance of Continuous Monitoring). Initiatives identified below that include a work stream for both IT and OT may provide an opportunity for collaboration and knowledge sharing if they are conducted in parallel.

The below roadmap does not factor in NiSource's annual strategic planning and budget approval cycles, current approved initiative timeframes, current resources, and hiring requirements.



*This assessment did not include conducting an analysis of implementation efforts and necessary headcount to achieve future state.

Appendix A. - Appendices

A.1. Summary of data (ATLAS™ and NIST CSF) in table format

Table 3 – Summary of ATLAS™ data

	2013 score	2014 score	Current state score	Planned state score	Recommended state score
Strategy, Governance & Management	2.17	2.50	2.75	3.00	3.33
Security Architecture & Services	2.39	2.54	2.64	2.79	2.89
Threat, Intelligence & Vulnerability Management	2.33	2.58	2.83	3.00	3.17
Identity & Access Management	2.25	2.40	2.65	2.90	3.00
Information Privacy & Protection	2.17	2.42	2.50	2.58	2.58
Incident & Crisis Management	2.58	2.93	2.95	3.08	3.00
Risk & Compliance Management	2.19	2.38	2.75	3.06	3.19
Security Training & Awareness	2.08	2.60	3.08	3.08	3.17

Table 4 – Summary of NIST CSF ratings for NiSource IT

NIST CSF - IT	Current	Planned	Target
Identify	2.28	2.57	3.00
Protect	2.54	2.74	3.04
Detect	2.24	2.26	3.07
Respond	2.82	2.82	3.00
Recover	2.92	2.92	3.00

Table 5 – Summary of NIST CSF ratings for NiSource IT and NiSource OT

NIST CSF - IT & OT	Current	Planned	Target
Identify	2.26	2.28	3.00
Protect	2.54	2.63	3.04
Detect	2.24	2.26	3.00
Respond	2.82	2.82	3.00
Recover	2.92	2.92	3.00

Table 6 – Summary of NIST CSF ratings for NiSource OT

NIST CSF - OT	Current	Planned	Target
Identify	2.26	2.28	3.00
Protect	2.61	2.63	3.08
Detect	2.59	2.59	3.00
Respond	2.88	2.88	3.00
Recover	2.92	3.00	3.00

A.2. NIST CSF and ATLAS™ rating tables

NIST CSF Tiers

Tiers	*Maturity*	*General Description*	*Processes*	*Cybersecurity Integration*	*Collaboration*
Tier 1	Partial	Risk management is ad hoc, with limited awareness of risks and no collaboration with others	Informal/ ad hoc	Limited	Limited
Tier 2	Risk Informed	Risk management processes and program are in place but are not integrated enterprise-wide; collaboration is understood, but organization lacks formal capabilities	Approved	Awareness	Informal
Tier 3	Repeatable	Formal policies for risk management processes and programs are in place enterprise-wide, with partial external collaboration	Expressed as policy	Defined, implemented, and reviewed	Receives information
Tier 4	Adaptive	Risk-management processes and programs are based on lessons learned and embedded in culture, with proactive collaboration	Improves	Well integrated	Receives and shares information

ATLAS™ Maturity Levels

Level	*Maturity*	*Description*
0	Non-Existent	Absence of recognizable processes or formal procedures.
1	Initial	There are no standardized processes; instead, ad hoc approaches exist which are applied on an individual or case-by-case basis.
2	Repeatable	Processes have developed to the stage where similar procedures are followed by different people undertaking the same task. There is limited or no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors and inconsistencies are likely.
3	Defined	Procedures have been standardized and documented, and they are communicated through training. It is, however, left to the individual to follow these processes, and it is unlikely that deviations will be detected. The procedures are the formalization of existing practices. Tools are often used to enforce or automate process workflows. Accountabilities may be unassigned.
4	Managed	It is possible to monitor and measure compliance with procedures and to take action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Tools are used to automate process workflows, improve efficiencies, and provide data for continuous process improvement/trending analysis. Accountabilities are uniformly assigned.
5	Optimized	Processes have been refined to a level of a leading practice, based on the results of continuous improvement and maturity modeling with other enterprises. IT is used in an integrated way to automate workflows, providing tools to improve quality and effectiveness and making the enterprise quick to adapt.

A.3. NIST CSF functions and identifiers

Function Unique Identifier	Function	Category Unique Identifier	Category
ID	Identify	ID.AM	Asset Management
		ID.BE	Business Environment
		ID.GV	Governance
		ID.RA	Risk Assessment
		ID.RM	Risk Management Strategy
PR	Protect	PR.AC	Access Control
		PR.AT	Awareness and Training
		PR.DS	Data Security
		PR.IP	Information Protection Processes and Procedures
		PR.MA	Maintenance
		PR.PT	Protective Technology
DE	Detect	DE.AE	Anomalies and Events
		DE.CM	Security Continuous Monitoring
		DE.DP	Detection Processes
RS	Respond	RS.RP	Response Planning
		RS.CO	Communications
		RS.AN	Analysis
		RS.MI	Mitigation
		RS.IM	Improvements
RC	Recover	RC.RP	Recovery Planning
		RC.IM	Improvements
		RC.CO	Communications

A.4. NiSource participants

Participant	Group name	Position/Title
Barb Boughamer	SOX Compliance	Manager Compliance
Carl Levander	Cybersecurity Sub-committee	Chief Regulatory Officer
Carrie Hightman	Cybersecurity Sub-committee	Chief Legal Officer
Dave Sonntag	Governance IT	Director IT Planning
Don Sievert	IT Disaster Recovery	Disaster Recovery
Donald Brown	Cybersecurity Sub-committee	Chief Financial Officer
Frank Dessuit	CIP Network and Security (OT Incident Management and Breach Response)	Manager Ops Technology Security
Jim Keshian	Information Privacy	Senior Counsel
Jim Miller	Physical Security	Director Corporate Security
Jason Hatfield	Physical Security	Manager Security Systems
Jim Stanley	Cybersecurity Sub-committee	Chief Operating Officer
Joyce Shroka	Business Continuity and Records Management	Director Business Continuity and Disaster Recovery
Kimberly Jones	Identify and Access Management and Awareness and Training	Manager IT Security
Lee Childress	Threat and Vulnerability Management	Senior IT Security Analyst
Magnus Borg	Cybersecurity Sub-committee	Chief Information Officer
Matt Holtz	NERC CIP Compliance	Managing Director of Transmission
Megan Mayer	Threat and Vulnerability Management	Forensic Investigation
Mike Estelle	IT Security (IT Risk and Compliance Management)	Director of IT Security Operations
Patti Davis	Asset Management	Director IT Operations
Prajwal Deshpande	Architecture	Director of Enterprise Architecture
Rob Rodriguez	Threat and Vulnerability Management	Manager IT Security
Russ Atkins	Cybersecurity Sub-committee	Electric Operations Leader
Savio Lobo	IT	Chief Technology Officer
Sergey Chernov	Application Development	Director Enterprise Applications
Stan Sagun	Cybersecurity Sub-committee	Sr. VP Commercial & Customer Operations
Violet Sistovaris	Cybersecurity Sub-committee	EVP NIPSCO
Wayne Hilt	IT Security	Managing Director of Cybersecurity

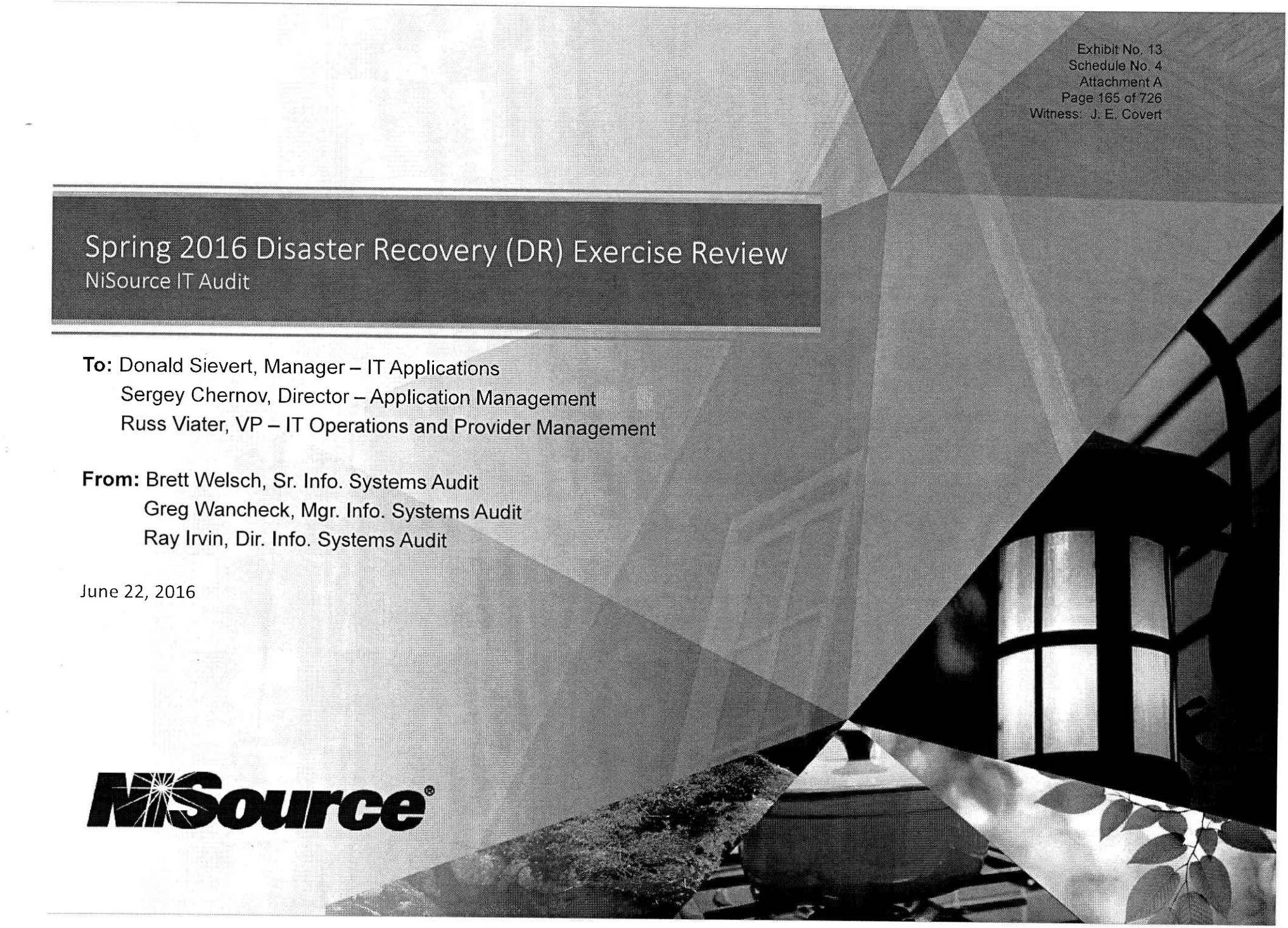
Spring 2016 Disaster Recovery (DR) Exercise Review

NiSource IT Audit

To: Donald Sievert, Manager – IT Applications
Sergey Chernov, Director – Application Management
Russ Viater, VP – IT Operations and Provider Management

From: Brett Welsch, Sr. Info. Systems Audit
Greg Wancheck, Mgr. Info. Systems Audit
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June 22, 2016



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Spring 2016 Disaster Recovery (DR) Exercise Review

EXECUTIVE OVERVIEW

Spring 2016 Disaster Recovery (DR) Exercise Review

Objective

The purpose of the NiSource Corporate Services, Information Technology (IT) Spring 2016 Disaster Recovery Exercise Audit is to verify the capability to recover data center operating hardware, operating systems, and applications and establish network connectivity to the enterprise from the IBM BCRS recovery facility, as specified in the Disaster Recovery Exercise Plan (DREP).

The objective of IT Audit's review was to provide management with an overall opinion on NiSource's capability to recover critical systems and related business applications. Objective steps were defined as follows:

1) **Disaster Recovery Planning and Execution:** Verify the adequacy, efficiency and effectiveness of the IT Disaster Recovery plan, support personnel and contracted services in restoring critical Mainframe and Distributed systems, related business applications, and network connectivity as required to meet management's expectations in the event of a prolonged IT service disruption.

2) **Disaster Recovery Contractual Coverage:** Evaluate the Business Continuity and Recovery Services (BCRS) agreement and compare covered applications with the status of NiSource tested applications.

3) **Disaster Recovery Scripts:** Evaluate the BCRS agreement to determine requirements and ownership of documents related to recovery test "scripts" and application recovery procedures.

IT Audit reviewed various planning, status and final reports created in order to gain an understanding of results associated with the Spring 2016 Disaster Recovery Exercise. In addition to interviewing key individuals associated with the NiSource IT Disaster Recovery program, IT Audit reviewed contracts, presentations and other relevant documentation as a means to further understand the BCRS agreement.

Spring 2016 Disaster Recovery (DR) Exercise Review

Background

Although the Disaster Recovery group is now part of the Cybersecurity Management organization within NiSource IT, this group continues to be commissioned to support NiSource by identifying, defining, documenting and testing recovery plans that would be executed in the event of an unforeseen interruption in computing services.

The goal of NiSource's Disaster Recovery Exercise is to validate appropriate procedures are in place and adequately provide direction for the recovery of critical NiSource computing applications. The agreed to scope, objectives and type of exercise determines the extent to which the Disaster Recovery Exercise simulates the conditions of an actual disaster situation. By verifying the documented backup and recovery procedures, the Disaster Recovery Exercise is designed to identify gaps and areas for procedural improvement to ensure the company is prepared for a true disaster scenario.

NiSource, via its agreement with IBM, has contracted with BCRS to provide the facilities, infrastructure and computing hardware required in the event of a disaster or prolonged service interruption. Twice a year, NiSource IT Management and IBM plan a joint Exercise to test the viability of recovery plans for a defined set of applications.

The Spring 2016 Disaster Recovery Exercise was conducted between April 12-15, 2016 with an overall goal to recover six (6) Mainframe applications and twenty-eight (28) Distributed applications all residing within the Hammond Data Center.

During the Spring 2016 Disaster Recovery Exercise, NiSource again recovered the Mainframe environment utilizing BCRS' hot-site rapid recovery procedure while the twenty-eight (28) applications residing on the Distributed platform in Hammond (IN) were recovered via tape backup.

Spring 2016 Disaster Recovery (DR) Exercise Review

Executive Overview

Findings

- IT Audit noted a Leading Practice Opportunity around the reporting of Recovery Time Objectives in the NiSource April 2016 Disaster Recovery Exercise Executive Summary distributed by NiSource IT DR Management. **This Leading Practice Opportunity is for NiSource IT DR Management to provide additional clarification regarding Recovery Time Objectives and how they are measured by Management in the event of a real disaster scenario versus the exercise timeline.**

Spring 2016 Disaster Recovery (DR) Exercise Review

Executive Overview

Findings (cont.)

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW RESULTS

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

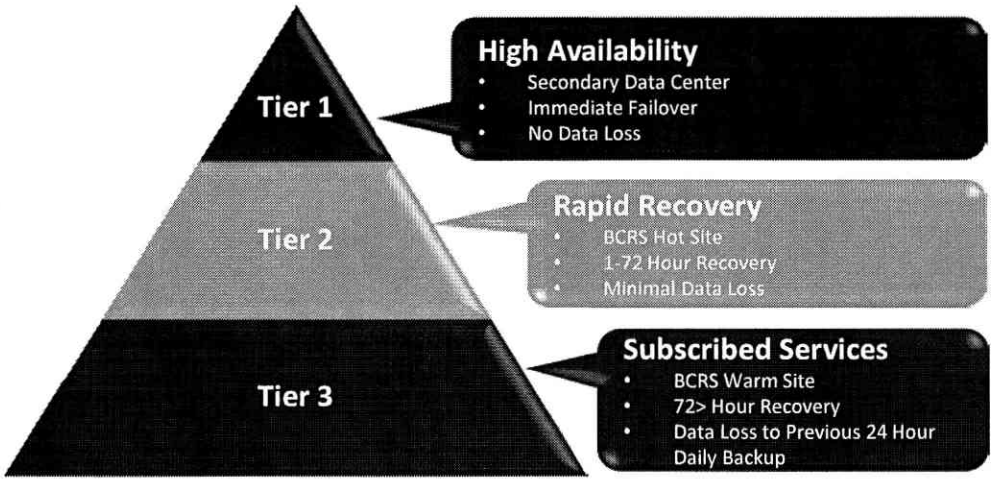
April 2016 Application System	Recovery Time Objective (RTO)	Actual Recovery
Maximo Change Request System (CPG)*	7 Days	70 hours
Maximo Procurement (CPG)*	>= 14 Days	66 hours
Maximo Work Management (CPG)	72 hours	66 hours
PeopleSoft EPM / Data warehouse NiFiT	72 hours	65 hours
PeopleSoft Financials	72 hours	65 hours

* Although the NiSource April 2016 DR Executive Summary noted five (5) applications had missed their RTO times, only three (3) of the applications had actually exceeded their RTO times. IT Management subsequently informed IT Audit that the Maximo Change Request System and Maximo Procurement applications had been incorrectly identified in the DR Executive Summary as having missed their RTO times.

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Starting in 2015 and continued in the current exercise, IT Disaster Recovery Management began to use a Recovery Tier designation for determining an application's priority order of recovery (POR). This Recovery Tier definition for critical NiSource applications is captured within the NiSource PlanningIT application portfolio and now assigns applications into one of the following three (3) primary recovery categories:*



***Note**: A Tier 4 recovery designation exists in PlanningIT that is referred to as "best effort/hosted." This category exists either for NiSource applications not subscribing to Recovery Tiers 1-3 above (where recovery is a best effort action once Tiers 1-3 have been completed) or for NiSource applications externally hosted by a 3rd party outside of the Hammond and Charleston data centers.

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier Category:	Description of SLA Tier:	Support Level:
Gold Tier	Includes those applications identified as 'Gold Tier' (a "Gold Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the related WAN and LAN network components. Gold Tier Applications must have high availability computing platforms that have full dual site redundancy (i.e., mirrored environments with failover capability, redundant LANs within the data center and redundant data center WAN access).	Gold Tier Systems have support on 24/7 basis.
Silver Tier	Includes those applications identified as 'Silver Tier' (a "Silver Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Full application redundancy computing platforms are not required for Silver Tier Applications, but rather they are prioritized as critical business functions that affect the end customer.	Silver Tier Systems have the following support hours: Mon – Fri 6am – 8pm CT; Sat – Sun 8am – 4pm CT.
Bronze Tier	Includes those applications identified as 'Bronze Tier' (a "Bronze Tier Application"), and also the mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Bronze Tier will cover Customer business applications that are internal facing to Customer and support internal operations. Bronze Tier Applications do not require fully redundant application computing environments.	Bronze Tier Systems have the following support hours: Mon – Fri 6:00am – 8:00pm CT.

Recommendation: None

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier*	Tier 1 High Availability Application Systems Failed Over to Secondary Data Center			Tier 2 Rapid Recovery Application System Recovered at BCRS			Tier 3 Subscribed Services Application System Recovered at BCRS or FTC			Hosted Application System Hosted & Recovered Off Premises			Total		
	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested
Gold	43	50	86				1	1	100				44	51	86
Silver	2	10	20	73	79	92	39	54	72	3	11		117	154	76
Bronze		1		13	13	100	22	35	63	1	21	5	36	70	51
Total	**45**	**61**	**74**	86	92	93	62	90	69	4	32	13	**197**	**275**	**72**

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier*	Tier 1 High Availability Application Systems Failed Over to Secondary Data Center			Tier 2 Rapid Recovery Application System Recovered at BCRS			Tier 3 Subscribed Services Application System Recovered at BCRS or FTC			Hosted Application System Hosted & Recovered Off Premises			Total		
	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested
Gold	39	39	100				1	1	100				40	40	100
Silver	1	7	14	63	68	96	36	41	88	3	9		103	125	84
Bronze				10	10	100	17	19	89	1	12	8	28	41	68
Total	40	46	87	75	78	96	54	61	89	4	21	19	173	206	84

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Spring 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Spring 2016 Disaster Recovery (DR) Exercise Review

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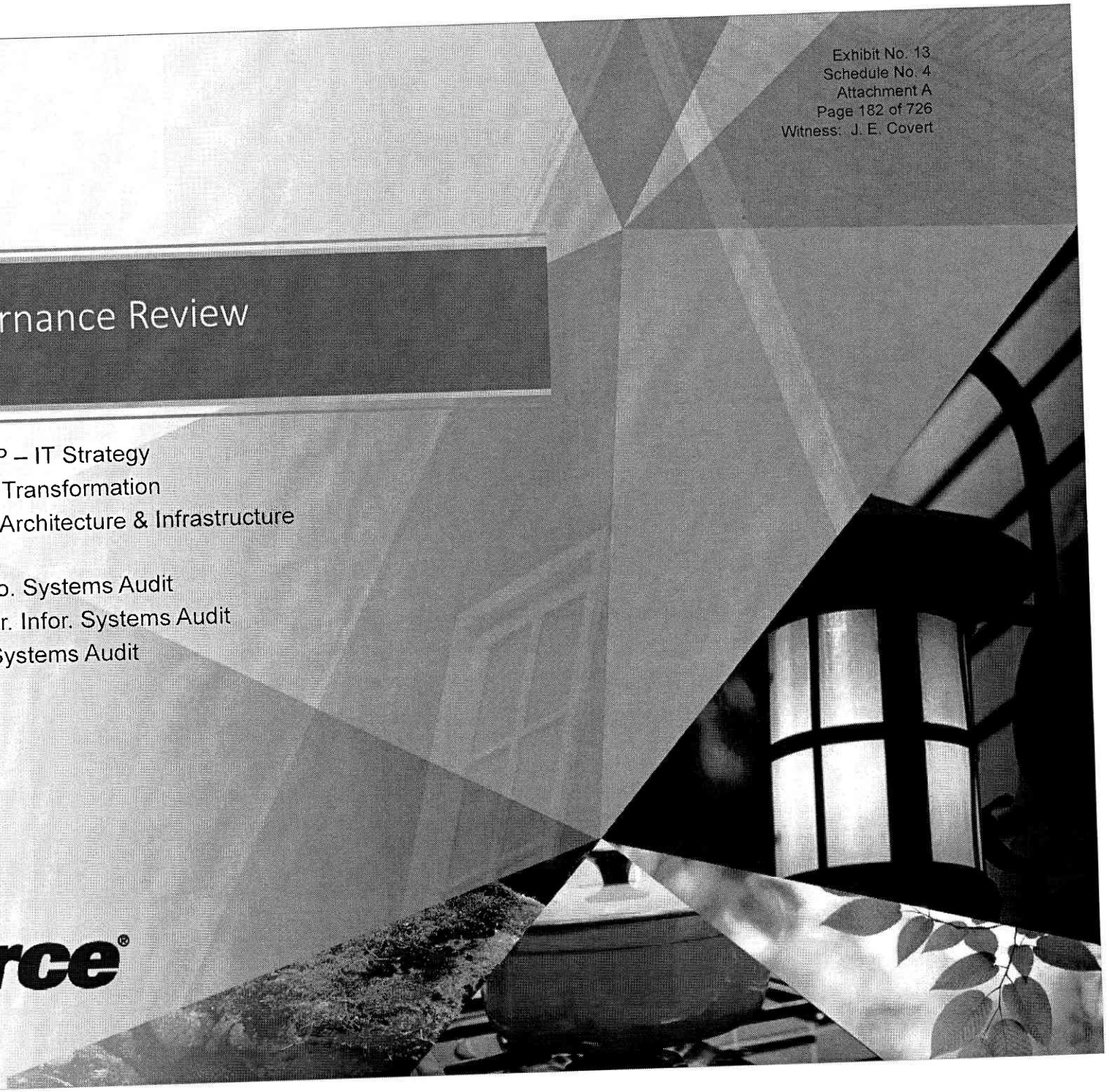
NiSource IT Governance Review

NiSource IT Audit

To: Kevin Johannsen, VP – IT Strategy
Russ Viater, VP – IT Transformation
Savio Lobo, VP – IT Architecture & Infrastructure

From: Brett Welsch, Sr. Info. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Info. Systems Audit

August 18, 2016



- **Executive Overview** . . . . . **Page 3**
  - Objectives
  - Background
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  - IT Strategic Plan
  - IT Tactical Strategy
  - IT Strategic Risk Alignment
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NiSource IT Governance Review

EXECUTIVE OVERVIEW

NiSource IT Governance Review

Objective

NiSource's IT Governance framework was redesigned in 2015 to reflect changes made to the company's business model post CPG Separation. Information Technology (IT) Audit reviewed the redesigned IT Governance framework to provide management with a high-level assessment regarding how the new framework aligns with management's strategic planning, execution, and risk alignment process.

The objective of the NiSource IT Governance Review is to provide management with an overall assessment of the adequacy and effectiveness of how NiSource IT management develops and executes the ongoing IT Governance strategy as it relates to meeting the needs of the NiSource business. Objective steps were defined as follows:

1) **IT Strategic Plan:** Verify whether the IT strategy is supportive and actively complements NiSource's business objectives. Examine the strategic planning process used by NiSource IT in developing its long and short term goals. Verify the NiSource IT objectives and strategies are communicated to key NiSource stakeholders.

2) **IT Tactical Strategy:** Determine if NiSource IT activities are aligned towards execution of the IT strategic plan. Verify whether NiSource IT resources are being allocated to assist in the execution on the strategic plan.

3) **IT Strategic Risk Alignment:** Verify NiSource IT management has a formal process used to manage IT risk exposures. Verify NiSource IT management is considering non-IT managed areas (NIPSCO Operations Technology, NiSource Business Applications, etc.) in their governance process and is properly managing associated risk within these areas. Finally, ensure NiSource IT management is communicating these risk exposures to key business stakeholders.

IT Audit aligned with members of NiSource Information Technology management to interview key process owners and review documentation regarding IT Governance within NiSource.

NiSource IT Governance Review

Background

IT Governance involves managing IT operations and IT projects to ensure alignment between these activities as they relate to the needs of the organization. Proper alignment between IT and the organization means:

- Organizational management understands the potential, and limitations, of IT.
- The IT function understands the objectives and corresponding needs of the organization.
- This understanding is applied and monitored throughout the organization via an appropriate governance structure and accountability.

Understanding the value and cost of IT is important for the NiSource Executive Committee, senior leadership and IT management, as a successful alignment between the organization and IT occurs when the goals/objectives of the organization are synched with organizational needs, which IT management is able to achieve in collaboration with senior management.

In 2015, the NiSource IT Governance team redesigned the IT Governance framework to reflect the changes made to the NiSource business model post CPG Separation. The primary goals of the new IT Governance framework were to:

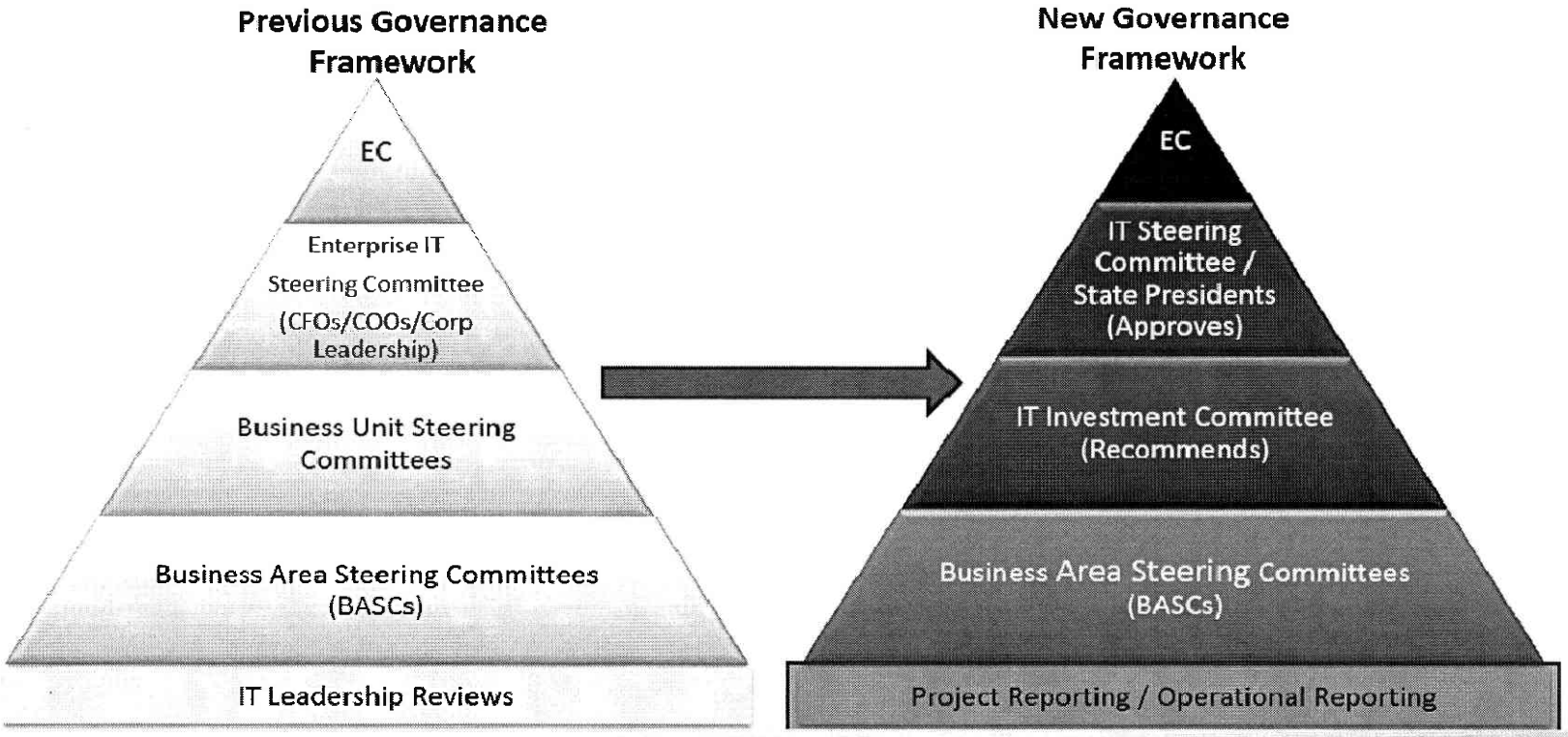
1. Prioritize and fund technology investments.
2. Align regulatory recovery to support technology investment.
3. Drive optimization of solutions across states and business areas.
4. Streamline the demand process by ensuring proper attention is being paid to project prioritization, funding, resourcing and financial reporting.

This new IT Governance framework also encourages more business input into the IT planning and decision making process to ensure that organizational needs are being better met by corporate IT.

NiSource IT Governance Review

Background (cont.)

As part of the redesign, the new IT Governance framework now utilizes two (2) committees, the new IT Investment Committee and the redesigned Business Area Steering Committee, to actively engage the business in prioritizing both longer term strategic projects and those that are more day-to-day enhancement and/or maintenance in nature.



NiSource IT Governance Review

Executive Overview

Findings

- The IC is collaborative by design and supportive of the 'One NiSource' culture.
    - Field Activity, Customer and Commercial, Regulatory
    - Corporate
    - Facilities and IT Infrastructure
- With each area of the business represented in BASC meetings, every primary organizational function has an opportunity to be involved in the review and approval process.
- The monthly cadence of BASC meetings allows members to stay current on IT requests and the budget available for execution.

NiSource IT Governance Review

Executive Overview

Findings (cont.)

- NiSource IT is actively working with NIPSCO Operations Technology (OT), and other business applications groups not directly under NiSource IT control, to ensure any new technology or applications being considered are in strategic alignment with the overall NiSource IT strategy.

NiSource IT Governance Review

REVIEW RESULTS

NiSource IT Governance Review

REVIEW / RESULTS

From	To	Initiatives
Business Units	**New NiSource**	• Refine IT Governance • Establish New NiSource Business Areas • Incorporate State Roundtable and State Specific Needs • Align Regulatory Recovery
Multiple IT Roadmaps	**One NiSource IT Roadmap**	• Refine the IT Roadmap view
Complicated and Incomplete Request IT and Prioritization Process	**Streamlined and Comprehensive** Request IT and Prioritization Process	• Demand Process Assessment • Demand Process Recommendations • Roll Out of New Process and Tools
Non Optimized Portfolio of Applications	**Optimized Portfolio of** Applications	• Assess Optimal Portfolio Mix • Portfolio Recommendations/Vision • Incorporate Portfolio in IT Road Map
Limited financial visibility and tools	**Transparent financial information** and tools	• Enhanced financial reporting

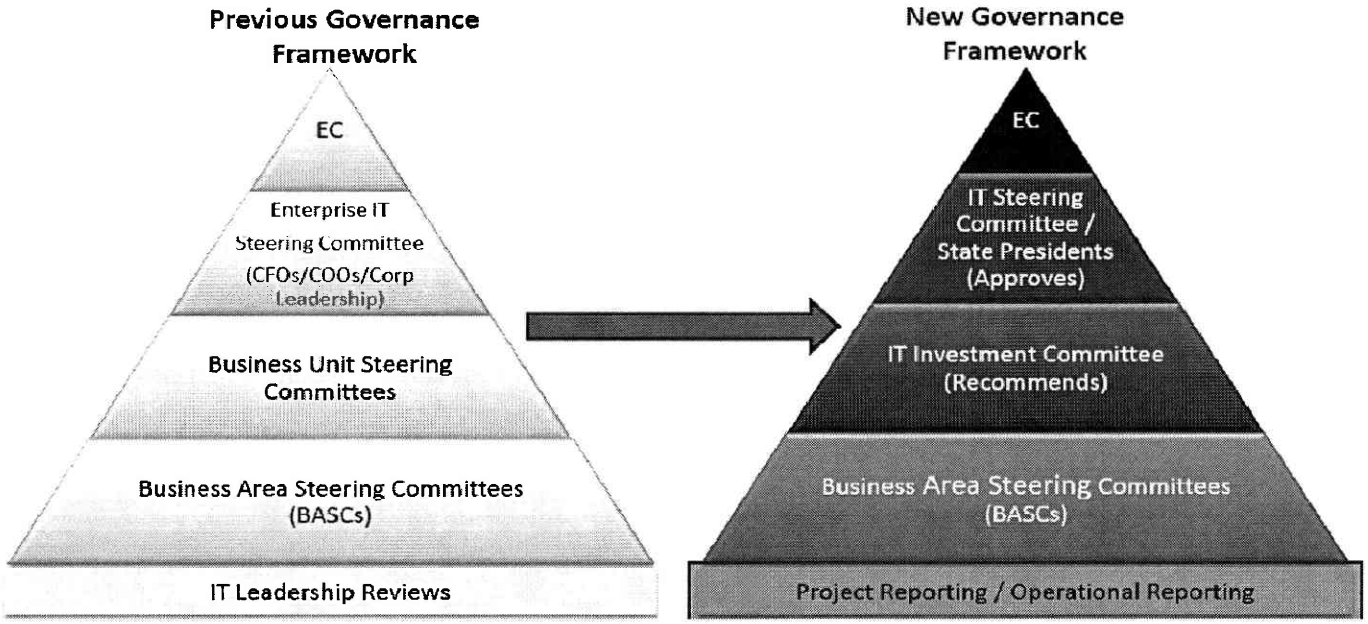
NiSource IT Governance Review

REVIEW / RESULTS

Forum / Purpose & Decision Rights	Co-Chairs	Deliverables for Forum	Frequency
Executive Committee • *Set and approve overall direction for technology investment, including annual project investments and allocations by business area* • *Ensure alignment of IT investments to NiSource strategic priorities*	• CIO • *Business Executive TBD*	• Final IT Roadmap (for following year)	Annual
IT Steering Committee / State Presidents • *Ensure technology investments advance NiSource strategic priorities and support state regulatory needs* • *Resolve critical planning and prioritization conflicts* • *Identify investments opportunities to optimize business process and supporting technology*	• IT VPs • *Business representative TBD*	• IT Roadmap Updates • New Project Priorities	Semi-Annual
IT Investment Committee • *Prioritize and fund strategic, business-critical and business-tactical initiatives, balancing risk-reward for state and central leadership priorities* • *Propose IT Roadmap, balancing growth, risk, operations and compliance to determine initiatives that support Business Plans, and drive collaboration and standardization of solutions* • *Resolve planning and prioritization conflicts across business areas* • *Establish annual BASC budgets and provide insight regarding BASC allocations to IT Steering Committee and EC* • *Identify investments opportunities to optimize business process and supporting technology*	• IT Directors • *Business VP/Sponsor TBD*	• IT Roadmap Updates • New Project Priorities	Quarterly
Business Area Steering Committees (BASCs) • *Identify initiatives that strategically enable the business area* • *Participate in the IT Prioritization process to identify IT investment opportunities and develop the IT Roadmap* • *Review, disposition and prioritize new IT requests within BASC budget* • *Report on progress of IT projects, including financials, execution progress and risk*	• IT Managers • *Business Representative TBD*	• Prior Year IT Roadmap Results • IT Roadmap Updates • New Project Priorities • IT Scorecard • Actual vs. Budget Reports for Business Area	Monthly

NiSource IT Governance Review

REVIEW / RESULTS



New Governance Framework

As represented in the illustration above, the top two levels of the IT Governance framework remained relatively consistent as part of the government enhancement effort. The Executive Committee is still the ultimate reviewer and approver of each years IT Strategic Plan. The second level has been updated to reflect the 'New NiSource' structure, with the State Presidents and IT Steering Committee approving the IT Strategic Plan before sending it to the EC for review. The most significant changes occurred with the creation of the new IT Investment Committee and to the Business Unit Steering Committee levels, therefore our review focused on these areas.

NiSource IT Governance Review

REVIEW / RESULTS

NiSource IT Governance Review

REVIEW / RESULTS

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REVIEW / RESULTS

NiSource IT Governance Review

REPORT DISTRIBUTION

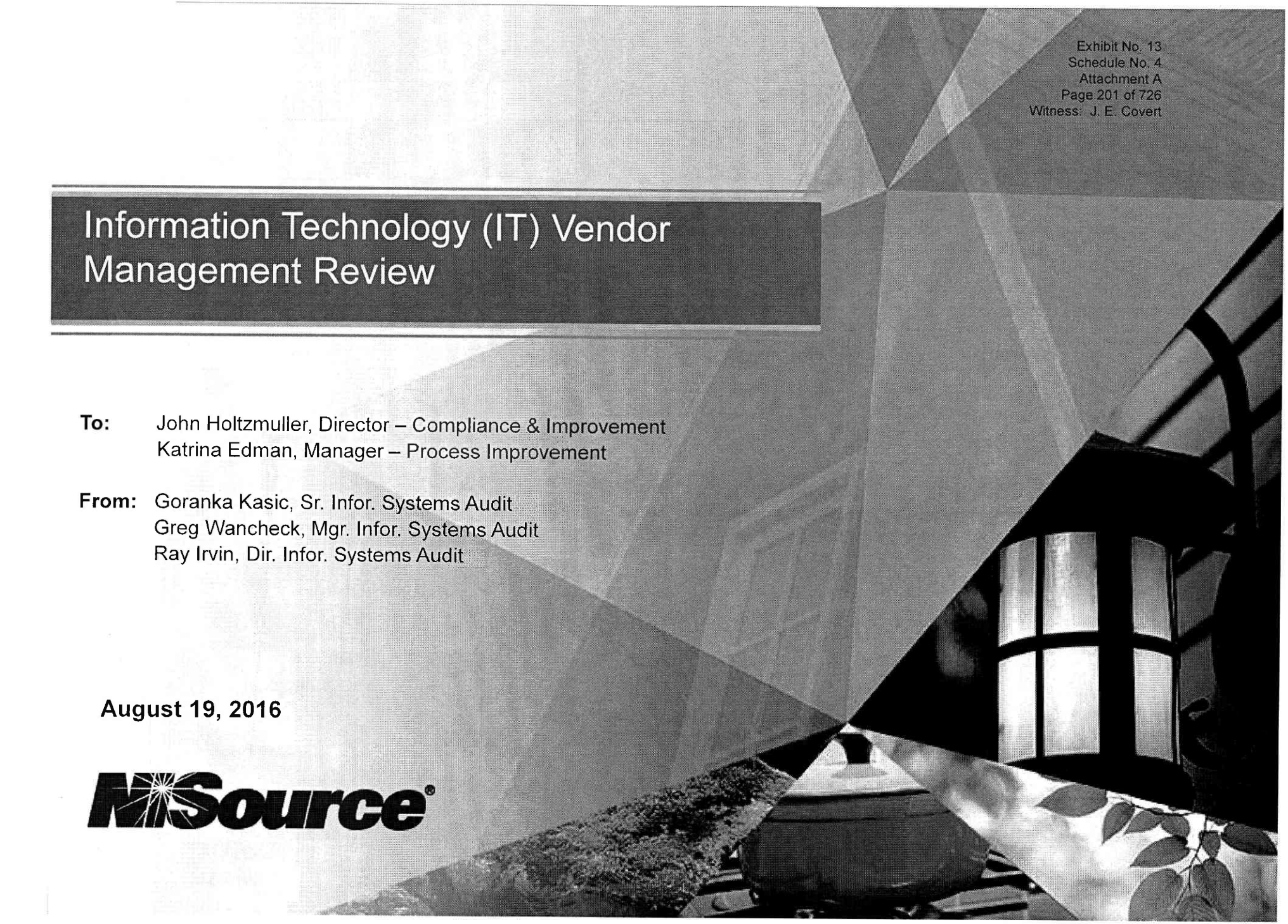
Information Technology (IT) Vendor Management Review

To: John Holtzmuller, Director – Compliance & Improvement
Katrina Edman, Manager – Process Improvement

From: Goranka Kasic, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

August 19, 2016

NiSource®



Index

- Scope
- Objectives
- Approach
- Background
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Information Technology (IT) Vendor Management Review

EXECUTIVE SUMMARY

Scope

NiSource Information Technology (IT) Audit has completed our assessment of internal vendor management processes for key IT vendors providing services to NiSource. The purpose of the NiSource Information Technology (IT) Vendor Management Review is to provide management with an overall assessment of the adequacy and effectiveness of controls and processes used to validate Service Agreement Charges related to the vendor billing processes between NiSource and its primary IT vendors: IBM, F1, Inc., and Harris, Mackessy & Brennan, Inc. (HMB, Inc.). The review period for this review is from January 1, 2015 through March 31, 2016.

Objectives

The focus of IT Audit's review was on the controls and processes used to validate Service Agreement Charges related to the independent billing processes for IBM, F1, and HMB. Objective steps were defined as follows:

1) **IBM:** Review the effectiveness of controls surrounding the verification and payment processing of charges resulting from the Business Process and Support Services Master Agreement with IBM.

2) **F1**: Review the effectiveness of controls surrounding the verification and payment processing of charges resulting from the Agreement for IT Services with F1.

3) **HMB:** Review the newly implemented Agreement for IT Services with HMB, enacted as a result of F1 and HMB contractual separation. Additionally, review the procedures used by NiSource Performance Support to validate HMB invoices and verify whether there is adequate approval/sign-off designation.

Approach

Information Technology (IT) Vendor Management Review

EXECUTIVE SUMMARY

Background

Information Technology (IT) Vendor Management Review

EXECUTIVE SUMMARY

Findings

Information Technology (IT) Vendor Management Review

REVIEW RESULTS

Information Technology (IT) Vendor Management Review

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review

Review the effectiveness of controls surrounding the verification and payment process of charges resulting from the Business Process and Support Services Agreement with IBM.

Results:

Procedures Review

IT Audit reviewed the IBM procedural document used by the NiSource Performance Support team to validate invoices. The procedural document, entitled "IT Financial Governance Invoice Accuracy," was created/updated based on the 2014 IBM Master Services Agreement and provides step-by-step instructions on how NiSource Performance Support should execute invoice validation within the IBM Pricing Model (which is an Excel spreadsheet based on information from Pricing Table and Amendment updates reflected within the Agreement).

For testing purposes, IT Audit found the IT Financial Governance Invoice Accuracy document to be well written, easy to follow and providing detail on the following:

- Adequacy of review required for invoice backup detail provided by reviewers/approvers/vendors
- Invoice accuracy validation procedures
- Dispute process steps

IT Audit also found that while the IT Financial Governance Invoice Accuracy document does provide sufficient information for IBM invoice validation, it does not contain information about inherent differences between each type of IBM invoice (Base, Transition, and Supplemental). As a result, **IT Audit recommends (#1) NiSource Performance Support update existing procedures within the IT Financial Governance Invoice Accuracy document to include a brief explanation of the various IBM vendor invoice types, along with the corresponding backup data required for each invoice category.**

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review (cont.)

Management Response #1: NiSource Performance Support recognizes the opportunity to improve the process documentation by including a brief explanation of the various vendor invoice types and backup data required for each invoice category. Documentation will be updated accordingly to include these items.

Finally, IT Audit found the IBM Master Services Agreement and related support documentation (i.e. Exhibits, Amendments, Pricing Tables, etc.) are maintained within a secure SharePoint repository. For a user to gain access to the secure SharePoint, a formal request is required to be submitted/approved along with an additional confidentiality statement requiring user authorization.

Contractual Review

IT Audit noted NiSource Performance Support continues to leverage Exhibit 4, which is appended to the IBM Master Services Agreement, for invoice validation review. Exhibit 4 contains various Pricing Methodology sections as well as a confidential area referred to as Schedule 4.2: Pricing Tables. The Schedule 4.2 Pricing Tables section of the Agreement contains detailed information about the payments NiSource and IBM have agreed to, based on services/resources delivered to NiSource by IBM. If NiSource and IBM align that an update or modification needs made to the Agreement, an Amendment is created along with any Pricing Table adjustment(s) necessary.

Although NiSource Performance Support does not track Pricing Table updates, a corresponding Pricing Model is used to validate monthly invoices and ensure payments are being made reflective of what is provided within the Pricing Table. All of the Pricing Tables are stored in SharePoint within the confidential section of the Agreement and can be accessed once an authorized request to view IBM Agreement information is approved.

For testing purposes, IT Audit reviewed the current Pricing Tables within Schedule 4.2 of the Agreement and found them to be well documented and securely maintained within SharePoint.

Exhibit No. 13
Schedule No. 4
Attachment A
Page 209 of 726
Witness: J. E. Covert

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review (cont.)

Invoice Categorization

IT Audit reviewed the various NiSource charges for contracted services related to the most recent IBM Agreement (effective April 1, 2014) and found all charges are submitted through one (1) of three (3) invoice types:

- Base Invoice – used for fixed, monthly IBM service charges determined by set pricing schedules;
- Transition Invoice - used for variable, monthly charges incurred within the contract; and
- Supplemental Invoice - used quarterly to bill for "additional" project fees not included in monthly Base or Transition invoice charges.

IT Audit noted all three (3) IBM invoice types include service charges for IT, Finance & Accounting (F&A), Customer Call Center (CCC) and Meter To Cash (MTC), with Base invoices also containing additional Enterprise Business Office (EBO) charges incurred for the following: governance, account and contract management, financial management and invoicing, service level management and customer satisfaction. IT Audit also found both Transition and Supplemental invoices contain several sub-sections, including:

- Additional Resource Charges (ARCs) – charges, should more than baseline RU's (resource units) be used;
- Reduced Resource Charges (RRCs) – credits, should less than baseline RU's be used;
- Service Level Agreement (SLA) Credits – credits, should a service(s) not be delivered based on the IBM Agreement; and
- SoftLayer – charges for IBM cloud computing services.

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review (cont.)

Invoice Validation

NiSource Performance Support uses a financial Pricing Model to perform monthly IBM invoice validation, with each month's validation tracked via a separate Pricing Model based upon amended updates within the IBM Agreement. IT Audit was able to review the information within the Pricing Model, as well as supporting (backup) information, and found the Model contains detailed information on the specific service price, aka: Resource Unit (RU), NiSource is contracted to pay IBM. Once monthly invoices are provided to NiSource Performance Support, the Pricing Model is used to verify invoice accuracy (validation). Once validated, invoice details are then added to the Approval Matrix and provided to Resource Unit owners for approval (along with supporting backup information).

IT Audit also found individual NiSource Resource Unit owner approvals are being obtained via email and stored by Performance Support within a network share drive for retention purposes. Furthermore, final approval for each invoice is captured on a Request for Payment form which is also retained by Performance Support for historical tracking. Once all approvals are obtained, invoices are paid via wire to IBM.

For testing purposes on whether IBM invoices are being reviewed and authorized by NiSource IT management for completeness and accuracy prior to payment, IT Audit obtained a sample of Base, Transition and Supplemental (if applicable) invoices, supporting invoice backup data, as well as the approvals related to these invoices. Since the timeframe of IT Audit's review included the entire 2015 calendar year and any invoices paid through March 2016, IT Audit selected the following three (3) monthly samples:

- **March 2015**: based on Amendment 4 Pricing Updates/Tables
- **December 2015**: based on Amendment 8 Pricing Updates/Tables
- **March 2016**: based on Amendment 9 Pricing Updates/Tables

Post review, IT Audit found all three (3) IBM monthly invoice samples were accurately calculated and validated by NiSource Performance Support, with backup information provided that appropriately reflected information stated within each invoice. In addition, corresponding email authorizations were also obtained from all required NiSource Resource Unit Owners prior to Performance Support validation.

Information Technology (IT) Vendor Management Review

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review (cont.)

Although all corresponding Resource Unit Owner authorizations were appropriately provided by Performance Support for each of the three (3) monthly invoice validations sampled, IT Audit found NiSource's current IBM invoice approval process is manual, with efforts to obtain/manage Resource Unit Owner email authorizations challenging via the network share drive repository. In addition, the procedures within the IT Financial Governance Invoice Accuracy document do not include payment approval process criteria for Resource Unit Owners, such as email approval requirements for ARC/RRC related charges. As a result, **IT Audit recommends (#2) NiSource Performance Support adopt a standardized document management structure for Resource Unit Owner approval evidence related to IT vendor invoices, as well as update the existing IT Financial Governance Invoice Accuracy document with payment approval criteria procedures.**

Management Response #2: NiSource Performance Support recognizes the opportunity to adopt a standardized procedure for collecting and maintaining approval evidence related to IT vendor invoices. Effective immediately, NiSource Performance Support will maintain all email approvals in a central repository accessible to all relevant team members for ease of access and review. NiSource Performance Support will also work with the NiSource Treasury Department to evaluate other options for obtaining approval that would eliminate the need to collect physical signatures on each Request for Payment document prior to payment being wired to an IT vendor.

REVIEW / RESULTS

Objective 1: IBM Invoice Validation Process Review (cont.)

Disputed Charges

As part of ongoing communications between NiSource IT management and IBM, any disputed charges for monthly invoices are discussed between the two parties, which based on outcome, would result in either a credit to NiSource or payment to IBM. IT Audit also noted that any disputed charges appearing on an IBM invoice are formally documented within that invoice, along with a dispute letter being sent to IBM. In addition to the dispute documentation and letter, NiSource Performance Support also tracks all IBM invoicing disputes within a corresponding Dispute Log that is stored on the invoice validation SharePoint site.

IT Audit noted that as of June 30, 2016 (fieldwork closure date), there were 13 open and 30 closed disputes reflected within the Dispute Log. IT Audit's subsequent review of the Dispute Log found NiSource Performance Support is adequately managing both open/closed disputes and properly capturing relevant dispute-related information (amounts, category, and issue description). Additionally, IT Audit sampled the same three (3) monthly invoices used for validation testing (March 2015, December 2015, and March 2016) and found that each discrepancy tracked within the Dispute Log was addressed via a signed Dispute Letter attached to an authorized Request for Payment document.

Information Technology (IT) Vendor Management Review

REVIEW / RESULTS

Objective 2: F1 Invoice Validation Process Review

Review the effectiveness of controls surrounding the verification and payment process of charges resulting from the Business Process and Support Services Agreement with F1.

Results:

Procedures Review

IT Audit obtained the F1 Invoice Validation document updated in June 2016 to determine whether embedded procedures appropriately reflect the F1 invoice validation process and include the F1 invoice approval matrix. For testing purposes, IT Audit found the F1 Invoice Validation document adequately addresses invoice validation steps and includes screen captures which support key walkthrough steps in the validation process. IT Audit also noted the document contains an up-to-date F1 invoice approval matrix based on invoice categorization, as well as approval roles within both the existing SharePoint and Catalyst validation workflows. As mentioned within the IBM invoice validation review, **IT Audit recommends (#3) NiSource Performance Support update F1 invoice validation procedures to include a brief explanation of the various F1 vendor invoice types, along with the corresponding backup data required for each invoice category.**

Management Response #3: NiSource Performance Support recognizes the opportunity to improve the process documentation by including a brief explanation of the various vendor invoice types and backup data required for each invoice category. Documentation will be updated accordingly to include these items.

In addition, IT Audit also attended a joint NiSource and F1 meeting where monthly invoices and forecasting were both discussed and clarified prior to final invoice validation (and payment). IT Audit also found NiSource IT management was actively involved in managing the meeting and providing proactive direction to F1 in regards to items requiring invoice clarification.

REVIEW / RESULTS

Objective 2: F1 Invoice Validation Process Review (cont.)

Contractual Review

Prior to March 1, 2016, CIS and DIS application services were provided to NiSource under a joint F1/HMB contractual vendor agreement. Effective March 1, 2016 however, NiSource entered into an independent "Agreement for IT Services" between F1 and HMB whereby HMB services were removed from the F1 Master Service Agreement and allotted their own contractual agreement. While HMB still maintains responsibility for executing DIS support services to NiSource (with F1 continuing to provide IT services for CIS), Amendment 4 addressed the removal of HMB-related services from the F1 Master Service Agreement.

As with the previous F1 contractual agreement, the pricing methodology between F1 and NiSource continues to appear within Exhibit 4: Pricing, Invoicing and Payments of the F1 Master Services Agreement. IT Audit additionally noted both the "Agreement for IT Services" and all related F1 support documentation (i.e. Exhibits, Amendments, etc.) reside within a secure SharePoint repository with access restricted to only authorized individuals.

To address HMB service transition to NiSource as part of agreement separation effective March 1, 2016, Exhibit 8 was created for both independent HMB and F1 contracts defining whether service plan disruptions should be expected as a result of contract separation taking place and Transition Plan requirements as follows:

- Continue current operations with minimal disruption to customer end users.
- Initiate the integration of new staff into Service Provider's culture.
- Set the groundwork for integration with existing application related processes.
- Initiate the implementation of Service Provider management disciplines to manage services in a consistent manner.
- Initiate the integration of methods, tools, and techniques to support the process.

IT Audit noted the HMB/F1 Transition Plan also outlines control separation deliverables, highlights knowledge transfer requirements, and provides information about both leadership roles and proposed contract separation completion milestones. IT Audit additionally verified that no HMB/F1 separation-related invoices have occurred since contract segregation.

Exhibit No. 13
Schedule No. 4
Attachment A
Page 215 of 726
Witness: J. E. Covert

REVIEW / RESULTS

Objective 2: F1 Invoice Validation Process Review (cont.)

Invoice Categorization

IT Audit reviewed the various NiSource charges for contracted F1 services and found all charges are submitted through one (1) of four (4) invoice types:

- **Discretionary**: Invoice for "variable" fees based on actual hours worked in the previous month.
- **Non-Discretionary**: Invoice for the "fixed" portion of Productive Hours (actual hours worked in the previous month), as well as hours spent for travel, vacation, holiday, training, education, marketing, administrative staff meetings, medical and military leave.
- **Supplemental Testing**: Invoice for any supplemental testing fees and travel expenses not included within either discretionary and non-discretionary invoices.
- **Additional Services**: Invoice for additional F1 hours worked per NiSource request and compensated based on the agreed to rate.

Each of the F1 invoices listed above can also contain the various fee types displayed in the chart below:

Discretionary	Non-Discretionary	Supplemental Testing	Additional Services
CIS/DIS Discretionary*	CIS/DIS Non-Discretionary	Supplemental Testing	CIS/DIS Additional Services
CIS/DIS Discretionary (Travel Expenses)		Supplemental Testing (Travel Expenses)	Specific Project Related Fees

*As of IT Audit's 2016 IT Vendor Management Review, HMB DIS Services were still included in F1 monthly invoice fees.

Exhibit No. 13
Schedule No. 4
Attachment A
Page 216 of 726
Witness: J. E. Covert

REVIEW / RESULTS

Objective 2: F1 Invoice Validation Process Review (cont.)

Invoice Validation

To determine whether F1 invoices are being reviewed and authorized by NiSource for completeness and accuracy prior to payment, IT Audit obtained a sample of three (3) monthly F1 invoices, supporting backup data, and approvals related to each invoice. Since the timeframe of IT Audit's review included the entire 2015 calendar year and any invoices through March 2016, IT Audit selected the following monthly samples:

- March 2015
- December 2015
- March 2016

For testing purposes, IT Audit reviewed invoice backup data for each of the three (3) invoice samples, including F1 hours worked, project-related time incurred, supplemental evidence, and travel expenses. Furthermore, IT Audit inspected the associated F1 Pricing Tables to ensure that invoice validation occurred based on accurate information portrayed within the F1 contract and any related change amendments. For both 2015 F1 invoice samples selected, pricing was based on fees specified within contract Amendment 3, while the March 2016 sample invoice was based on pricing specified within Amendment 4.

IT Audit found F1 hours are being adequately counted/validated by NiSource Performance Support, with backup information provided accurately reflecting information stated within each invoice.

Approval Process

Per the F1 Invoice Validation Procedure provided by NiSource Performance Support, the SharePoint workflow process for management approval is initiated once invoices are reviewed and validated for accuracy. For each F1 invoice, NiSource Performance Support initiates the automated SharePoint workflow and sends the invoice to the appropriate reviewer/approver. IT Audit's review of the SharePoint workflow process found that approvers/reviewers are not leveraging this process to review and approve F1 invoices as many invoices still reside in an "in progress" status post already being paid to F1 via Catalyst.

Exhibit No. 13
Schedule No. 4
Attachment A
Page 217 of 726
Witness: J. E. Covert

REVIEW / RESULTS

Objective 2: F1 Invoice Validation Process Review (cont.)

In addition to the SharePoint workflow, F1 invoices are approved and paid to the vendor within the Catalyst tool. NiSource Performance Support initiates the Catalyst workflow by uploading and coding each invoice directly into Catalyst prior to automated send to the appropriate NiSource owner for approval.

For testing purposes, and based on the automated nature of the Catalyst invoice approval for F1, IT Audit selected a single (1) F1 invoice and found the invoice was properly coded, reviewed, approved, and paid through the Catalyst workflow. In addition, Catalyst's history tracking capability adequately captured the entire start-to-finish process of coding/exception/approval/payment.

In finding dual workflows exist for F1 invoice review and approval (Catalyst - required and SharePoint – optional), **IT Audit recommends (#4) NiSource Performance Support consolidate the dual approval workflows onto Catalyst as the primary F1 (and HMB) approval workflow of record.**

Management Response #4: NiSource Performance Support is currently in the process of consolidating the dual workflow noted by IT Audit into a single workflow in Catalyst. This will eliminate the redundancy caused by maintaining approval workflows in both SharePoint and Catalyst. This will be completed by end of year.

REVIEW / RESULTS

Objective 3: HMB Contractual Agreement and Procedure Review

Review the newly implemented Agreement for IT Services with HMB (as a result of F1 and HMB contractual separation). Additionally, review procedures used by NiSource Performance Support to validate HMB invoices and verify adequate approval/sign-off designation.

Results:

Contractual Review

NiSource and Harris, Mackessy & Brennan, Inc. (HMB, Inc.) entered into an independent contractual agreement for IT services effective March 1, 2016, whereby NiSource had historically received HMB IT services via contractual agreement with F1. The main services provided by HMB to NiSource are DIS Support & Development and Customer Applications Support & Development.

In addition to reviewing the new HMB Master Service Agreement effective March 1, 2016, IT Audit also analyzed the Exhibit 4: Pricing Invoicing and Payment section of the agreement which details pricing for HMB services provided to NiSource. Along with containing agreed upon pricing details for IT services, IT Audit found Exhibit 4 additionally details the definitions of hours and invoicing delivery by HMB, while the HMB Pricing Table provides actual amounts to be paid based on the level of service.

Invoice Categorization/Validation

IT Audit reviewed the various NiSource charges for contracted HMB services and found all charges are submitted through one (1) of the same four (4) invoice types as present within the F1 Master Services Agreement. IT Audit also noted that since the timing of review concluded with March 2016 invoices, there wasn't a sizable enough population of monthly invoices available for validation that were based on the independent HMB Agreement rendered effective on March 1, 2016.

Information Technology (IT) Vendor Management Review

REVIEW / RESULTS

Objective 3: HMB Contractual Agreement and Procedure Review (cont.)

Procedures/Approval Review

IT Audit obtained the HMB Invoice Validation Procedure from NiSource Performance & Support and found it adequately details the steps required to execute the monthly HMB invoice validation process. Additionally, the HMB Invoice Validation Procedure contains the current NiSource invoice reviewer/approver listing as identified Resource Unit Owners are consistent between HMB, F1 and IBM.

IT Audit also attended the inaugural NiSource and HMB invoice review meeting on June 13, 2016 (post contract separation from F1). The purpose of the meeting was to introduce stakeholders from both organizations, review the previous month's invoice (May 2016), and assess forecasting for June 2016. While a detailed agenda was not shared prior to the meeting, invoice details were presented via MyMeeting with information accessible by all key stakeholders within the secure HMB SharePoint site.

REVIEW / RESULTS

Objective 4: Invoice Validation – Stakeholder Assessment

Invoice Approval – Stakeholder Assessment

In addition to assessing the monthly invoice approval processes for IBM, F1, and HMB, IT Audit aligned with NiSource Performance & Support and selected a sample of key IT invoice approval stakeholders for gaining an understanding of their individual role(s) and familiarity of the process.

The following table displays the list of stakeholders interviewed by IT Audit for a perspective on the vendor invoice validation and approval process. IT Audit was able to independently meet with all IT invoice approval stakeholders shown, with perspectives captured during the interview process (both Observations and Opportunities) shown on the proceeding slide:

Key Stakeholders				
❑ VP - IT Transformation	❑ VP - IT Strategy	❑ VP - IT Project Delivery	❑ Director - Compliance & Improvement	❑ Lead IT Analyst
❑ Director - IT Strategy	❑ Director - IT Operations	❑ Manager - IT Applications	❑ Manager - IT Telecom Billing	

REVIEW / RESULTS

Objective 4: Invoice Validation – Stakeholder Assessment (cont.)

Observations
• Though complex, there do not appear to be issues with the new post CPG Separation approach of having three (3) NiSource organizations involved in IT vendor management (IT, Performance Management and Service Provider Governance).
• Communication frequency is adequate between IT invoice reviewers/approvers and the NiSource Process Improvement team.
• Timing challenges exist with the receipt of vendor invoice backup data, with IT having less than a single business day to review and submit to Accounting (*Is currently being addressed via contractual amendment*).
• Shared Services is exploring leveraging Supply Chain's Supply Relationship Model (SRM) for future IT vendor management practices.
• There has been improvement in the IT forecasting process by having invoice variability addressed within the next month's invoice. Previously, IT forecasting and variability analysis had been addressed within the same month.
Opportunities
• The current IT vendor invoice validation/approval process is manual, with potential existing for future automation.
• It would be beneficial if invoice backup data for all three (3), primary IT vendors was stored in a central repository (i.e. SharePoint) and sorted with standardized naming conventions.
• Knowledge transfer around the vendor invoice review/approval process is not formalized within NiSource IT.
• The quality and detail of monthly invoice backup data provided by IBM is inconsistent.
• There needs to be better accountability/discipline/communication on monthly overspend amounts occurring as a result of budget increases taking place post monthly spend forecasting.
• Although Resource Unit (RU) Owners are responsible for IT budgeting (forecast, tracking and approval), they do not have control over actual Resource Unit (RU) usage. As such, an opportunity exists to increase rigor and control to IT vendor accountability for their forecast vs. actual monthly spend.

Information Technology (IT) Vendor Management Review

REPORT DISTRIBUTION

IT PMO Review

NiSource IT Audit

To:

Greg Skinner, VP – IT Project Delivery

Greg Kovacs, Director – IT PMO

Robert Blecke, Manager – IT PMO Methodology & Compliance

From:

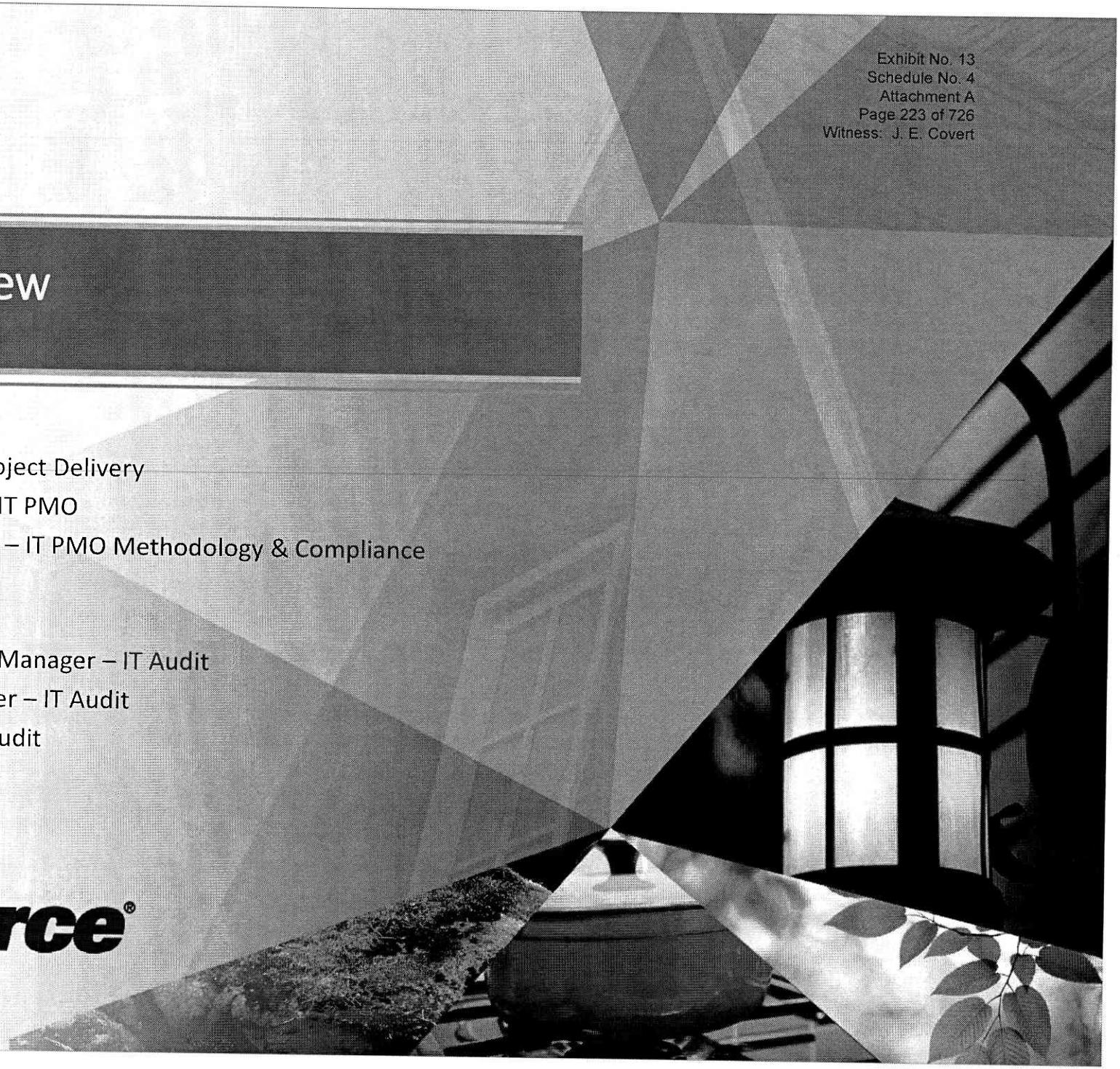
John Manfreda, Project Manager – IT Audit

Greg Wancheck, Manager – IT Audit

Ray Irvin, Director – IT Audit

February 24,2017

NiSource®



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IT PMO Review

EXECUTIVE OVERVIEW

IT PMO Review

Objective

The objective of NiSource IT Audit's IT PMO Review is to provide Management with an overall viewpoint on the adequacy and effectiveness of controls and processes used to validate compliance with the NiSource PMM (Project Management Methodology), along with assessing IT PMO efforts over PMM enhancement delivery. The following objectives comprise the nature of this assessment:

Delivery Based Controls

- Review project delivery controls, as prescribed by the NiSource IT PMM and administered by the NiSource IT PMO, to provide a perspective on any organizational risk inherent in both project and program delivery.

IT PMO Conduct Controls

- Assess IT PMO conduct in helping to achieve both IT PMO enhancements and overall IT project delivery goals.

Background

NiSource has established an IT Project Management Office (PMO) that supports project teams by providing and maintaining both a standardized methodology/compliance support structure for IT Project Delivery and providing support to PMM compliant projects. The NiSource IT PMO maintains two (2) primary areas of responsibility:

Project Management Methodology (PMM)

- Maintains the standardized NiSource IT project methodology (IT PMM)
- Provides compliance support standards for project adherence to the IT PMM

Project Management Office (PMO)

- Provides support to projects leveraging the IT PMM

IT PMO Review

Background (cont.)

As part of review preparation efforts, NiSource IT Audit was informed of a Management initiated IT PMO Assessment that was commenced by PricewaterhouseCoopers (PwC) in August 2016 and concluded in October 2016. By aligning with Management efforts related to the PwC IT PMO Assessment, NiSource IT Audit was able to provide an independent perspective on both current IT PMO activities, coupled with Recommendations resulting from PwC's IT PMO Assessment. This Review covers the period between November 2016 and January 2017 and encompasses fieldwork that was conducted, but not limited to, the following:

- Interviews with NiSource IT project managers and key IT project stakeholders.
- Email and phone conversations with NiSource IT PMO/PMM subject matter experts (SMEs).
- IT PMO/PMM documentation and deliverable reviews.
- Analysis of PwC's IT PMO Assessment and any related improvement initiatives shared with the NiSource IT PMO

Findings

Delivery Based Controls

- All IT PMO projects sampled by IT Audit reported meeting their planned objectives and goals.
- The majority of sampled IT projects reported receiving benefit from IT PMM usage and IT PMO involvement.
- A single project item was identified around IT PMM methodology segmentation for IT projects of various sizes and is currently being actioned as a planned IT PMO improvement initiative for 2017.

IT PMO Conduct Controls

- The IT PMO has planned (with a target to execute) 2017 improvement initiatives that will address Recommendations resulting from the 2016 PwC IT PMO assessment.

IT PMO Review

REVIEW/RESULTS

IT PMO Review

REVIEW / RESULTS

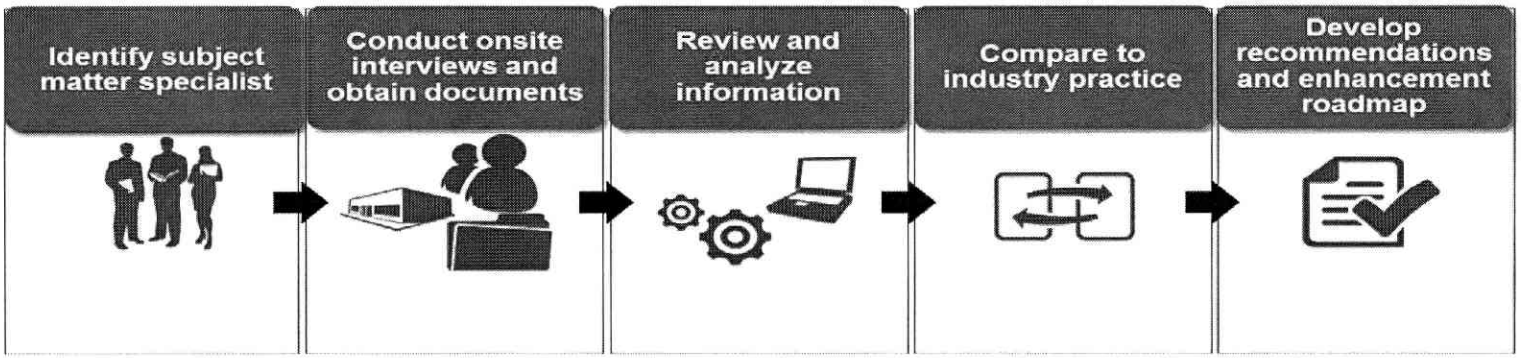
IT PMO Review

REVIEW / RESULTS

IT Project Sampled	IT Project Type	IT Project Completed Date	# of Project Stakeholders Interviewed	IT PMM and PMO Impact on Project Effectiveness (Feedback)	IT PMM and PMO Impact on Project Efficiency (Feedback)	IT Audit Evaluation
TDISC – Phase 1	Regulatory	4/29/2016	2	**Positive**	**Positive**	**No Findings Noted**
CPG Segmentation Phase 3	Technology	6/28/2016	2	**Positive**	**Positive**	**No Findings Noted**
RMI Account Access Mechanism	Regulatory	8/23/2016	3	**Positive**	**Positive**	**No Findings Noted**
Corporate ETL Migration (Audit)	Technology	9/30/2016	4	**Challenge Area**	**Challenge Area**	**IT PMM adherence did not fit the small size of the project. (Scalability of IT PMM)**

IT PMO Review

REVIEW / RESULTS



IT PMO Review

REVIEW / RESULTS

PwC IT PMO Recommendation Category	# of PwC Recommendations	NiSource IT PMO Improvement Initiative	PwC Recommendation Aligned with NiSource IT PMO Initiative
Organization	4	• Reinforce capabilities in project portfolio management	YES
Governance & Compliance	4	• Introduce fit-for-purpose PMO standards	YES*
Project Execution	5	• Establish consistent standards for progress, risk and contingency management.	YES
Project Initiation and Demand Management	4	• Early PMO engagement to increase scope and capacity forecasting accuracy • Develop advanced estimating capabilities • Reinforce capabilities in project portfolio management	YES
QA-Testing and Release Mgmt	3	• Leverage fit-for-purpose handover methodology	YES
Tools and Reporting	3	• Enhance tools and applications used for Project Management	YES
Training and Knowledge Retention	4	• Establish culture of continuous improvement	YES
Vendor Management	3	• Increase consistency in Vendor oversight and performance	YES

***Note**: Fit-for-purpose PMO standards covering PwC's Governance & Compliance Recommendations include leveraging tools, templates and capabilities created from both the NiFiT and Separation program efforts.

REPORT DISTRIBUTION

NI-CPG Technical Transition Review

NiSource IT Audit

To:

Rick Fontaine, VP – Technology Transition

Steve Porter, Business Application Lead Dir – Technology Transition

Stuart Stern, VP - Transition

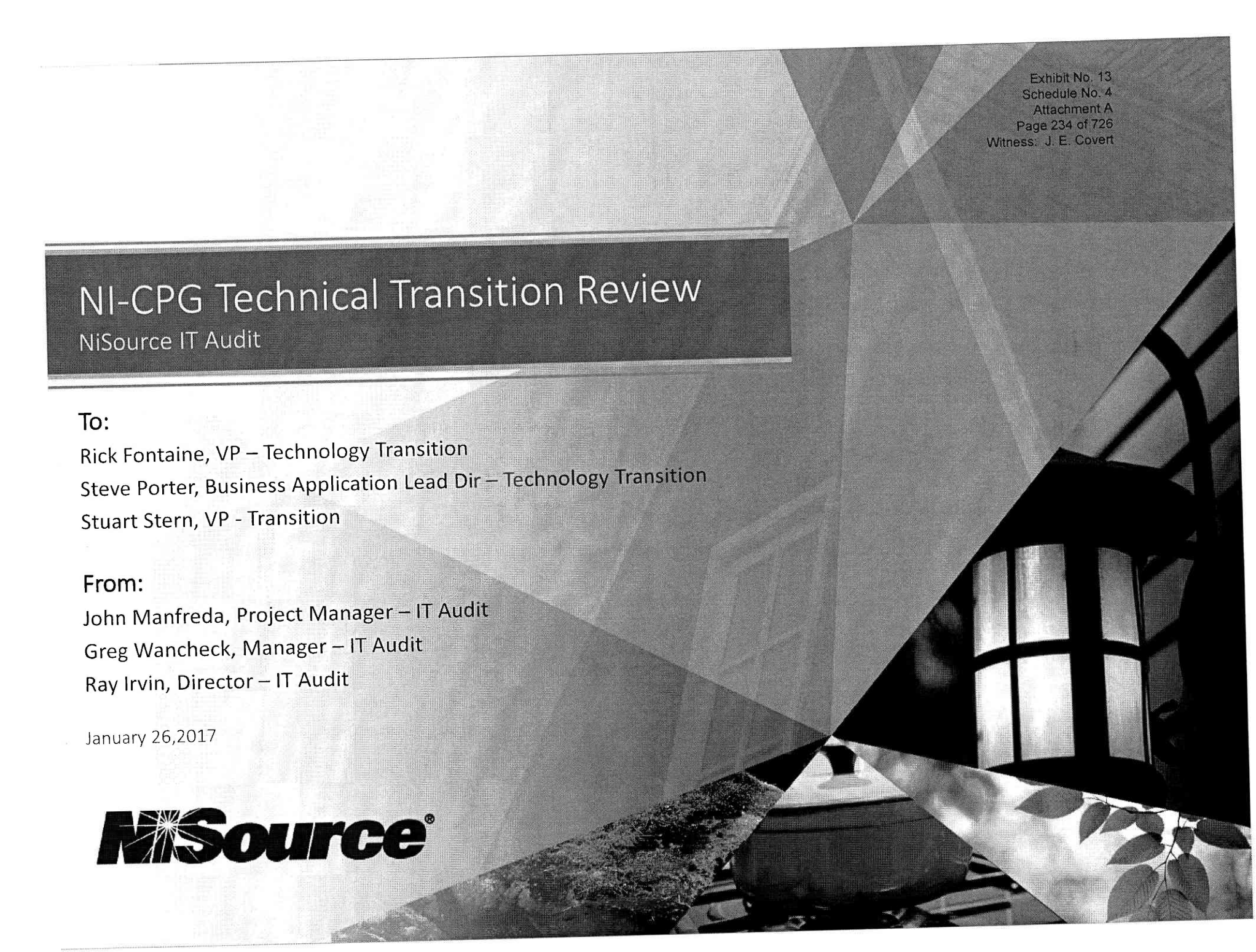
From:

John Manfreda, Project Manager – IT Audit

Greg Wancheck, Manager – IT Audit

Ray Irvin, Director – IT Audit

January 26,2017



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NI-CPG Technical Transition Review

EXECUTIVE OVERVIEW

NI-CPG Technical Transition Review

Objective

The objective of IT Audit's Technical Transition Review is to provide management with an on-going assessment of the policies, procedures and processes used to manage activities associated with both the overall Separation program and individual NI (NiSource) managed Separation projects, focusing on the following areas:

1) Program Closure Controls

- Determine whether plans are in place (and appear reasonable) for the Separation Program Team to obtain customer and sponsor acceptance over Program closure.
- Determine whether documentation resident within the NI-CPG Separation SharePoint repository is under an archive plan.
- Review closure processes for related NI-CPG Separation contracts, including contract schedules, scopes, and quality/cost performance documentation.

2) Solution and Delivery Based Controls

- Assess project quality assurance, including deliverable metric tracking, related to final Separation deliverables and Go-Live readiness.
- Evaluate Network Separation project integration with NiSource IT decommissioning efforts over hardware/software assets.
- Evaluate Network Separation project integration with Transition Service Agreement (TSA) related system security and NiSource IT security revocation efforts over CPG access accounts for NiSource IT systems.

NI-CPG Technical Transition Review

Background

The Technical Transition continues its efforts to execute a successful separation of technical infrastructure and business applications to enable CPG to operate as a stand alone entity. The Separation Program Team is also maintaining its usage of NiSource managed (one time physical separation projects) and CPG managed (setup of on-going CPG IT operations) designations to classify projects when established in the program's planning phase. The Separation Program Team has further segmented NiSource managed Separation projects into three (3) distinct types.

Technology:

- Infrastructure establishment to support a wholly separated CPG entity.

Business Application Transformation:

- New systems implementation for NiSource and/or CPG.

Separation:

- Systems replication between NiSource and CPG, including data and security modifications required for independent entity operation.

IT Audit initiated this final Technical Transition Review to provide an independent perspective on the on-going project activities and close out efforts associated with the NiSource managed Separation program. This Review covers the period between October 2016 and January 2017 and is primarily focused on the Network Separation work stream and overall program close down activities. IT Audit conducted field work including, but not limited to, the following:

- Attendance at regularly scheduled Separation Leadership meetings;
- Topical gatherings with key Separation program/project personnel;
- Needed email and phone conversations with Separation subject matter experts (SMEs);
- Control testing documentation and deliverable reviews at both a program and project level.

NI-CPG Technical Transition Review

Executive Overview

Findings

NI-CPG Technical Transition Review

PROGRAM CLOSURE CONTROLS RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

REVIEW / RESULTS

NI-CPG Technical Transition Review

SOLUTION AND DELIVERY BASED CONTROLS

NI-CPG Technical Transition Review

REVIEW / RESULTS

Testing Attribute	Attribute Assessed	IT Audit Evaluation
Quality Assurance Review	• Test Approach • Requirements Management • Test Plans • Test Scenarios and Scripts • Test Phase Completion	No Exceptions Noted
Testing Team Status	• Status Report published/reviewed weekly	No Exceptions Noted
Testing Team Quality Control	• Test Execution • Defect Management	No Exceptions Noted

NI-CPG Technical Transition Review

REVIEW / RESULTS

#	Go-Live Checkpoint Nomenclature	Proposed Timing	Outcome Metric
1	Deployment Initiation	Beginning of IT PMM's Deployment Phase	• Approval to initiate Deployment Phase activities • Action plan to address key issues and/or gaps
2	Go-Live Commitment	Week of Go-Live	• Approval to Go-Live
3	Steady State Turnover	Final week of HyperCare	• Transition approval from HyperCare to Steady State
4	Transition Services Agreement (TSA) Sunset	Post IT PMM's Turnover Phase	• Integration Team to conduct checkpoint as a final transition confirmation

NI-CPG Technical Transition Review

REVIEW / RESULTS

Solution and Delivery Based Controls - Objective 5

Evaluate Separation program integration with NiSource IT decommissioning efforts related to Separation hardware/software assets.

Results:

IT Audit found that decommissioning efforts associated with the NI-CPG Separation program are following the documented NiSource IT systems decommissioning process. IT Audit noted regular meetings also occurred between the NI-CPG Separation Program team and steady-state personnel to coordinate and track decommissioning efforts. IT Audit additionally determined the NI-CPG Separation program team is maintaining an inventory of components to be decommissioned, with the team prioritizing decommissioning efforts for components where decommission is critical path to the final Network Separation effort. Finally, IT Audit noted the decommission of critical path servers was completed as of December 23, 2016, with non-critical path server decommissioning artifacts being handed off to respective NiSource and CPG personnel for execution.

While reviewing decommissioning integration efforts (and related impacts) to the NiSource IT invoicing process, IT Audit found that the IBM Agreement stipulates that for decommissioning components, IBM has thirty (30) calendar days post receipt of NiSource business approval to remove the component from being a billable item. As part of IT Audit's review, it was found NiSource IT currently does not have a review procedure in place to proactively identify decommission component compliance with this thirty (30) calendar day standard. IT Audit noted that by not having this review in place, a risk is introduced for potential overpayment for IT resources no longer being used by the organization.

Solution and Delivery Based Controls - Objective 5 (Cont)

Recommendation (Decommission Controls): IT Audit recommends NiSource IT management design and implement an internal control to determine the days elapsed from component decommission notification for billing compliance with the thirty (30) calendar day IBM Agreement standard. For potential recovery purposes and where adequate supporting documentation exists, NiSource IT management should also consider reviewing past invoices for the same thirty (30) calendar day compliance criteria.

Management Response: We agree that the NiSource IT review procedure does not "proactively" identify decommission component compliance with the (30) calendar day standard. With the current process NiSource IT Resource Unit (RU) owners validate the inventory for all devices/services every month, and that validation includes the retired devices related to the CPG Separation. Server decommissions are requested through either a RequestIT (RIT) or an Service Request (SR), both of which trigger a Change Request. Based on the Audit Recommendation; As of January 2017, NiSource IT has implemented a process update that requires all Change Requests created for server decommissions to include NiSource IT Operations (and specifically the ISM Change Approver Group: Approver-NI-IT-OPS) as a change approver. RU owners are included in this group and will receive email notifications of the Change Request. The NiSource Change Advisory Board (CAB) will audit these Change Requests for compliance. Note: in some cases, NiSource requires additional time for data retention review before the 30 day period starts but has not found any cases where billing does not match our requirements and expectations. Additionally, NiSource IT will review past invoices for the same thirty (30) calendar day compliance criteria.

NI-CPG Technical Transition Review

REVIEW / RESULTS

REPORT DISTRIBUTION

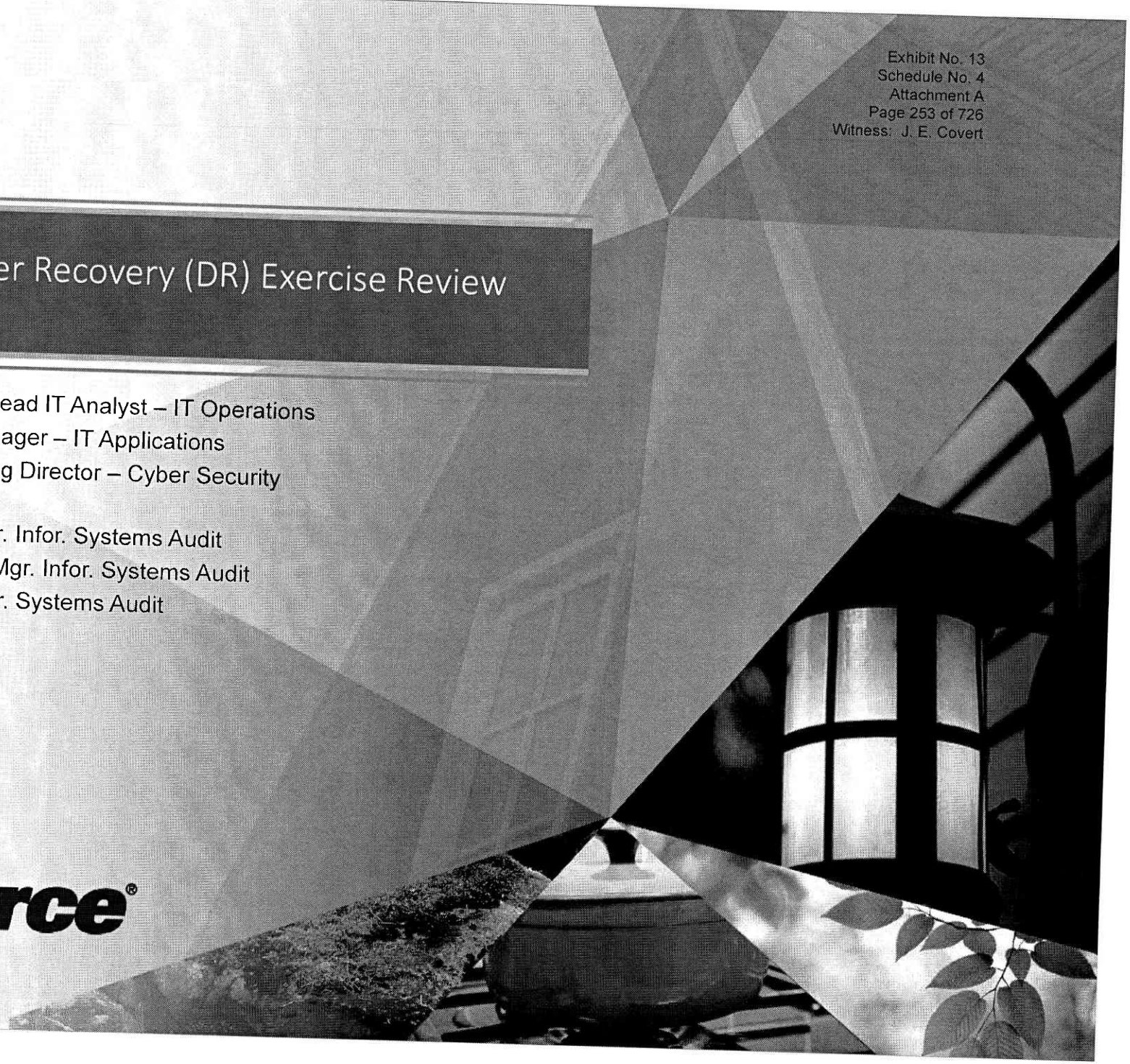
Fall 2016 Disaster Recovery (DR) Exercise Review

NiSource IT Audit

To: Naresh Ramlogan, Lead IT Analyst – IT Operations
Donald Sievert, Manager – IT Applications
Wayne Hilt, Managing Director – Cyber Security

From: Goranka Kasic, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

December 8, 2016



NiSource®

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Fall 2016 Disaster Recovery (DR) Exercise Review

EXECUTIVE OVERVIEW

Fall 2016 Disaster Recovery (DR) Exercise Review

Objective

The purpose of the NiSource Corporate Services, Information Technology (IT) Fall 2016 Disaster Recovery Exercise Review is to verify the capability to recover data center operating hardware, operating systems, and applications and establish network connectivity to the enterprise from the IBM Business Continuity and Recovery Services (BCRS) facility, as specified in the Disaster Recovery Exercise Plan (DREP).

The objective of IT Audit's review was to provide management with an overall opinion on NiSource's ongoing capability to recover critical systems and related business applications. Objective steps were defined as follows:

1) **Disaster Recovery Planning and Execution:** Verify the adequacy, efficiency and effectiveness of the IT Disaster Recovery plan, support personnel and contracted services in restoring critical Mainframe and Distributed systems, related business applications, and network connectivity as required to meet management's expectations in the event of a prolonged IT service disruption.

2) **Disaster Recovery Contractual Coverage Metrics:** Evaluate the BCRS agreement and compare NiSource's covered applications with the status of tested NiSource applications.

3) **Disaster Recovery Scripts:** Evaluate the BCRS agreement to determine requirements and ownership of documentation related to recovery test "scripts" and application recovery procedures.

IT Audit reviewed various planning, status and final reports to gain an understanding of results associated with the Fall 2016 Disaster Recovery Exercise. In addition to interviewing key individuals associated with the NiSource IT Disaster Recovery program, IT Audit reviewed contracts, presentations and other relevant documentation as a means to further understand the BCRS agreement.

Fall 2016 Disaster Recovery (DR) Exercise Review

Background

Post 2016 inclusion within NiSource IT's broader Cybersecurity organizational structure, Disaster Recovery continues to be commissioned to support NiSource by identifying, defining, documenting and testing recovery plans that would be executed in the event of an unforeseen interruption in computing services.

The goal of NiSource's Disaster Recovery Exercise is to validate appropriate procedures are both in place and adequately provide direction for the recovery of critical NiSource computing applications. The agreed to scope, objectives and type of exercise determines the extent to which the Disaster Recovery Exercise simulates the conditions of an actual disaster situation. By executing the documented backup and recovery procedures, the Disaster Recovery Exercise is designed to identify gaps and areas for procedural improvement to ensure NiSource is prepared for a true disaster scenario.

NiSource, via its agreement with IBM, has contracted with BCRS to provide the facilities, infrastructure and computing hardware required in the event of a disaster or prolonged service interruption. Twice a year, NiSource IT Management and IBM plan a joint Exercise to test the viability of recovery plans for a defined set of applications.

The Fall 2016 Disaster Recovery Exercise was conducted between September 19-22, 2016 with an overall goal to recover twenty-six (26) Mainframe applications using replicated data (tapeless) recovery methods and eighteen (18) Distributed applications all residing within the Hammond (IN) Data Center.

During the Fall 2016 Disaster Recovery Exercise, NiSource again recovered the Mainframe environment utilizing BCRS' hot-site rapid recovery procedure while the eighteen (18) applications residing on the Distributed platform in Hammond (IN) were recovered via tape backup.

Fall 2016 Disaster Recovery (DR) Exercise Review

Executive Overview

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Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW RESULTS

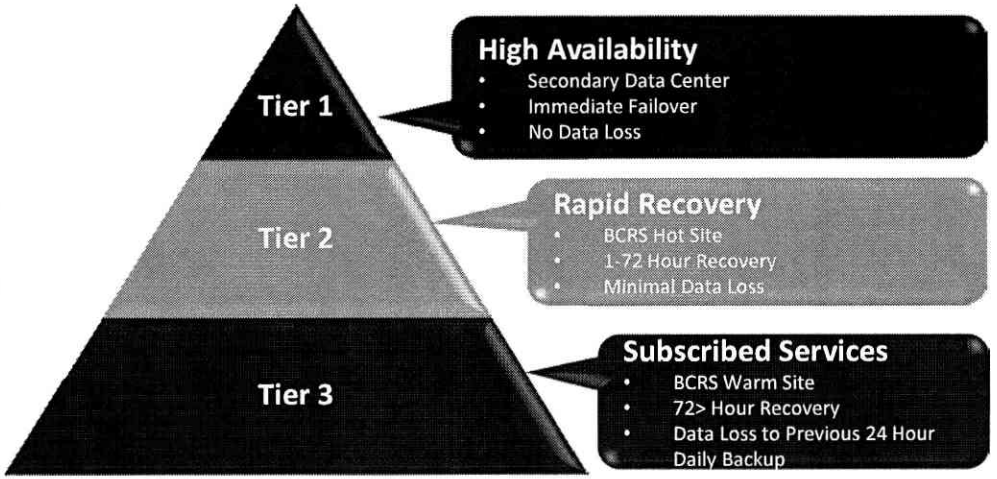
Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Starting in 2015, and continuing for this current exercise, NiSource Disaster Recovery is using a Recovery Tier designation for determining an application's priority order of recovery (POR). This Recovery Tier definition for critical NiSource applications is captured within the NiSource PlanningIT application portfolio and assigns applications into one of the following three (3) primary recovery categories:*



***Note:** A Tier 4 recovery designation exists in PlanningIT that is referred to as "best effort/hosted." This category exists either for NiSource applications not subscribing to Recovery Tiers 1-3 above (where recovery is a best effort action once Tiers 1-3 have been completed) or for NiSource applications externally hosted by a 3rd party outside of the Hammond data center.

Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

SLA Tier Category:	Description of SLA Tier:	Support Level:
Gold Tier	Includes those applications identified as 'Gold Tier' (a "Gold Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the related WAN and LAN network components. Gold Tier Applications must have high availability computing platforms that have full dual site redundancy (i.e., mirrored environments with failover capability, redundant LANs within the data center and redundant data center WAN access).	Gold Tier Systems have support on 24/7 basis.
Silver Tier	Includes those applications identified as 'Silver Tier' (a "Silver Tier Application") and also mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Full application redundancy computing platforms are not required for Silver Tier Applications, but rather they are prioritized as critical business functions that affect the end customer.	Silver Tier Systems have the following support hours: Mon – Fri 6am – 8pm CT; Sat – Sun 8am – 4pm CT.
Bronze Tier	Includes those applications identified as 'Bronze Tier' (a "Bronze Tier Application"), and also the mainframe systems, servers and the storage on which the application resides, along with the network components providing access to the application. Bronze Tier will cover Customer business applications that are internal facing to Customer and support internal operations. Bronze Tier Applications do not require fully redundant application computing environments.	Bronze Tier Systems have the following support hours: Mon – Fri 6:00am – 8:00pm CT.

Recommendation: None.

Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

NiSource Only (206 application systems with DR coverage; 86% tested)

SLA Tier	Tier 1 High Availability Application Systems Failed Over to Secondary Server Room			Tier 2 Rapid Recovery Application System Recovered at IBM RS			Tier 3 Subscribed Services Application System Recovered at IBM RS or DRS			Hosted Application System Hosted & Recovery Off Premises			Total		
	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested
Gold	39	39	100%	0	0		1	1	100%	0	0		40	40	100%
Silver	7	7	100%	64	67	96%	43	45	96%	1	4	25%	115	123	93%
Bronze	1	1	100%	7	7	100%	15	21	71%	0	14	0%	23	43	53%
Total	**47**	**47**	**100%**	**71**	**74**	**96%**	**59**	**67**	**88%**	**1**	**18**	**6%**	**178**	**206**	**86%**

Fall 2016 Disaster Recovery (DR) Exercise Review

REVIEW / RESULTS

Fall 2016 Disaster Recovery (DR) Exercise Review

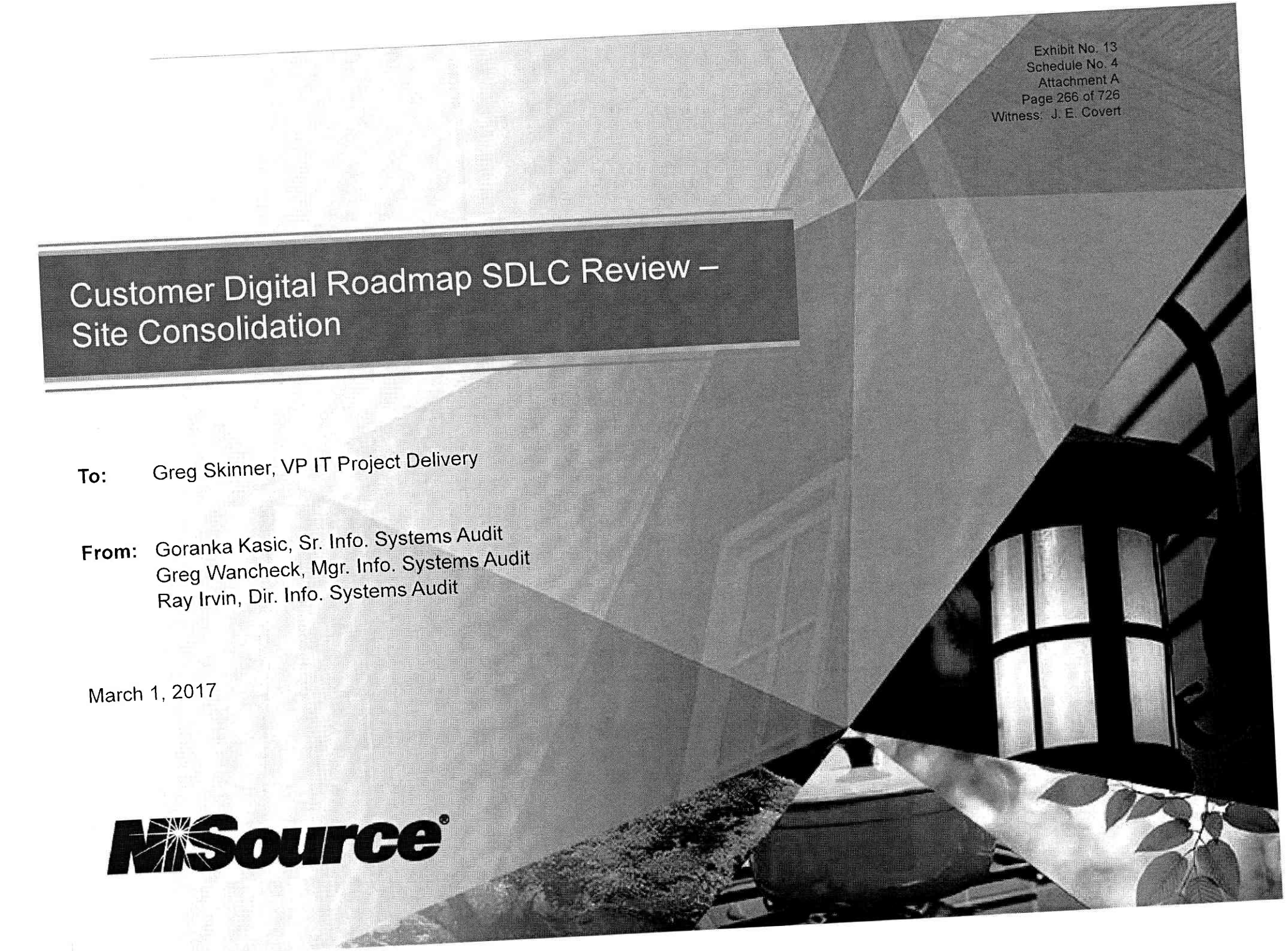
REPORT DISTRIBUTION

Customer Digital Roadmap SDLC Review – Site Consolidation

To: Greg Skinner, VP IT Project Delivery

From: Goranka Kasic, Sr. Info. Systems Audit
Greg Wancheck, Mgr. Info. Systems Audit
Ray Irvin, Dir. Info. Systems Audit

March 1, 2017



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Customer Digital Roadmap SDLC Review – Site Consolidation

EXECUTIVE SUMMARY

Scope

NiSource Information Technology (IT) Audit has completed our review over the initial Site Consolidation deployment for NiSource's Customer Digital Roadmap (CDR) program effort. The purpose of the Customer Digital Roadmap SDLC Review – Site Consolidation was to provide management with an overall opinion on the processes and procedures used to manage the Site Consolidation effort and ensure the project is maintaining both its budget and schedule commitments.

Objectives

The focus of IT Audit's review centered around the implementation of CDR's completed Site Consolidation deployments (referred to as Releases 1.1 and 1.2) with the objective steps defined as follows:

1) **Program Delivery Controls:** Review program delivery controls to provide a perspective on the organizational risk inherent in delivering CDR project releases.

2) **Solution Based Controls:** Review Customer Digital Roadmap solution based controls to provide a perspective on nonconformance risks associated with corporate control requirements.

3) **Project Team Communication:** Review overall CDR Project Team conduct in helping to achieve project objectives.

Approach

Customer Digital Roadmap SDLC Review – Site Consolidation

EXECUTIVE SUMMARY

Background

Customer Digital Roadmap SDLC Review – Site Consolidation

EXECUTIVE SUMMARY

Findings

Customer Digital Roadmap SDLC Review – Site Consolidation

EXECUTIVE SUMMARY

Findings (cont.)

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW RESULTS

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 1: Program Delivery Controls Review

Review program delivery controls to provide a perspective on the organizational risk inherent in delivering project releases.

Results:

Project Management

The primary goal(s) of the Customer Digital Roadmap (CDR) program is to update and consolidate NiSource external websites while also providing existing customers with a simplified logon process and expanded payment options for new business customers. The CDR program initiated in January 2016 and although divided into four (4) work streams at inception, was consolidated into two (2) work streams, Site Consolidation and New Business in October 2016 for ease of management. While the New Business work stream is following standard NiSource IT Project Management Methodology (PMM) delivery guidelines based on a "Waterfall" development framework, the Site Consolidation work stream followed a more adaptive/continuous development approach known as "Agile" that allows for more rapid development/delivery cycles and is commonly leveraged for both website creation and web platform enhancements.

Due to NiSource's inexperience in using Agile for IT solution development/delivery, IT management engaged a 3rd party web design vendor out of Grand Rapids, Michigan (Springthrough Consulting) to assist NiSource in development/delivery execution for the following Site Consolidation releases:

- Release 1.0 (Site re-design for NiSource.com, Careers, Investor Relations, ColumbiaGas.com, and Suppliers)
- Release 2.0 (Site re-design and consolidation for Local Distribution Companies; LDCs)

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 1: Program Delivery Controls Review (cont.)

Post the engagement of Springthrough Consulting into the CDR Release 1 effort, IT Audit noted both the CDR Project Team and NiSource's IT Project Management Office (PMO) experienced challenges in synchronizing NiSource's current IT PMM Waterfall development methodology - which requires planned project milestones be physically produced and formally authorized at fixed solution phase gate intervals - to the more flexible Agile development methodology used by Springthrough - which by definition does not abide by the same rigid solution delivery requirements. This methodology alignment mismatch became a primary factor in project deliverable delays during the fall of 2016 that lead to the CDR Project Team migrating to a three (3) stage sub-release plan for Release 1, and ultimately resulted in termination of Springthrough Consulting as NiSource's web development partner for the CDR effort. As a result of the methodology alignment hardships experienced, IT Audit noted **a Leading Practice Opportunity that should NiSource consider using Agile project development in future initiatives (whether upcoming CDR releases or other project endeavors), the IT PMO should mature the organization's current Project Management Methodology and capabilities to align with the steps, requirements, deliverables and experience necessary for executing project work in an Agile delivery environment.**

Management Response: The development of an Agile project delivery model was identified as an opportunity as part of the PwC Project Management Office (PMO) Assessment conducted in Q4 of 2016. In 2017, the IT PMO will develop an Agile delivery model while building the skills and capabilities to deploy this model into new projects where this delivery model is appropriate.

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 1: Program Delivery Controls Review (cont.)

Although the Release 1 Site Consolidation effort encountered development methodology challenges between Springthrough Consulting and NiSource, IT Audit found the CDR Project Team internally addressed Agile framework deliverable voids by adding resources in Q4 2016 with large-scale NiSource solution test and deployment experience from the CPG Separation Program effort. These Test and Deployment Lead resource additions, coupled with the transition of final Release 1 development and delivery execution over to a proven NiSource IT vendor (HMB), added the needed project structure and deliverable transparency rigor that allowed for implementation achievement for the following two (2) Release 1 sub-releases in December 2016 and mid-January 2017*:

- Release 1.1 (Site re-design for NiSource.com and Careers)
- Release 1.2 (Site re-design for Investor Relations, and ColumbiaGas.com)

Organizational Change Management (OCM)

The role of NiSource's CDR OCM team (sourced by Navigator Management Partners) was to provide both external and internal CDR program communication based on program status, completed milestones, and future engagement steps requiring varying levels of knowledge share. For testing purposes, IT Audit reviewed OCM related materials posted within the CDR Project Team's SharePoint program repository and found those materials being adequately communicated to relevant/required parties. IT Audit also attended the CDR Core Team Lessons Learned session taking place post Release 1.1 and 1.2 implementation and found the session to be appropriately facilitated and documented by CDR OCM. As a result of the Lessons Learned session, the CDR Project Team is planning to implement the resulting recommendations into future CDR releases, whereby IT Audit will stay aligned with Lessons Learned execution efforts as they materialize for both the upcoming Suppliers and LDC project efforts.

Recommendation: None.

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 2: Solution Based Controls Review

Review Customer Digital Roadmap solution based controls to provide a perspective on nonconformance risks associated with corporate control requirements

Results:

NiSource CyberSecurity and IT PMO Alignment

IT Audit noted that although CDR Project Team leadership developed a communication cadence with NiSource CyberSecurity management around cyber risk elements associated with the Release 1: Site Consolidation work stream, that cadence was performed in an ad hoc manner as NiSource's IT PMM does not currently include a detailed deliverable(s) requiring IT project teams to engage cyber subject matter experts (SMEs) prior to solution deployment. For the Site Consolidation effort, NiSource CyberSecurity did align with the CDR Project Team in performance of a successful security risk analysis and vulnerability scanning of the Sitefinity platform supporting Releases 1.1 and 1.2 prior to production deployment in December 2016.

For testing purposes, IT Audit also inspected NiSource's current Architecture Review Board (ARB) deliverable and found that aside from general user authentication, role provisioning and data classification element requirements, there are no steps within the ARB whereby NiSource CyberSecurity management is required to engage and assess/authorize cyber-rated risk exposure present in a project deployment. In the case of web-facing NiSource solutions like CDR, this non-requirement of assessing cyber exposure (and any necessary mitigation actions) could lead to increased deployment and reputation risks caused by not having the appropriate security safeguards designed and implemented prior to go-live.

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 2: Solution Based Controls Review (cont.)

As a result, **IT Audit noted a Recommendation that NiSource CyberSecurity management align with the IT Project Management Office (PMO) to formalize the inclusion of detailed security assessment/safeguard steps within the appropriate phase gates of NiSource's IT Project Management Methodology.**

Management Response: The IT Project Management Office (PMO) will align with the NiSource CyberSecurity management to define a framework that formalizes the inclusion of cyber assessment steps within the appropriate project phase gates. This framework will allow for a combination of tollgates and governance to ensure that the proper level of vulnerability scanning and remediation is being conducted relative to the size, complexity, and risk exposure of the project. This alignment has been identified and is being actioned as part of the planned 2017 NIST Framework implementation.

Customer Digital Roadmap SDLC Review – Site Consolidation

REVIEW / RESULTS

Objective 3: Project Team Communication Review

Review overall CDR Project Team conduct in helping to achieve project objectives

Communication and Alignment

In being aligned with the CDR Project Team and various Program stakeholders since IT Audit engagement back in September 2016, IT Audit noted the CDR Project Team has maintained a consistent constant communication cadence both on a project and overall program level. Given both the complexity of the CDR initiative and multiple levels of communication (both internal and external), IT Audit found the CDR Project Team conducted numerous information touchpoints that included, but were not limited to, weekly Core Team meetings, weekly Stakeholder Reference Group (SRG) meetings, and frequent Executive Steering Committee updates to provide visibility into project milestones and program health.

IT Audit will continue to stay engaged with the CDR Program Team throughout 2017 as roles and responsibilities get further refined to support the Suppliers/LDC and New Business releases.

Stakeholder Assessment

In addition to observing the communication cadence and attending post-implementation Lessons Learned gatherings for the CDR Site Consolidation effort, IT Audit also aligned with key CDR program stakeholders to gain an understanding of their individual role(s) and viewpoints on Site Consolidation deliverable acceptance practices for items that were viewed as successful, along with areas that could be improved on for future CDR program releases or in the broader delivery of large IT programs.

REVIEW / RESULTS

Objective 3: Project Team Communication Review (cont.)

IT Audit was able to independently engage all CDR Core Team members, with interview feedback displayed as follows:

Feedback
• As the CDR Site Consolidation effort progressed, the CDR Project Team communications cadence at the SRG and Executive Sponsor level (both up to and down form) created challenges in providing a consistent/accurate view of project status.
• There appeared to be "too many cooks in the kitchen" as the Site Consolidation effort ended up being steered by multiple leads without firm definition and understanding into project/program roles and responsibilities.
• It would have been beneficial to have increased Supply Chain guidance on the CDR vendor selection process, including the addition of an external consultant/Content Management System expert. As part of vendor selection, Supply Chain should also support having internal NiSource IT subject matter experts (and/or external consultants) interview vendor reference clients to vet the vendors technical capabilities.
• The CDR project plan used for Site Consolidation was constructed at a high level and could have benefited from more detailed action steps for achieving project goals. Since detailed steps weren't fully captured in the CDR project plan, program management trended in being more "reactionary" then truly "planned" as the project progressed. As such, it could/would have been helpful to slow down the Site Consolidation project pace at times to and better understand challenges and realign on detailed execution elements of the project plan.
• Not having a firm agreement and vendor alignment on the project management approach/methodology (Agile, Waterfall, and Rapid Release) resulted in clarity challenges on how CDR Site Consolidation testing should be planned, executed and documented. In addition, the current NiSource IT PMO testing tool (HP ALM) needs to be assessed/reviewed for supporting Agile development efforts.
• CDR OCM did a solid job in coordinating CDR Project Team communications. While encountering challenges, the CDR Project Team also consisted of quality resources who worked extremely well together to address (and remediate) issues prior to Site Consolidation work stream deployment.
• The initial CDR vendor (Springthrough Consulting) provided no training plan other than steps related to physical system "how to do's". As such, there is a future opportunity to have better pre-alignment via the Statement of Work on what an adequate training deliverable should look like and require in terms of resources and tasks.

REVIEW / RESULTS

Objective 3: Project Team Communication Review (cont.)

Feedback (cont.)
• Adding both a Test Lead and Deployment Lead to the CDR Site Consolidation project significantly improved the communication and task completion process prior to go-live. The CDR Project Team (and another other large-scale NiSource IT project) needs to ensure the continued involvement of seasoned Test and Deployment resources for future deployments.
• For future CDR and large NiSource IT project initiatives, there should be a designated room for User Acceptance Testing (UAT) testing with pre-defined UAT resources identified and scheduled.
• The IT PMO consultant on-boarding process should be reviewed (with potential modification) to provide a increased knowledge transfer into expected roles and responsibilities when aligned with major IT PMO efforts.
• The CDR Project Team did a very thorough job of identifying and documenting Lessons Learned from the Site Consolidation effort. The Team now needs to follow-through to action these Lessons Learned for the Supplier and LDC CDR releases.
• One Improvement for Hypercare would be having a singular repository for tracking issue/defect status that is visible to all relevant parties.
• To ensure the same roadblocks from Site Consolidation are not encountered with future CDR releases, there needs to be increased alignment and rigor within the Requirements gathering phase (both in detail capture and traceability).
• Too much reliance was placed on the vendor's delivery model without a proper understanding of how to roll this into the overall program delivery model.

Recommendation: None.

NOTE: IT management provided comments to the feedback above that in leveraging the lessons learned from the initial CDR Site Consolidation release, CDR Project leadership has taken action to structure the team around the remaining program components (Suppliers Release, LDC Consolidation and the New Business Payments) while clarifying the roles, responsibilities and the planned execution model. Additionally, while the vendor selection process was followed for the initial release, additional IT subject matter experts will be leveraged for any new vendor engagements to appropriately validate technical capabilities as part of the selection process. IT Audit will continue to stay aligned with CDR Project leadership around the above mentioned in our future 2017 reviews.

Customer Digital Roadmap SDLC Review – Site Consolidation

REPORT DISTRIBUTION

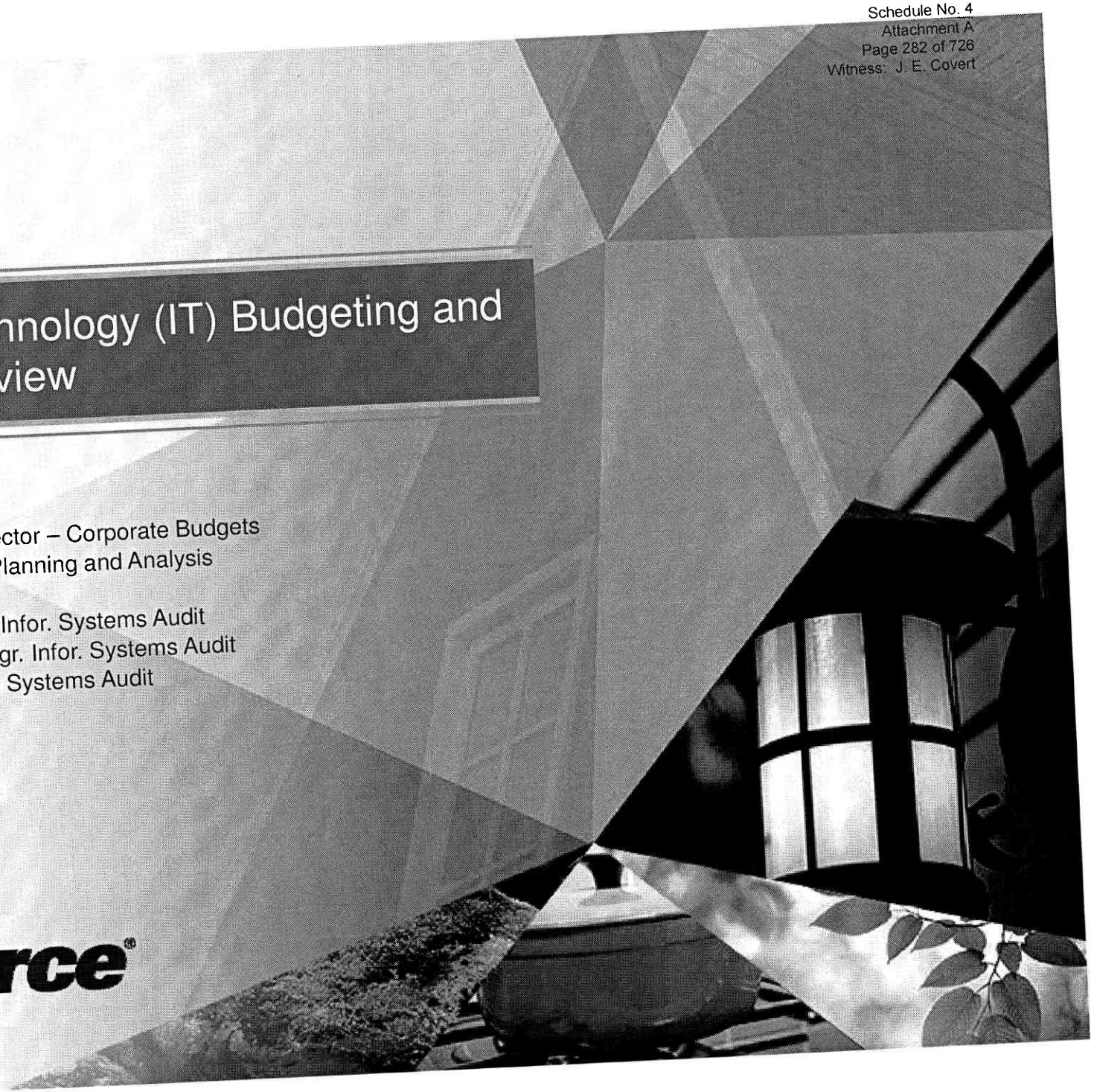
Information Technology (IT) Budgeting and Forecasting Review

To: Ronald Harper, Director – Corporate Budgets
Pete Disser, VP – Planning and Analysis

From: Goranka Kasic, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

February 3, 2017

NiSource®



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Information Technology (IT) Budgeting and Forecasting Review

EXECUTIVE SUMMARY

Scope

NiSource Information Technology (IT) Audit has completed our assessment of the NiSource IT Budgeting and Forecasting process. The purpose of the NiSource Information Technology (IT) Budgeting and Forecasting Review is to provide management with an overall opinion on the effectiveness of governance around current IT budgeting and forecasting processes / procedures used by NiSource management.

Objectives

The focus of IT Audit's assessment centered around the process used by NiSource Corporate Services Budgeting to both budget and forecast financial expenditures for consumption by NiSource Information Technology (IT). Objective steps were defined as follows:

1) **IT Budgeting and Forecasting Methodology**: Review whether the methodology employed by NiSource Corporate Services Budgeting outlines the financial direction for NiSource IT and aligns with expectations for both short and long term goal achievement.

2) **IT Budgeting and Forecasting Communication**: Review whether the methodology employed by NiSource Corporate Services Budgeting addresses the communication cadence required for timely delivery of financial expenditures.

Approach

IT Audit aligned with NiSource Corporate Services Budgeting and reviewed evidence on the processes, procedures, and controls used to manage the IT Forecast and Budget program. The methods used by NiSource IT Audit included interviews of key process owners, documentation review, and observations of processes used to manage IT budgeting and forecasting.

Information Technology (IT) Budgeting and Forecasting Review

EXECUTIVE SUMMARY

Background

While part of the NiSource Corporate Services Budgeting organization, IT Budgeting and Forecasting supports the NiSource IT organization by providing current financial expenditure views as well as the forecasting of future expenditures. This IT expenditures alignment then assists NiSource IT in their planning of short and long term financial goals and objectives.

In order to provide budgeting and forecasting information to the NiSource IT organization, IT Budgeting and Forecasting is dependent on receipt of validated / approved data provided by both NiSource IT and Performance Support/Service Provider Governance. In addition to information dependency, IT Budgeting and Forecasting is also required to engage in frequent communication with key NiSource IT management stakeholders to accurately capture forecasted future spend for the broader NiSource IT organization.

NiSource IT Forecasting and Budgeting maintains the following areas of responsibility based on their support role to the IT function:

- Keep the Lights On (KLO) – Includes the services and products needed to run the day-to-day IT operations of NiSource (i.e. IT storage, servers, routers, etc.)
- IT Projects – Includes a project spend view as managed by NiSource IT
- Retained Expenses – Primarily includes expenses related to Direct Labor.

The validation and approval of vendor information is completed by the Performance Support/Service Provider Governance team, however IT Budgeting and Forecasting performs an accuracy check on the information included in their financial reports prior to distribution.

Information Technology (IT) Budgeting and Forecasting Review

EXECUTIVE SUMMARY

Findings

IT Budgeting and Forecasting Methodology

- The current IT Budgeting and Forecasting process workflow is embedded within a IT Planning Process Flow Visio diagram depicting the broader NiSource Planning and Budgeting function.
- IT Budgeting and Forecasting reports monthly spend (short term) based on data obtained from the PeopleSoft general ledger, and subsequently provides NiSource IT with a view of actual expenditures for usage in future monthly forecasting.
- IT Budgeting and Forecasting interacts monthly with NiSource IT management to capture present estimates and in addition, aligns with NiSource IT management three (3) times a year to create long term plans based on actual monthly/annual spend.
- Both the monthly and long term budgeting processes, though captured within the IT Planning Process Flow Visio and documented within calendar timetables, are not defined at a process workflow level. Given the 2017 IT financial planning process and resource changes being anticipated as a result of NiSource's Financial Insight program**, IT Audit noted a Leading Practice Opportunity for IT Budgeting and Forecasting to update future monthly and long term IT financial planning procedures at a detailed process workflow view.**
- IT Budgeting and Forecasting is managing and communicating with key NiSource IT stakeholders.

IT Budgeting and Forecasting Communication

- IT Budgeting and Forecasting is effectively leveraging dual documentation repositories for work performance and collaboration (CCBR and SharePoint).
- IT Budgeting and Forecasting is performing report distribution of plan data to both Performance Transformation and IT leadership on a timely basis.

Information Technology (IT) Budgeting and Forecasting Review

REVIEW RESULTS

Information Technology (IT) Budgeting and Forecasting Review

REVIEW / RESULTS

Objective 1: IT Budgeting and Forecasting Methodology Review

Review whether the methodology employed by NiSource Corporate Services Budgeting outlines the financial direction for NiSource IT and aligns with expectations for both short and long term goal achievement.

Results:

Process Documentation

IT Audit's review of the NiSource IT Budgeting and Forecasting process found the current workflow is embedded within a IT Planning Process Flow Visio diagram that depicts the broader NiSource Planning and Budgeting function. This larger Planning and Budgeting process analysis was created in November 2016 by Hackett Group, an external process improvement consulting firm, to serve as a commencement point for required 2017 changes / enhancements taking place as part of NiSource's Financial Insight program. IT Audit noted that while the Visio encompasses all areas of Planning and Budgeting, NiSource IT Forecasting and Budgeting only maintains the following areas of responsibility based on their support role to the NiSource IT function:

- Keep the Lights On (KLO) – Includes the services and products needed to run the day-to-day IT operations of NiSource (i.e. IT storage, servers, routers, etc.)
- IT Projects – Includes a project spend view as managed by NiSource IT,
- Retained Expenses – Primarily includes expenses related to Direct Labor

IT Audit found that although the IT Planning Process Flow diagram was completed as recently as November 2016, it is soon to be outdated as it includes the Longview application being decommissioned in spring 2017 as part of Phase 1 of the Financial Insight program. IT Audit also noted IT Budgeting and Forecasting's process will further change in 2017 due to additional modifications being brought on by Phase 2 of the Financial Insight program.

Information Technology (IT) Budgeting and Forecasting Review

REVIEW / RESULTS

Objective 1: IT Budgeting and Forecasting Methodology Review (cont.)

Monthly Process Review

IT Audit found that upon receipt of validated vendor related information from NiSource Performance Support/Service Provider Governance, IT Budgeting and Forecasting maps the information to portray actuals vs. forecast and distributes the files and related reports to key NiSource IT management stakeholders. NiSource IT management then leverages the information provided to gain both visibility and understanding into actual spend on a month-by-month basis. This data also provides background material for NiSource IT management on how best to plan and forecast future expenditures.

Long Term Process Review

IT Audit found long term NiSource IT financial planning has historically been performed three (3) times per with the following long term plans distributed to IT management in 2016:

- 0 & 12 - Plan includes zero (0) months of actuals and twelve (12) months of planned expenditures,
- 7 & 5 – Plan encompasses seven (7) months of actuals and five (5) months of planned expenditures,
- 3 & 9 - Plan includes three (3) months of actuals and nine (9) months of planned expenditures

IT Audit noted it takes between two and three months to create a long term IT Financial Plan, with IT Budgeting and Forecasting actively engaging key NiSource IT management stakeholders/leadership throughout the process to review and evaluate details depicted within each plan.

Given the 2017 IT financial planning process and resource changes being anticipated as a result of the Financial Insight program, IT Audit noted a **Leading Practice Opportunity for IT Budgeting and Forecasting to update future monthly and long term IT financial planning procedures at a detailed process workflow view.**

Recommendation(s): None.

Information Technology (IT) Budgeting and Forecasting Review

REVIEW / RESULTS

Objective 2: IT Budgeting and Forecasting Communication Review

Review whether the methodology employed by NiSource Corporate Services Budgeting adequately addresses the communications required for timely delivery of financial expenditures.

Results:

Expenditures

IT Audit noted that as of Q4 2016, IT Budgeting and Forecasting is using two (2) software repositories to manage team responsibilities – SharePoint and CCBR. Post a walkthrough of both SharePoint and CCBR, IT Audit found SharePoint is being leveraged to store IT project reports, actual vs. forecast tracking data at a detailed level, and automated IT management workflow approval as part of the budget / forecast process. CCBR on the other hand, is used to manage ongoing IT project spend within the NiSource IT PMO (Project Management Office). IT projects are added to CCBR post business case and budget approval, where the software is then able to provide a comparison view of actual vs. planned spend on an individual project-by-project basis.

Due to limitations with CCBR's innate reporting capability and inability to provide a view of hourly IT project spend, IT Budgeting and Forecasting has historically needed to employ Cognos to help fill the necessary reporting void(s). Given these limitations, CCBR has been targeted for 2017 decommission and replacement by a similar tool as part of Financial Insight (Phase 2).

Finally, IT Audit noted IT Budgeting and Forecasting is providing NiSource IT actual spend data on both a monthly and yearly basis for forecasting future expenditures.

Information Technology (IT) Budgeting and Forecasting Review

REVIEW / RESULTS

Objective 2: IT Budgeting and Forecasting Communication Review (cont.)

NiSource IT Management Communication

IT Audit gained an understanding of the existing communication process between NiSource IT Budgeting and Forecasting and both NiSource IT stakeholders and leadership through various briefings with members of the IT Budgeting and Forecasting team. With the role of IT Budgeting and Forecasting being a support organization responsible for providing an accurate depiction of current IT spend and future IT expenditure forecasting, communication with NiSource IT management is crucial and often occurs on a daily basis (depending on the specific activity). For testing purposes, IT Budgeting and Forecasting provided IT Audit with the 3-month Rolling FP&A Performance Transformation Calendar displaying the meeting cadence it has constructed with NiSource IT stakeholders. In addition, IT Audit also had an opportunity to walkthrough the automated monthly reporting approval process within SharePoint, as well as obtain a sample of monthly IT financial reports shared with NiSource IT leadership.

NiSource IT Management Reporting

Along with obtaining a one month sample of reports created and distributed by IT Budgeting and Forecasting, IT Audit noted IT Budgeting and Forecasting does not maintain responsibility for validating/approving invoice related data. Rather the expectation and understanding is that the process is handled between NiSource Performance Support/Service Provider Governance and Resource Unit (RU) owners working directly with NiSource's primary IT vendors. From an ownership perspective, IT Budgeting and Forecasting is responsible for extracting actual expenditures from the PeopleSoft general ledger and providing NiSource IT that expenditure data on both a monthly and annual basis for future forecasting.

Information Technology (IT) Budgeting and Forecasting Review

REVIEW / RESULTS

Objective 2: IT Budgeting and Forecasting Communication Review (cont.)

Given the current structure of NiSource IT, IT Budgeting and Forecasting is creating unique reports portraying different levels of information and providing these reports to both NiSource IT and Performance Transformation Leadership (and additionally to Executive Leadership when/where required) on a monthly basis. While there are no formal approvals required for any of these monthly reports generated by the IT Budgeting and Forecasting, an accuracy check is still completed by the Director of Corporate Budgets prior to report distribution.

IT Audit's review of IT Budgeting and Forecasting reporting activities found they are being managed and distributed to both Performance Transformation and NiSource IT leadership on a monthly basis.

Recommendation(s): None.

Information Technology (IT) Budgeting and Forecasting Review

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NiSource IT Application Rationalization Design Review

NiSource IT Audit

To: Aaron Borchers, VP – IT Business Integration
Kevin Johannsen, VP – IT Strategy
Rodney Boswell, Director - IT Business Improvement

From: Brett Welsch, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

February 7, 2017



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NiSource IT Application Rationalization Design Review

EXECUTIVE OVERVIEW

NiSource IT Application Rationalization Design Review

Objective

NiSource Information Technology (IT) Audit conducted an assessment on the initialization of the NiSource IT Application Rationalization program. IT Audit reviewed the various components that document NiSource IT management's development of an application rationalization strategy, including program planning, processes and procedures, and other components.

The objective of the NiSource IT Application Rationalization Design Review is to provide an overall assessment of the adequacy and effectiveness of how NiSource IT management intends to develop the IT application rationalization strategy as it relates to meeting the needs of the NiSource business. Objective steps were defined as follows:

1) **Application Rationalization Approach:** Verify whether the application rationalization program and strategy is supportive and actively complements NiSource's business and IT goals and objectives. Review the process for selecting the outside vendor to assist NiSource in creating the application rationalization program. Verify whether the vendor selection process meets the objectives of the application rationalization program.

2) **Application Rationalization Assessment Criteria:** Verify whether an objective framework has been created for assessing applications and deciding whether to retire, consolidate, replace/modernize, or leave as is.

3) **Application Rationalization Risk Awareness:** Verify whether the application rationalization program will be taken through the NiSource IT Governance process to ensure risks are being appropriately considered.

IT Audit aligned with members of NiSource IT management to interview key process owners and review supporting documentation regarding the establishment of an application rationalization strategy for NiSource.

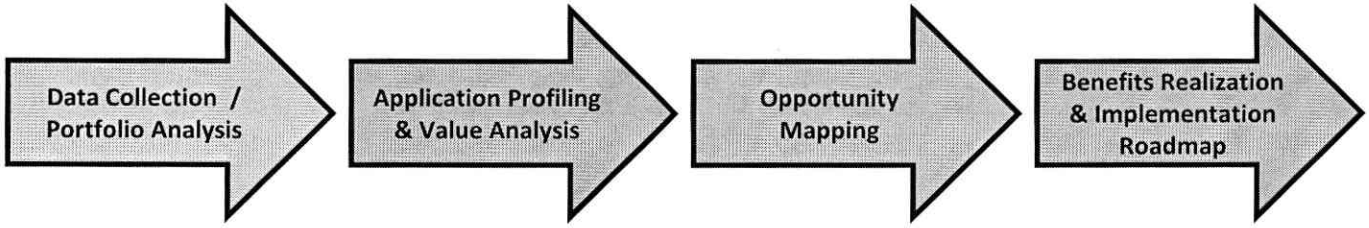
NiSource IT Application Rationalization Design Review

Background

Application rationalization is the reshuffling of an application portfolio, which as part of a broader strategic plan, implements changes to applications to achieve a business outcome.

Application rationalization often occurs after an IT organization accumulates an unwieldy collection of applications through shifting business strategies or mergers and acquisitions. The cleanup can include replacing, retiring, modernizing or consolidating applications. A primary goal of any application rationalization effort is to eliminate redundant and non-value-adding applications, freeing up future budget for new, business-critical work.

Developing an application rationalization strategy generally includes four (4) phases:



Out of this application rationalization exercise, an organization can develop a rationalization approach that includes immediate, near-term, and longer term actions.

NiSource IT began the process of developing an application rationalization program in late 2016 with assistance from an external consulting vendor (Sogeti). The approach developed from this Sogeti program will be used to evaluate the potential for rationalization amongst the approximately 700 applications resident in PlanningIT, the NiSource IT application portfolio management tool. As part of IT Audit's review, we evaluated the processes and procedures being used to develop the application rationalization strategy and ensure any organizational risk(s) the strategy introduces are being shared appropriately with leadership.

NiSource IT Application Rationalization Design Review

Executive Overview

Findings

1. Identify opportunities to simplify, reduce, consolidate, and update the application portfolio
2. Define target application portfolio, roadmap to achieve and benefit opportunities

NiSource IT Application Rationalization Design Review

Executive Overview

Findings (cont.)

- The Application Rationalization project team is targeting a Q1 NiSource Executive Governance Committee meeting to present the analysis produced by Sogeti, along with the project team's go-forward recommendations.

NiSource IT Application Rationalization Design Review

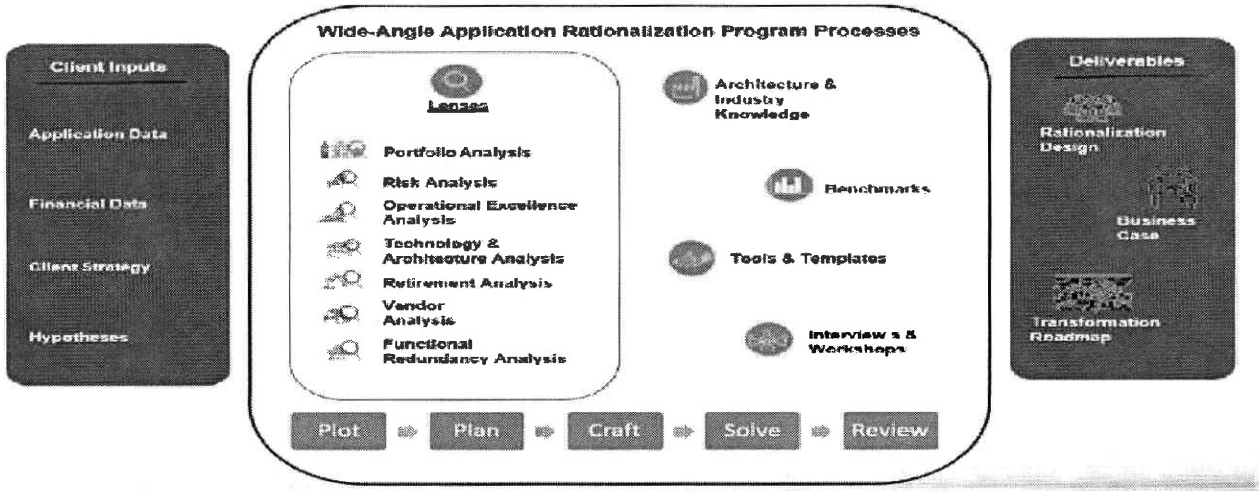
REVIEW RESULTS

NiSource IT Application Rationalization Design Review

REVIEW / RESULTS

NiSource IT Application Rationalization Design Review

REVIEW / RESULTS

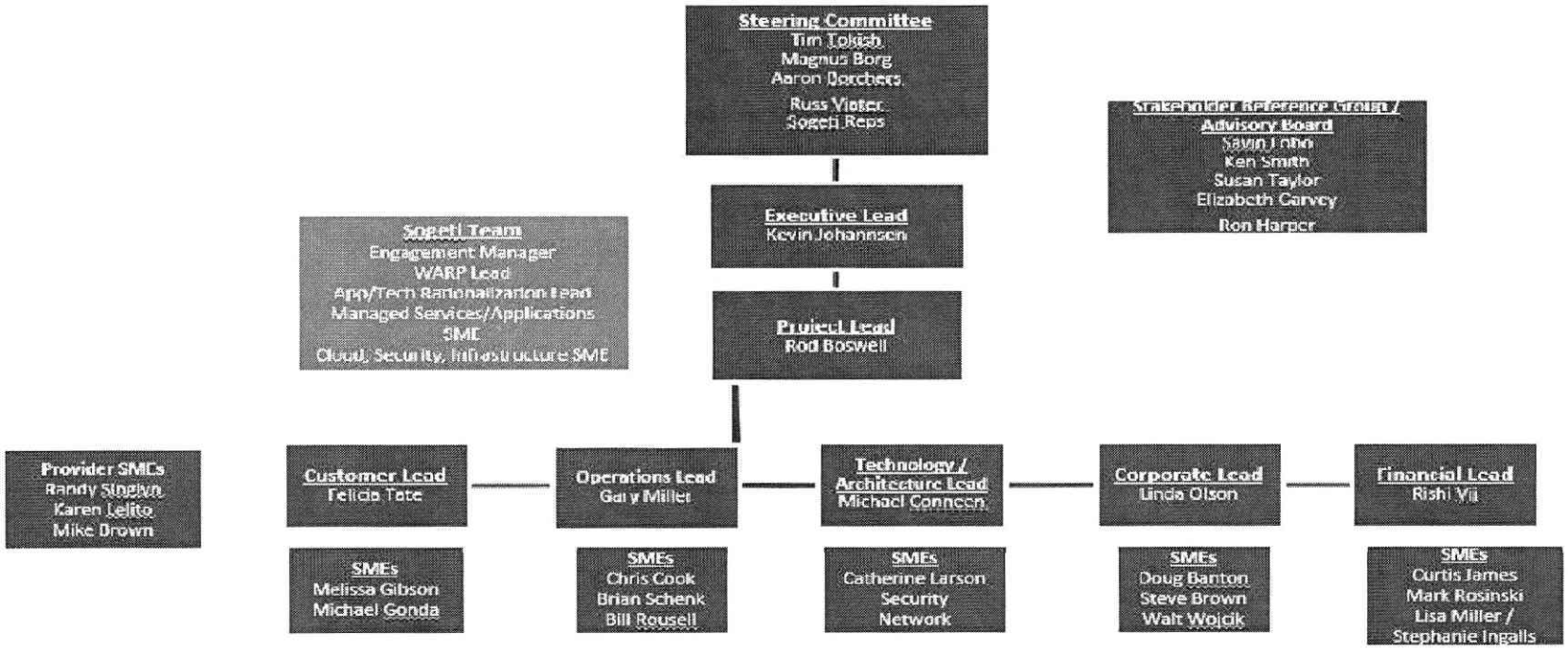


NiSource IT Application Rationalization Design Review

REVIEW / RESULTS

NiSource IT Application Rationalization Design Review

REVIEW / RESULTS



NiSource IT Application Rationalization Design Review

REVIEW / RESULTS

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REVIEW / RESULTS

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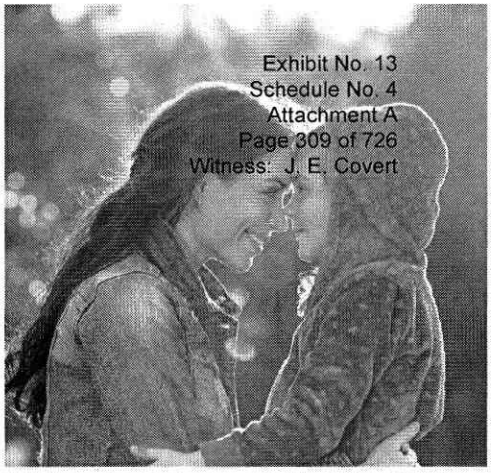
2017 Customer Digital Roadmap – New Business and Suppliers Review

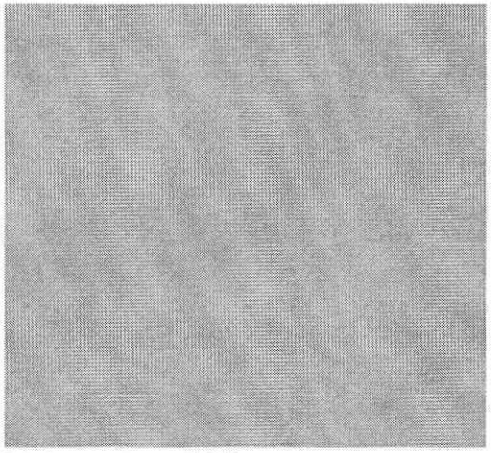
To: Holly Haynes, Sr. Project Manager – IT Project Delivery
Sharon Young, Director, Proj Plng & Execution – IT Project Delivery
Greg Skinner, VP – IT Project Delivery

From: Goranka Kasic, Senior Auditor - Infor. Systems Audit
Greg Wancheck, Director - Infor. Systems Audit

October 5, 2017

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NiSource IT Audit conducted its 2017 Customer Digital Roadmap (CDR) - New Business and Suppliers Review with the objective of providing management with an overall opinion on the processes and procedures used to manage the program according to NiSource Project Management Methodology (PMM) controls and ensure the program is maintaining both its budget and schedule commitments.

IT Audit's assessment noted the following:

- **A MODERATE risk finding that while active collaboration and dialogue exists between CDR Program Team members and relevant business stakeholders within both Customer Experience and Corporate Communications, the governance model for ongoing, steady-state NiSource website administration has not been jointly defined and agreed to between the above parties.**
  - IT Audit recommends NiSource IT management (in coordination with CDR Program Team leadership) align with executive stakeholders from Customer Experience and Corporate Communications to define, and accept, a CDR site administration governance model which supports accountability and transparency for steady-state efforts.

- **A LOW risk finding where the current setup of the CDR SharePoint document management repository appears to have multiple links and document sources without a enforced site governance/change management structure.**
  - IT Audit recommends NiSource IT Project Delivery and the CDR Program Team revisit the current setup of the CDR program's SharePoint document management repository and align on managing on-going CDR program/project documentation in a streamlined and consistent manner.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank the NiSource Project Management Office (PMO), IT Project Delivery and Customer Digital Roadmap (CDR) Program Team management for their cooperation and time in supporting this effort.

The primary goal of the Customer Digital Roadmap (CDR) program is to both enhance and consolidate NiSource's external websites while also providing existing customers with a simplified logon process and expanded payment options for new business customers.

Post completing initial site consolidation efforts for the NiSource.com and Careers.com pages in December 2016, the CDR Program Team recently deployed updates to both NiSource's "New Business Expanded Payment Options" and "Columbia Suppliers" pages in August 2017. The primary objective of the Expanded Payment Options for New Business pages update is to eliminate manual new business customer payment processes while allowing for online credit/debt card or bank transfer payments. In addition to Expanded Payment Options, the Columbia Suppliers pages were also consolidated into a single platform to streamline processes for Columbia gas suppliers and allow for these processes to be viewed/executed on a variety of devices (i.e. PCs, tablets, smartphones, etc.)

IT Audit's ongoing alignment with CDR will continue throughout the remainder of 2017, and into 2018, as the CDR Program Team works on completing the website re-design for NiSource's Local Distribution Companies (LDCs) pages - as shown within the attached Appendix B: Program Timeline.

Audit Scope and Approach

IT Audit aligned with the NiSource Project Management Office (PMO), IT Project Delivery, and Customer Digital Roadmap (CDR) Program Team to review evidence on the processes, procedures, and controls used to manage the program through deployments of both the Suppliers and New Business work streams. The methods used by NiSource IT Audit may include (but are not limited to) interviews of key process owners, documentation review, observation and independent testing of appropriate, standards, metrics, and system configurations.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

Objective 1: Review Customer Digital Roadmap program delivery controls to provide a perspective on the organizational risk inherent in delivering project releases.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Assess whether Project Scope, Cost and Schedule controls are in place and compliant with both NiSource's IT Project Management Methodology (PMM) and Customer Digital Roadmap program policy.	**Finding #1 (see slide 6).**
2	Assess whether Project Quality controls over solution conformance to requirements are in place and are operating as designed.	**No Findings Noted.**
3	Assess whether Organizational Change Management (OCM) project controls over communications and stakeholder alignment are in place and are operating as designed.	**No Findings Noted.**
4	Review Project user acceptance, approval activities and deployment plans (where applicable) to provide reasonable assurance NiSource corporate policy and/or program standards are being followed.	**No Findings Noted.**

Audit Scope and Approach (cont.)

Objective 2: Review Customer Digital Roadmap solution based controls to provide a perspective on nonconformance risks associated with corporate control requirements:		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Assess whether interface and data conversion controls were considered and included in the solution development, test and deployment processes.	**No Findings Noted.**
2	Assess the alignment between the Customer Digital Roadmap Program Team and NiSource IT Security Operations. Determine whether communication streams exist between the teams to address any inherent cyber risk associated with Phase 2 implementation.	**No Findings Noted.**
Objective 3: Review overall Project Team conduct in helping to achieve project objectives:		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Monitor on-going integration, alignment and communications between the Customer Digital Roadmap Program Team, IT Project Management Office (PMO), Executive Stakeholders, vendors, and Organizational Change Management teams to provide feedback on the approach and execution process during the review period.	**Finding #2 (see slides 7 & 8).**
2	Review delivered functional solution acceptance activities (user acceptance) for the Customer Digital Roadmap project focusing on overall Organizational Change Management effectiveness. Compare Customer Digital Roadmap Program Team organizational change acceptance feedback with independent stakeholder interview results to inform the management of relevant improvement opportunities.	**No Findings Noted.**
3	Review the Lessons Learned activities performed as part of Customer Digital Roadmap Phase 1 (Site Consolidation) implementation closure, and how the items identified are being addressed within Phase 2 of implementation.	**No Findings Noted.**

Objective #1, Procedure #1: Assess whether Project Scope, Cost and Schedule controls are in place and compliant with both NiSource's IT Project Management Methodology (PMM) and Customer Digital Roadmap program policy.	**Risk Rating**
Finding #1: The current setup of the CDR SharePoint document management repository appears to have multiple links and document sources without a enforced site governance/change management structure.	**Low**
Process Owner(s): Holly Haynes (Sr. Project Manager – IT Project Delivery)	

Observation

Criteria: To better manage project documentation and provide easier accessibility, the CDR Program Team's SharePoint collaboration site should be governed in an aligned and consistent manner across all CDR projects.

Condition: The current CDR Program Team SharePoint document repository contains multiple links, various site versions and appears to be operating in a non-standardized folder/document management structure for required deliverables.

Risk/Impact: Should the CDR Program Team SharePoint repository continue to be managed in its current state, future CDR LDC sites upgrade phases risk being impacted by inconsistent deliverable management which could manifest itself in transparency loss and time inefficiencies spent locating relevant program/project documentation.

Recommendation

IT Audit noted a Low risk finding/leading practice opportunity for NiSource IT Project Delivery and the CDR Program Team to revisit the current setup of the CDR program's SharePoint document management repository and align on managing on-going CDR program/project documentation in a streamlined and consistent manner.

Management Response

The IT Project Delivery and CDR Program Team revisited the setup of the CDR program's SharePoint document management repository to provide more structure in the site organization for ease in finding content. An emphasis has been placed on restructuring the site to support the remaining Web Site / Customer Portal Consolidation work stream that is currently being developed. Program leadership will continue to monitor and enforce this structure going forward.

Objective #3, Procedure #1: Monitor on-going integration, alignment and communications between the Customer Digital Roadmap Program Team, IT Project Management Office (PMO), Executive Stakeholders, Vendors, and Organizational Change Management teams to provide feedback on the approach and execution process during the review period.	**Risk Rating**
Finding #2: While active collaboration and dialogue exists between CDR Program Team members and relevant business stakeholders within both Customer Experience and Corporate Communications, the governance model for steady-state NiSource website administration has not been jointly defined and agreed to between the above parties.	**Moderate**
Process Owner(s): Holly Haynes (Sr. Project Manager – IT Project Delivery) **VP Responsible:** Greg Skinner (VP – IT Project Delivery) **Executive Council Member(s) Responsible:** Mark Kempic (Chief Transformation Officer)	**Target Remediation Date:** **Q1 2018**

Observation

Criteria: Having a formalized CDR site administration governance model would ensure updates to NiSource websites are not negatively impacting customer facing platforms.

Condition: NiSource's customer facing websites are currently managed and administered by both IT and business personnel without a clearly defined site governance model which addresses site administration roles and responsibilities.

Risk/Impact: Not having an agreed to steady-state NiSource website administration governance model creates a risk of site changes (both planned and inadvertent) being made by relevant parties without a clear understanding of impact to the production environment.

Recommendation

IT Audit recommends NiSource IT management (in coordination with CDR Program Team leadership) align with executive stakeholders from Customer Experience and Corporate Communications to define, and accept, a site administration governance model which supports accountability and transparency for steady-state efforts.

Management Response

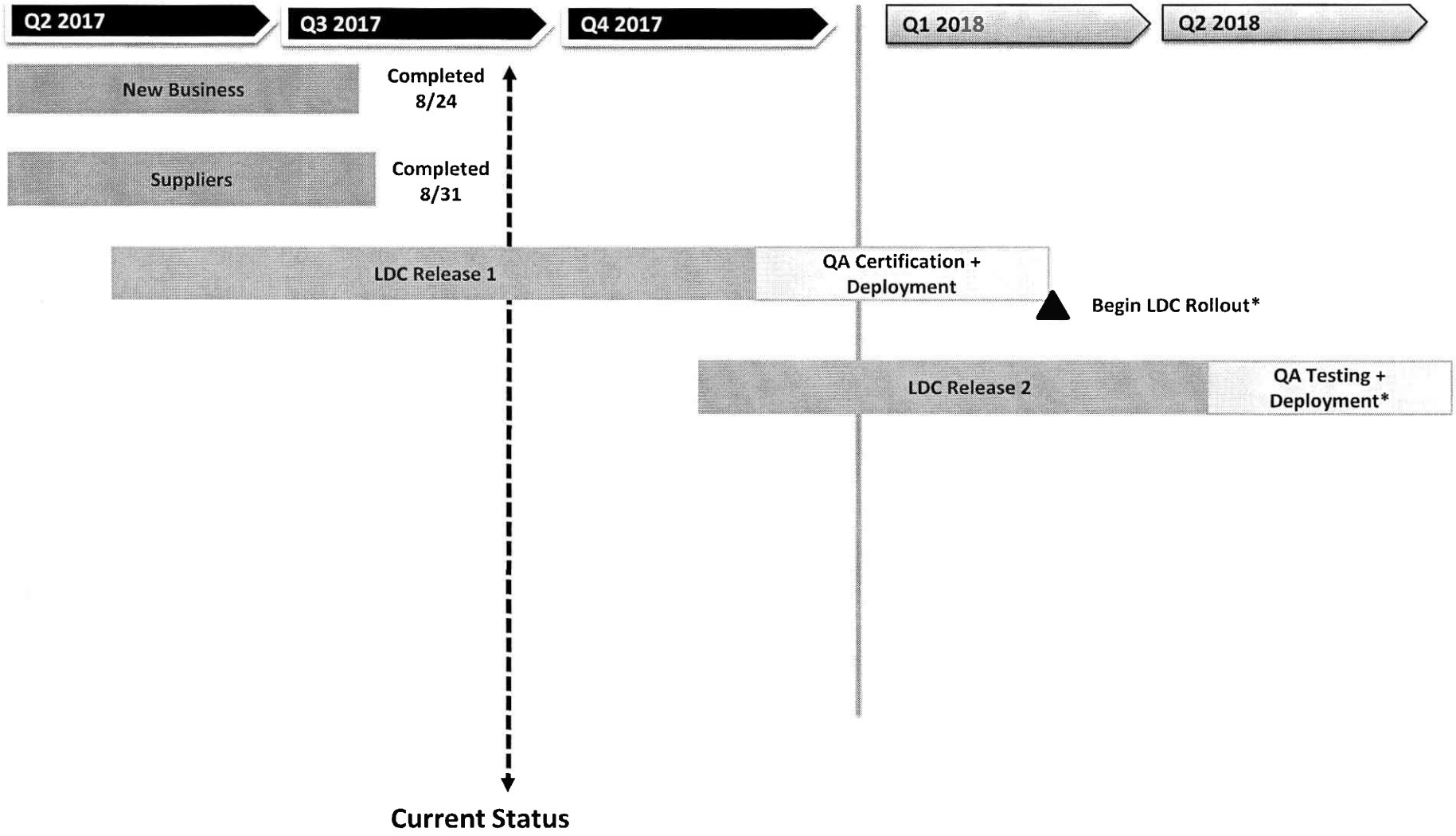
IT Management and the CDR Program Team have engaged to develop a recommendation for the web site administration governance model required within the Sitefinity content management platform which is utilized to manage the deployment of common code and web content to the customer facing web-sites. As the CDR program delivers the next phase of work aimed at consolidating multiple sites and customer portal functions onto a common platform, the need for stronger governance, access control and associated change control procedures has been called out in order to ensure the stability of the Sitefinity platform and quality of the customer-facing web/portal components placed into the production environment.

Initial efforts have been completed to evaluate and remediate existing end user access to the Sitefinity platform, while Sitefinity access for the new websites will be addressed through pre-defined roles aligned with specific access and permissions primarily around content authoring, review and publication. The team is also working to confirm a final recommendation for the Site Administration role which allows for access into the platform (configurations and structural page modifications) that could result in production issues if not managed in accordance with standard production change control procedures. These alignment actions are targeted for completion and implementation as part of LDC website deployments scheduled for Q1 2018.

Report Distribution

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*



*Timeline provided by CDR Project Team

2017 Spring Disaster Recovery (DR) Exercise Review

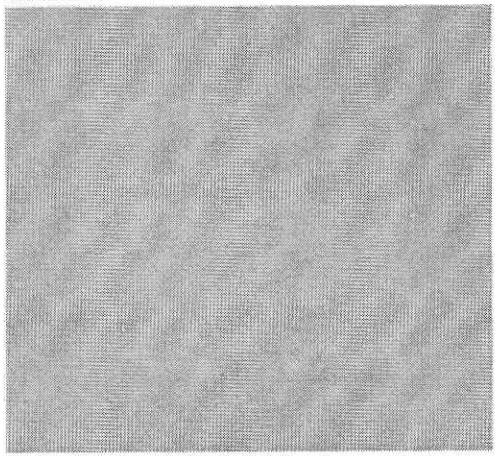
June 20, 2017

To: Naresh Ramlogan, Lead IT Analyst – IT Operations
Don Sievert, Manager – IT Applications
Wayne Hilt, Managing Director – Cyber Security

From: Brett Welsch, Sr. Infor. Systems Audit
Greg Wancheck, Dir. Infor. Systems Audit

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Executive Summary

The purpose of the NiSource Corporate Services, Information Technology (IT) Spring 2017 Disaster Recovery Exercise Audit is to verify the capability to recover data center operating hardware, operating systems, and applications and establish network connectivity to the enterprise from the IBM Business Continuity and Recovery Services (BCRS) recovery facility, as specified in the Disaster Recovery Exercise Plan (DREP). IT Audit reviewed various planning, status and final reports created in order to gain an understanding of results associated with the Spring 2017 Disaster Recovery Exercise. In addition to interviewing key individuals associated with the NiSource IT Disaster Recovery program, IT Audit reviewed contracts, presentations and other relevant documentation as a means to further understand the BCRS agreement.

IT Audit's review found:

- **NiSource IT and IBM continue to have a comprehensive and well-executed approach to conducting disaster recovery exercises at BCRS.**
    - All eighteen (18) mainframe applications tested were successfully recovered during the exercise.
    - Twenty-one (21) of twenty-two (22) distributed applications tested were successfully recovered during the exercise.

- **IT Audit independently validated the Disaster Recovery Executive Summary totals presented within the Spring 2017 Disaster Recovery Executive Summary.**
    - See Appendix B for metrics on BCRS covered application testing.

- **Application recovery plans (ARP's) and recovery test scripts were appropriately documented and executed as part of the Spring 2017 Disaster Recovery Exercise.**
    - Prior to the exercise, application recovery plans existed and were located in the proper storage repository for thirty-nine (39) of the forty (40) applications tested.
    - Thirty-nine (39) of the forty (40) applications had business testers available and were able to be tested during the exercise.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank the NiSource DR management team for their cooperation and time in support of this effort.

Executive Summary

➢ Background

The NiSource IT Disaster Recovery program is commissioned to support NiSource by identifying, defining, documenting and testing recovery plans that would be executed in the event of an unforeseen interruption in computing services.

The goal of NiSource's Disaster Recovery Exercise is to validate appropriate procedures are in place and adequately provide direction for the recovery of critical NiSource computing applications. The agreed to scope, objectives and type of exercise determines the extent to which the Disaster Recovery Exercise simulates the conditions of an actual disaster situation. By verifying the documented backup and recovery procedures, the Disaster Recovery Exercise is designed to identify gaps and areas for procedural improvement to ensure the company is prepared for a true disaster scenario.

NiSource, via its agreement with IBM, has contracted with BCRS to provide the facilities, infrastructure and computing hardware required in the event of a disaster or prolonged service interruption. Twice a year, NiSource IT Management and IBM plan a joint Exercise to test the viability of recovery plans for a defined set of applications.

The Spring 2017 Disaster Recovery Exercise was conducted between March 27 – 30, 2017 with an overall goal to recover eighteen (18) Mainframe applications and twenty-two (22) Distributed applications all residing within the Hammond Data Center.

During the Spring 2017 Disaster Recovery Exercise, NiSource again recovered the Mainframe environment utilizing BCRS' hot-site rapid recovery procedure while the twenty-two (22) applications residing on the Distributed platform in Hammond (IN) were recovered via tape backup.

Unlike prior exercises, **the list of applications scheduled to be tested were not shared with business application owners or IT support teams ahead of time (prior to 07:20 a.m. EST on March 27, 2017, the day of the exercise)**. This allowed NiSource IT to respond as if it were a real disaster scenario whereby application and business owners, as well as IBM, would not have had the opportunity to knowingly make preparations to restore specific applications ahead of time.

Audit Scope and Approach

For testing purposes, IT Audit verified NiSource IT's capability to recover data center operating hardware, operating systems, and applications and establish network connectivity to the enterprise from the IBM BCRS recovery facility, as specified in the Disaster Recovery Exercise Plan (DREP).

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

Objective 1: Verify the adequacy, efficiency, and effectiveness of the IT disaster recovery plan, support personnel, and contracted services in restoring critical mainframe and distributed systems and related business applications, and network connectivity as required to meet management's expectations in the event of a prolonged IT service disruption.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Review management's objectives and expectations regarding the continuity of business operations to ensure they are clearly defined and communicated. Additionally, review user responsibilities to ensure responsibilities meet Management's objectives.	**No Findings Noted.**
2	Ensure adequate human resources are assigned to the exercise team.	**No Findings Noted.**
3	Verify timely and appropriate exercise status reports are completed and distributed reflecting issues or problems to be resolved in a quick and efficient manner to minimize plan disruption.	**No Findings Noted.**
4	Review recovery issues, irregularities and other anomalies encountered during the exercise for adequate documentation to perform a post recovery review and adjust recovery plans as needed.	**No Findings Noted.***
5	Ensure Recovery Time Objectives (RTOs) and Business Criticality are defined for each business application and ensure RTOs are met during the Disaster Recovery Exercise. Assess the process commenced by IT Disaster Recovery Management to evaluate (and update where needed) RTO's through alignment with application owners.	**No Findings Noted.**

*** A single (1) distributed application 'Fuel Management System' was not able to be recovered during the exercise timeframe due to backup tape management issues. IT Audit noted NiSource IT DR management has developed plans to resolve the root causes of the restoration challenges prior to the next scheduled DR exercise in fall 2017.**

Audit Scope and Approach (cont.)

Objective 2: Evaluate the Business Continuity and Recovery Services (BCRS) agreement and compare covered applications with the status of NiSource tested applications.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Ascertain the full population of applications covered in the BCRS contract to determine what applications are available to test.	**No Findings Noted.**
2	Of those applications determined above, identify applications that have been tested and when was the last test conducted.	**No Findings Noted.**
3	Of those applications determined in step 1 above, identify applications which have never been tested along with rational as to why.	**No Findings Noted.**

Audit Scope and Approach (cont.)

Objective 3: Evaluate the BCRS agreement to determine requirements and ownership of documents related to recovery test "scripts" and application recovery procedures		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Determine if recovery test "scripts" and application recovery procedures are documented and readily available from PlanningIT.	**No Findings Noted.****
2	Verify the recovery test "scripts" and application recovery procedures are up-to-date and re-evaluated on a periodic basis.	**No Findings Noted.**
3	Identify who is responsible for ownership and maintenance of the recovery test "scripts" and application recovery procedures.	**No Findings Noted.*****
4	Verify a uniform approach to populating PlanningIT with recovery documentation for critical applications having a parent/child relationship.	**No Findings Noted.**
5	Ensure key PlanningIT application fields for both recovery planning and executive reporting are utilizing change management procedures to minimize unauthorized updates.	**No Findings Noted.**

**** IT Audit noted that prior to exercise commencement, an Application Recovery Plan for Environmental Electronic Reports (CEM Web Reports) did not exist either physically or within NiSource's PlanningIT repository. The application was still able to be restored successfully without any major delays with NiSource IT DR management working to ensure proper documentation is developed by the business owner who supports the application.**

***** Primary business testers for the Mapps/Mapps+ application were not available during the exercise with no backups testers identified to provide backfill support. NiSource IT DR management is aligning with the owner for this application – and all others under DR coverage with BCRS - to ensure both primary and secondary testers are identified and readily available during upcoming exercises.**

Report Distribution

CC:

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Deloitte & Touche

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

NiSource - 229 application systems with DR coverage; 87% tested

SLA Tier	Tier 1 High Availability Application Systems Failed Over to Secondary Server Room			Tier 2 Rapid Recovery Application System Recovered at IBM RS			Tier 3 Subscribed Services Application System Recovered at IBM RS or DRS			Hosted Application System Hosted & Recovery Off Premises			Total		
	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested	Previously Tested	Total	% Tested
Gold	45	46	98%	0	0	0%	1	1	100%	0	0	0%	46	47	98%
Silver	8	8	100%	65	67	97%	42	44	95%	2	8	25%	117	127	92%
Bronze	2	2	100%	7	7	100%	27	31	87%	0	15	0%	36	55	65%
Total	**55**	**56**	**98%**	**72**	**74**	**97%**	**70**	**76**	**92%**	**2**	**23**	**9%**	**199**	**229**	**87%**

*** SLA Tier**

Gold = high availability, full dual site redundancy, 24 hours per day X 7 days per week support

Silver = critical business function, full redundant platforms not required, Monday-Friday 6am-8pm CT and Sat-Sun 8am-4pm CT support

Bronze = business applications internal facing to business partners and support internal operation, full redundant platforms not required, Monday-Friday 6am-8pm CT

Notes

Application system candidates for testing at exercises are net retirements, retained for history, & added applications per new projects

Vendor data center hosting application systems generally are certifed (SSAE 16) with data backup protection and redundant data centers geographically separated

IBM RS is IBM Resiliency Servides in Sterling Forest, NY

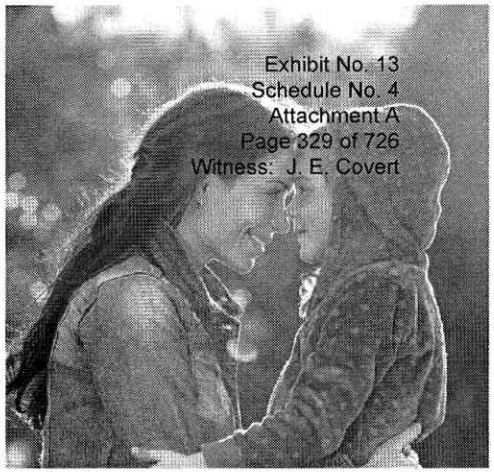
NiSource IT PMO Enhancements Review

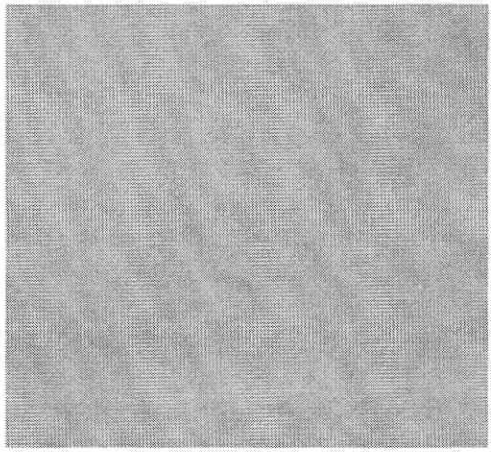
To: Greg Kovacs, Director – PMO
Robert Blecke, Manager – PMO Governance and Compliance

From: John Manfreda, Project Manager - Infor. Systems Audit
Greg Wancheck, Director - Infor. Systems Audit

July 5, 2017

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NiSource IT Audit conducted our 2017 IT PMO Enhancements Review as a follow-up to an external IT Project Management Office (PMO) assessment that was performed by PricewaterhouseCoopers (PwC) in October 2016. IT Audit's review provided an independent evaluation on whether NiSource IT PMO management is aligning both their current (2017) and future state improvement initiatives with recommendations presented by PwC in their 2016 PMO Assessment, In addition, IT Audit also provided a perspective on alignment effort progress to date and shared advisory commentary for in-flight PMO enhancement activities by leveraging standards from Project Management Institute (PMI), a leading industry organization specializing in PMO best practices.

IT Audit's review found the following:

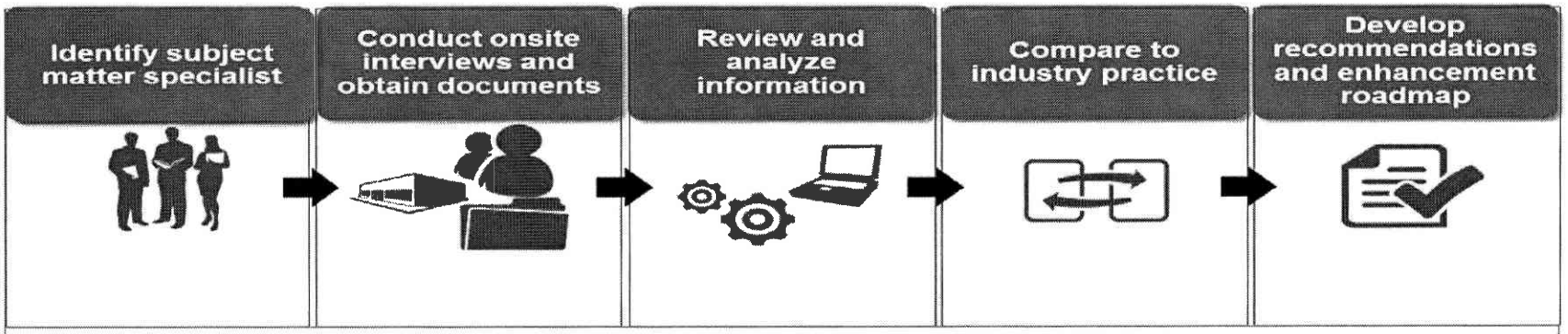
- **2017 NiSource IT PMO improvement initiatives are aligned with improvement recommendations from PwC's 2016 PwC PMO Assessment.**
  - IT Audit found NiSource IT PMO improvement recommendations have either been actioned, or were in the planning stages of being actioned, to fulfill improvement recommendations identified by PwC.

- **PwC's PMO process enhancement opportunities and maturity definitions align with generally accepted standards derived from Project Management Institute (PMI).**
  - IT Audit noted a single (1) Low level finding for NiSource IT PMO management to develop an IT Project Delivery maturity assessment process and adoptable framework to facilitate future continuous PMO improvement efforts.

- **Independent commentary gathered from IT Audit interviews of both NiSource IT PMO personal and IT PMO stakeholders interviews indicate positive trending on in-flight NiSource IT PMO improvement initiatives**

This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank IT PMO management for their cooperation and time in support of this effort.

Beginning in September 2016, NiSource engaged PricewaterhouseCoopers (PwC) to perform a current state evaluation of the IT PMO and develop a roadmap to implement recommended enhancements. The PwC approach, as depicted below, included identifying subject matter specialists, conducting interviews, reviewing/analyzing information, developing enhancement recommendations, and creation of a roadmap for implementing those recommendations.



Focus Areas:

- **Financial Management:** Budgeting, estimating, forecasting, and contingency management
- **Optimization:** Fit-for-Purpose, organization, project segmentation, standards, vendor management, Requirements, testing, release management, and training materials

From this PwC assessment, a series of improvement recommendations were documented and presented to NiSource IT PMO management. The intention of these improvement items were to increase the maturity level of the underlying PMO and supporting processes. Refer to Appendix B for the maturity observations resulting from the 2016 PwC PMO Assessment.

For testing purposes, IT Audit reviewed both improvement recommendations identified within PwC's 2016 PMO Assessment and subsequent 2017 improvement initiatives undertaken by the NiSource IT PMO to address the PwC recommendations. IT Audit also conducted a detailed review of PwC's assessment activity to determine general alignment of the PwC assessment process with PMI processes and best practice areas. Finally, IT Audit conducted a series of interviews with a selected sample of in-process 2017 PMO project stakeholders and NiSource IT PMO personnel impacted by the improvement initiatives to gauge both in-flight effectiveness of the IT PMO and gain a general perspective on improvement efforts from those engaged and impacted.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

Objective 1: Review optimizations efforts administered by the NiSource IT PMO, including alignment with PwC's IT PMO Review recommendations, to provide a perspective on their impact on inherent risks in both project and program delivery		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Assess the status of improvement/optimization efforts during the review period.	**No Findings Noted.***

*** Of the 30 actionable recommendations present in PwC's 2016 PMO Assessment, IT Audit noted all 30 (100%) had been included within either in-flight 2017 NiSource IT PMO enhancement activities or improvement initiatives with supporting documentation furnished to support the effort. As of June 2017, 27 of the 30 PwC recommendations were also found to be either 'completed' or 'in progress', with the remaining 3 items residing in a 'planned' stage for forthcoming execution.**

Audit Scope and Approach (cont.)

Objective 2: Review IT PMO optimization effort alignment with defined maturity goals for impacted process areas. Compare to PMI process maturity stages to provide direct feedback on efforts and insights into approaches to gauging future maturity post implementation of optimization initiatives.		
#	Procedures	**Findings Summary (Refer to Appendix A for rating scale)**
1	Leveraging the PwC process area maturity level criteria as a guideline, provide feedback on in-process IT PMO optimizations efforts as well as potential approaches for future process maturity opportunities.	**Finding #1 (see slide 6).**
Objective 3: Review IT PMO project best practice usage and observe team delivery capability post the inclusion of personnel from the CPG Separation Program.		
#	Procedures	**Findings Summary (Refer to Appendix A for rating scale)**
1	Review IT PMO practices on currently in-process projects managed by the IT Project delivery team using PMI Project Management standards as a guide. Provide real-time feedback to project teams of adherence or gap areas.	**No Findings Noted.**
2	Observe team delivery capability and provide direct feedback in key areas, including any overall improvement comments for consideration.	**No Findings Noted.**

Finding #1

Objective #2, Procedure #1: Leveraging the PwC process area maturity level criteria as a guideline, provide feedback on in-process IT PMO optimizations efforts as well as potential approaches for future process maturity opportunities.	**Risk Rating**
Finding #1: The NiSource IT PMO currently does not have a defined PMO maturity assessment process and adopted framework to leverage for determining IT Project Delivery maturity.	**Low**

Process Owner(s) Responsible: NiSource IT Project Delivery

- Bob Blecke (Manager – PMO Governance & Compliance)
- Greg Kovacs (Director – PMO)

Observation

Criteria: In order to facilitate continuous improvement activities over IT Project Delivery, use of a maturity assessment process and adopted framework is a known best practice.

Condition: Although IT Audit observed the NiSource IT PMO engaged PwC to conduct an independent maturity assessment, NiSource IT PMO management does not currently have a defined maturity assessment process or committed framework for determining IT Project Delivery maturity.

Risk/Impact: Not having a NiSource specific maturity assessment process and framework over IT Project Delivery could lead to less efficient, effective and inconsistent PMO improvement activities in the future.

Recommendation

To facilitate more effective, efficient and consistent improvement efforts, IT Audit noted a leading practice opportunity for NiSource IT PMO management to design an internal maturity assessment process with adoptable framework for determining IT Project Delivery maturity.

Management Response

The IT PMO will be taking a two-pronged approach to future assessment of maturity improvement. It is planning on a periodic external assessment by an agent like PwC; in addition, and at an increased frequency, we are building our own quantitative instrument to periodically measure our progress in the nine (9) areas identified in the 2016 PwC Assessment. This will be developed and tested in Q3 2017.

CC: J. Hamrock
D.E. Brown
C.J. Hightman
M. Kempic
C.W. Levander
V. Sistovaris
M. Finissi
P.A. Vegas
S.K. Surface
M. Borg
G. Skinner
R. Viater
S. Lobo
K. Johannsen
T.L. Tucker
Deloitte & Touche

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

2016 PwC PMO Maturity Observations



Project Process Category	Initial/Ad Hoc	Repeatable	Defined	Managed	Optimized
	•Recognized processes but inconsistent and lacking definition.	•Processes formally defined but not consistently applied.	•Project management processes are standardized and repeatable.	•Processes are integrated with corporate policy and enforced by management.	•Processes are utilized to accurately measure project performance and efficiency on a real time basis.
	•Activities done on an ad hoc basis.	•Processes defined but updated to reflect actual project execution methods	•Focus on the project management organization rather than on specific projects.	•Data available to allow for proactive action and data driven decision making.	•Processes are in place to improve project performance.
Organization					
Governance and Compliance					
Concept and Project Initiation					
Vendor Management					
Project Execution					
Tools and Reporting					
Testing and Release Management					
Training and Knowledge Retention					

This chart shows the range of maturity currently demonstrated across each process category and proposes a target range for future state development.

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Prepared at the Request of Counsel
Do Not Distribute

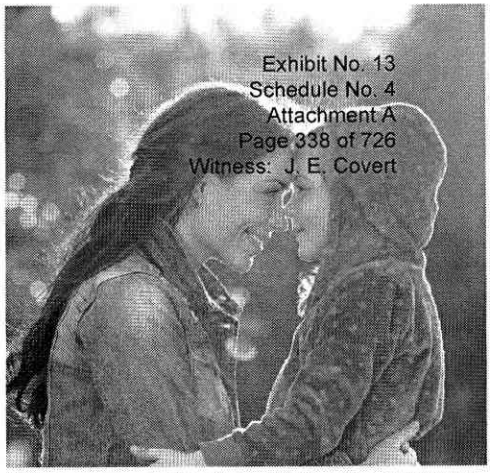
FERC Order-717 – IT User Access Review

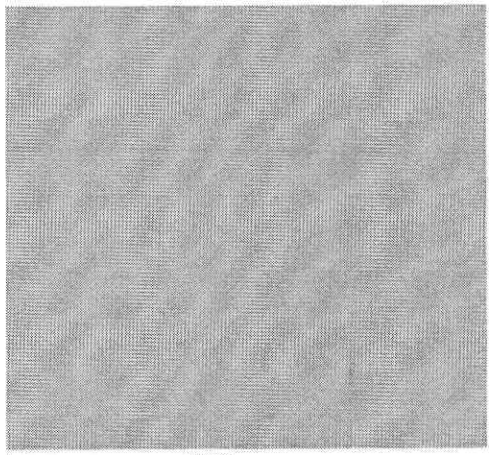
To: Patricia Gyure, Director – Corporate Compliance
Matt Holtz, Managing Director – Transmission

From: Goranka Kasic, Senior Auditor - Infor. Systems Audit
Greg Wancheck, Director - Infor. Systems Audit

August 4, 2017

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NiSource IT Audit was engaged at the request of NiSource Corporate Compliance to work with NiSource Legal to conduct a 2017 Federal Energy Regulatory Commission (FERC) Order-717 IT User Access Review with the objective of providing management with an opinion on the effectiveness of the governance around IT user security processes and procedures used to adhere to Order-717 requirements. IT Audit's review centered on providing an independent evaluation on whether NiSource Corporate Compliance, NIPSCO Operations Technology (OT), NiSource IT Security Operations, and other engaged parties are aligned and how information related to Order-717 IT user access requirements is being shared, communicated, and consumed.

IT Audit's review noted the following:

- **FERC Order-717 IT user access program requirements are currently managed in an ad hoc manner across the NiSource footprint.**
  - IT Audit recommends that Corporate Compliance work with appropriate process owners to formally delineate the roles, responsibilities, and accountability of all parties with respect to IT User Access workflow, in order to better ensure compliance with the FERC Order-717 guidelines. This formalization would also include alignment with both NiSource OT and IT management on what deliverables are required to be either produced, or made available, to Corporate Compliance for purposes of determining compliance adherence.

- **There is no defined ownership/named support structure within NiSource IT Security Operations for FERC 717 engagement and ongoing compliance management support.**
  - IT Audit recommends Corporate Compliance align with IT Security Operations management to help define the engagement structure and role accountability IT Security Operations should possess in the FERC 717 IT user access workflow.

- **The setup of the FERC Compliance MySource repository appears to have shared responsibility and management with NERC Compliance.**
  - IT Audit noted a leading practice opportunity for Corporate Compliance and NERC CIP Compliance to align and revisit separating the combined FERC and NERC MySource site into individual pages to accurately portray delineation between the two teams.

- **Post evaluating the management of NIPSCO OT's application universe and alignment with FERC Order-717 guidelines, application details are not embedded within a controlled application management repository.**
  - IT Audit noted a leading practice opportunity for NIPSCO OT to consider leveraging a formalized application management repository (versus MS Excel) to help capture, manage and report on OT applications with a FERC 717 designation.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank Corporate Compliance, NIPSCO OT, and NiSource IT Security Operations management for their cooperation and time in support of this effort.

In 2008, the Federal Energy Regulatory Commission (FERC) issued Order-717 enforcing the Standards of Conduct for Transmission Providers. The main purpose of these regulations is to limit the interaction and prohibit the sharing of information between transmission function (TFE) and marketing function employees (MFE). As such, the rule states that both TFEs and MFEs must operate independently from each other in their job functions.

FERC Order-717 Standards encompass three (3) specific rules:

- The "independent functioning rule" - requires transmission function (TFE) and marketing function employees (MFE) to operate independently of each other.
- The "no-conduit rule" - prohibits the passing of non-public transmission function information (TFI) to marketing function employees (MFEs).
- The "transparency rule" - imposes posting requirements to help detect any instances of undue preference due to the improper disclosure of non-public transmission function information (TFI).

NiSource's Corporate Compliance team is responsible for management of FERC Order-717 guidelines across NiSource footprint. IT Audit's scope of review in turn, concentrated on evaluating FERC Order-717 guidelines as they relate to IT User Access Management both within the NiSource Corporate and NIPSCO Operations Technology (OT) environments. This review was assisted by NiSource Legal.

Audit Scope and Approach

IT Audit worked with NiSource Legal and aligned with NiSource Corporate Compliance, NIPSCO Operations Technology (OT), and NiSource IT Security Operations to review the processes, procedures, and controls used to manage application user security compliance with Order-717 requirements. The methods used by NiSource IT Audit may include (but are not limited to) interviews of key process owners, documentation review, observation, and independent testing of appropriate standards, metrics, and system configurations.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

Objective 1: Review whether the user security/access policies and procedures employed by NiSource Corporate Compliance align with FERC Order-717 guidelines.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Review and evaluate existing policies and procedures used to govern FERC Order-717 guidelines at NiSource (electric and gas operations).	**Finding #1 (see slide 6).**
2	Review and evaluate the approval process for existing policies and procedures. Also, assess how are documents/deliverables managed, stored and communicated to stakeholders.	**No Findings Noted.**
3	Evaluate whether Corporate Compliance, NIPSCO OT, Energy Supply & Optimization, NiSource IT, and other interested parties are aligned and how information related to Order-717 user access requirements are shared and communicated.	**No Findings Noted.**

Audit Scope and Approach (cont.)

Objective 2: Review and evaluate NIPSCO OT's configuration and management compliance with FERC Order-717 guidelines (electric):		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Evaluate NIPSCO OT management of FERC Order-717 user security requirements within relevant IT applications.	**Finding #2 (see slide 8).**
2	Evaluate the management of NIPSCO OT's application universe and its alignment with FERC Order-717 guidelines.	**Finding #3 (see slide 9).**
3	Review OT user approval process management, ownership and communication for the granting/revocation of user access (new user, existing user, transferred user, and terminated user) to help ensure a segregation of duties exists that aligns with FERC Order-717 guidelines.	**No Findings Noted.**
Objective 3: Review and evaluate the policies and procedures employed by NiSource IT's configuration and management to comply with FERC Order-717 guidelines (gas and electric):		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Evaluate NiSource IT user security management of FERC Order-717 guidelines within relevant applications.	**Finding #4 (see slide 10).**
2	Evaluate the management of NiSource IT's application universe and its alignment with FERC Order-717 guidelines.	**No Findings Noted.**
3	Review NiSource IT user approval process management, ownership and communication for the granting/revocation of user access (new user, existing user, transferred user, and terminated user) to help ensure a segregation of duties exists that aligns with FERC Order-717 guidelines.	**No Findings Noted.**

Objective #1, Procedure #1: Review and evaluate existing policies and procedures used to govern FERC Order-717 guidelines at NiSource (electric and gas operations).	**Risk Rating**
Finding #1: While active collaboration and dialogue exists between Corporate Compliance and its FERC 717 business partners (NiSource HR, NIPSCO OT, etc.), role specifications/accountability, deliverable requirements (including ownership), and timing cadences required to assist with 717 compliance efforts have not been jointly defined and formally shared across the 717 stakeholder community.	**Moderate**
Process Owner(s): Patricia Gyure (Director, Corporate Compliance) **Executive Council Member Responsible: Carrie Hightman (Exec VP & Chief Legal Officer)**	**Target Remediation Date:** **12/29/2017**

Observation

Criteria: Defining and formalizing the roles and responsibilities of all stakeholders within the IT User Access process would provide heightened accountability and transparency, and better ensure compliance with the FERC Order-717 guidelines.

Condition: To better ensure compliance with the FERC Order-717 guidelines, the IT User Access process could be improved by formally defining roles, responsibilities, deliverables, and communication cadences of participants (NiSource HR, NIPSCO OT, etc.).

Risk/Impact: Although IT Audit does not view there to be the likelihood of legal/regulatory fines or penalties, having defined roles, responsibilities, and deliverables within the full FERC 717 stakeholder community would better ensure compliance with the FERC Order-717 guidelines.

Recommendation

IT Audit recommends that Corporate Compliance work with appropriate process owners to formally delineate the roles, responsibilities, and accountability of all parties with respect to IT User Access workflow, in order to better ensure compliance with the FERC Order-717 guidelines. This formalization would also include alignment with both NiSource OT and IT management on what deliverables are required to be either produced, or made available, to Corporate Compliance for purposes of determining compliance adherence.

Management Response

Corporate Compliance agrees with this recommendation, and has already begun the process of working with all parties responsible for IT User Access to develop a revised procedure to safeguard applications by formally delineating roles, responsibilities, and accountability. This procedure will also identify permissible applications for marketing function employees, as well as applications that are impermissible for transmission function employees.

Corporate Compliance will also review communications cadences and required deliverables with all relevant parties in IT, OT, HR, or other groups by the end of the fourth quarter of 2017.

Objective #2, Procedure #1: Evaluate NIPSCO OT management of FERC Order-717 user security requirements within relevant IT applications.	**Risk Rating**
Finding #2: The setup of the FERC Compliance MySource page appears to have shared management responsibility with NERC Compliance and is titled "FERC/NERC Compliance" and have a shared responsibility of management. Since these areas are managing unique compliance functions, this setup does not provide a portal structure that aligns with NiSource.	**Low**
Process Owner(s): NERC Compliance - **Matt Holtz (Managing Director – Transmission)**	

Observation

Criteria: To accurately portray the differentiation between FERC and NERC compliance requirements/management, the "FERC/NERC Compliance" MySource page should be separated into two independent pages.

Condition: Though the combining of FERC and NERC Compliance into a single MySource portal might have historically worked to support ease of management, the unique reporting requirements and current NiSource management structure lends to having separate MySource sites.

Risk/Impact: Having a joint "FERC/NERC Compliance" page with policies and compliance related information portrays the appearance of shared responsibility and provides challenges to NiSource/NIPSCO end users on finding and adhering to specific policies.

Recommendation

IT Audit noted a Low risk finding/leading practice opportunity for Corporate Compliance and NERC CIP Compliance to align and revisit separating the combined FERC and NERC MySource site into individual pages to accurately portray delineation between the two teams.

Management Response

NERC Compliance will separate their portion of the shared MySource site into a stand alone NERC Compliance MySource site by end of Q4 2017.

Objective #2, Procedure #2: Evaluate the management of NIPSCO OT's application universe and its alignment with FERC Order-717 requirement.	**Risk Rating**
Finding #3: While only a small number of FERC 717 related applications are resident within OT (3), application detail and attribute criteria are not embedded within a controlled application management repository and are instead captured informally via MS Excel.	**Low**
Process Owner(s): NIPSCO Operations Technology (OT) **- Matt Holtz (Managing Director – Transmission)**	

Observation

Criteria: To ensure adequate management of the NIPSCO OT application portfolio, and per FERC 717 requirements (access, provisioning), best practice would be to manage applications within a formalized application management repository.

Condition: While only a small number of FERC 717 related applications are resident within OT (3), application detail and attribute criteria are not embedded within a controlled application management repository and are instead captured via MS Excel.

Risk/Impact: Having application credentials informally managed within an Excel spreadsheet creates a risk of key OT applications and FERC 717 requirements being mismanaged.

Recommendation

IT Audit noted a Low level Finding/leading practice opportunity for NIPSCO OT management to consider leveraging a formalized application management repository (versus MS Excel) to help capture, manage and report on OT applications with a FERC 717 designation.

Management Response

OT has a plan to implement a formal application management repository by Q2 2018.

Objective #3, Procedure #1: Evaluate NiSource IT user security management of FERC Order-717 guidelines within relevant applications.	Risk Rating
Finding #4: There is no defined ownership/named support structure within NiSource IT Security Operations for FERC 717 engagement and ongoing compliance management support.	Moderate
Process Owner(s): Michael Estelle (Director - IT Security Operations) Executive Council Member Responsible: Mark Kempic (Chief Transformation Officer)	Target Remediation Date: 12/29/2017

Observation

Criteria: To support FERC 717 requirements across the NiSource footprint, there needs to be defined ownership and responsibility/accountability awareness within NiSource IT Security Operations.

Condition: There appears to be no defined ownership/named support structure within NiSource IT Security Operations for FERC 717 engagement and ongoing compliance management support.

Risk/Impact: Not having ownership awareness of FERC 717 requirements within NiSource IT Security Operations creates a risk of inadequate management of FERC 717 compliance requirements.

Recommendation

IT Audit recommends that Corporate Compliance align with IT Security Operations management to help define the engagement structure and detailed role accountability IT Security Operations should possess in the FERC 717 IT user access workflow.

Management Response

IT Security agrees with the recommendation and is already involved in discussions with Corporate Compliance on roles and responsibilities related to FERC 717 compliance as it relates to user access.

Report Distribution

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

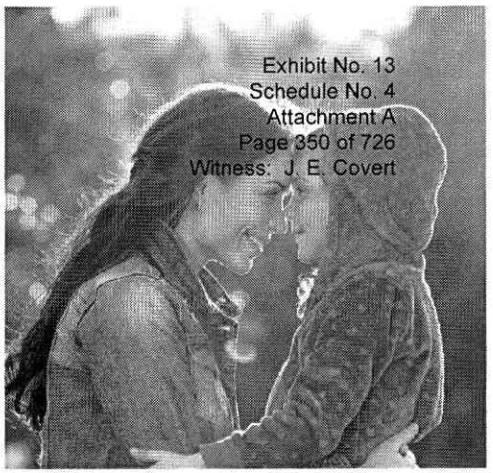
2017 NIST CSF Alignment Review

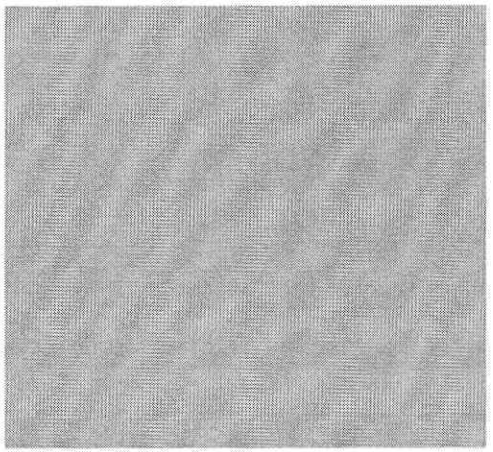
To: Wayne Hilt, Managing Director - Cybersecurity
Mike Estelle, Director - IT Security Operations

From: Brett Welsch, Project Manager - Infor. Systems Audit
Greg Wancheck, Director - Infor. Systems Audit

July 25, 2017

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IT Audit performed an independent, current-state assessment of NiSource IT's adoption of the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF). As the NIST CSF is being used by NiSource IT Security Operations to help manage cybersecurity risk, IT Audit's review included perspectives on the following: comparison of the various NIST CSF components adopted by NiSource against an external, industry accepted risk and controls framework for completeness, a review of the metrics NiSource IT management has developed to measure adherence to the standards, and lastly, interviews with acting NiSource Cybersecurity Sub-Committee members to ensure the subcommittee members are receiving adequate and useful information to gauge NiSource's cybersecurity risks and make informed decisions to support addressing those risks.

IT Audit's review found the following:

- **IT Audit's comparison of the NIST Cybersecurity Framework to an Information Systems Audit and Control Association (ISACA) controls-based audit program demonstrated continued development and alignment of NiSource cybersecurity practices with NIST CSF.**
  - IT Audit found no gaps in the adoption of NIST CSF functions when compared to the ISACA audit program, with NiSource IT Security Operations continuing to build and mature their implementation of the NIST CSF functions.

- **NiSource IT Security Operations produces and distributes metrics related to the five (5) NIST CSF functions on a monthly basis, with those metrics capturing an appropriate level of detail.**
  - IT Audit noted fifteen (15) cybersecurity metrics exist across the five (5) NIST CSF functions, with two (2) of these metrics still being in development. These existing metrics are continually evaluated to ensure their usefulness in cybersecurity reporting, with new metrics being developed to provide a more holistic picture of the NiSource cybersecurity landscape.

- **IT Audit interviews with all acting NiSource Cybersecurity Sub-Committee members indicate a continued high level of focus on cybersecurity risks to NiSource, along with awareness and integration of cybersecurity fundamentals by Sub-Committee members.**

This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank IT Security Operations management for their cooperation and time in support of this effort.

In April 2016, PricewaterhouseCoopers LLP ("PwC") completed a 3rd party assessment of NiSource's cybersecurity program capabilities and assisted NiSource IT Security Operations in transitioning from PwC's ATLAS Cybersecurity Framework to the more broadly accepted National Institute of Standards and Technology Cybersecurity Framework (NIST CSF). The transition was made due to the ATLAS Cybersecurity Framework being proprietary to PwC and therefore, less able to be leveraged for gauging NiSource's cybersecurity stance across the industry.

The NIST Cybersecurity Framework is a set of industry standards and best practices that help organizations manage cybersecurity risks. Its widespread use across industries and organizations makes it a preferred option for determining a corporation's cybersecurity risk posture and enables organizations – regardless of size, degree of cyber security risk, or cybersecurity sophistication – to apply the principles and best practices of risk management to improving the security and resilience of critical infrastructure. The NIST Cybersecurity Framework consists of five (5) 'Functions' - Identify, Protect, Detect, Respond, and Recover - which are cybersecurity activities at their highest levels. These Functions aid an enterprise in expressing its management of cybersecurity risk by organizing information, enabling risk management decisions, addressing threats, and improving by learning from previous activities. (See Appendix B for further information regarding the Functions and related Categories – Sub-Processes – that fall within each Function.)

Audit Scope and Approach

For testing purposes, IT Audit's review included the following:

- Comparison of the various NIST CSF components adopted by NiSource against an external framework created by ISACA (Information Systems Audit and Control Association) for completeness.
- Review of the metrics NiSource IT management has developed to measure adherence to the NIST CSF standards.
- Interviews with acting NiSource Cybersecurity Sub-Committee members to ensure the Sub-Committee members are receiving adequate and useful information to gauge NiSource's cybersecurity risks and make informed decisions to address those risks.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

Objective 1: Review how the NiSource IT security group is measuring and reporting on internal adoption of the NIST CSF standards.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Review how the NiSource IT security group has adopted the NIST CSF standards by utilizing an external framework to identify completeness relative to NiSource's needs.	**No Findings Noted.***
2	Review the metrics the NiSource IT security group is utilizing to measure their adherence to the NIST CSF standards to provide both a perspective on, and effectiveness of, those metrics.	**No Findings Noted.****

*** IT Audit found no gaps in the adoption of the NIST CSF functions when compared to the ISACA audit program, with NiSource IT Security Operations continuing to build and mature their implementation of the CIST CSF functions.**

Audit Scope and Approach (cont.)

Objective 2: Interview members of the NiSource Cybersecurity Sub-Committee.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Assess what information committee members receive concerning cybersecurity within NiSource. Determine how the Sub-Committee members feel about the level and type of information they are receiving, if the information is providing the Sub-Committee enough insight to gauge the cybersecurity risk to NiSource for making informed cybersecurity related decisions related to those risks, and whether Sub-Committee members would like to see different or additional information.	**No Findings Noted.**

Report Distribution

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

Function Unique Identifier	Function	Category Unique Identifier	Category
ID	Identify	AM	Asset Management
		BE	Business Environment
		GV	Governance
		RA	Risk Assessment
		RM	Risk Management
PR	Protect	AC	Access Control
		AT	Awareness and Training
		DS	Data Security
		IP	Information Protection Processes and Information
		PT	Protective Technology
DE	Detect	AE	Anomalies and Events
		CM	Security Continuous Monitoring
		DP	Detection Processes
RS	Respond	CO	Communications
		AN	Analysis
		MI	Mitigation
		IM	Improvements
RC	Recover	RP	Recovery Planning
		IM	Improvements
		CO	Communications

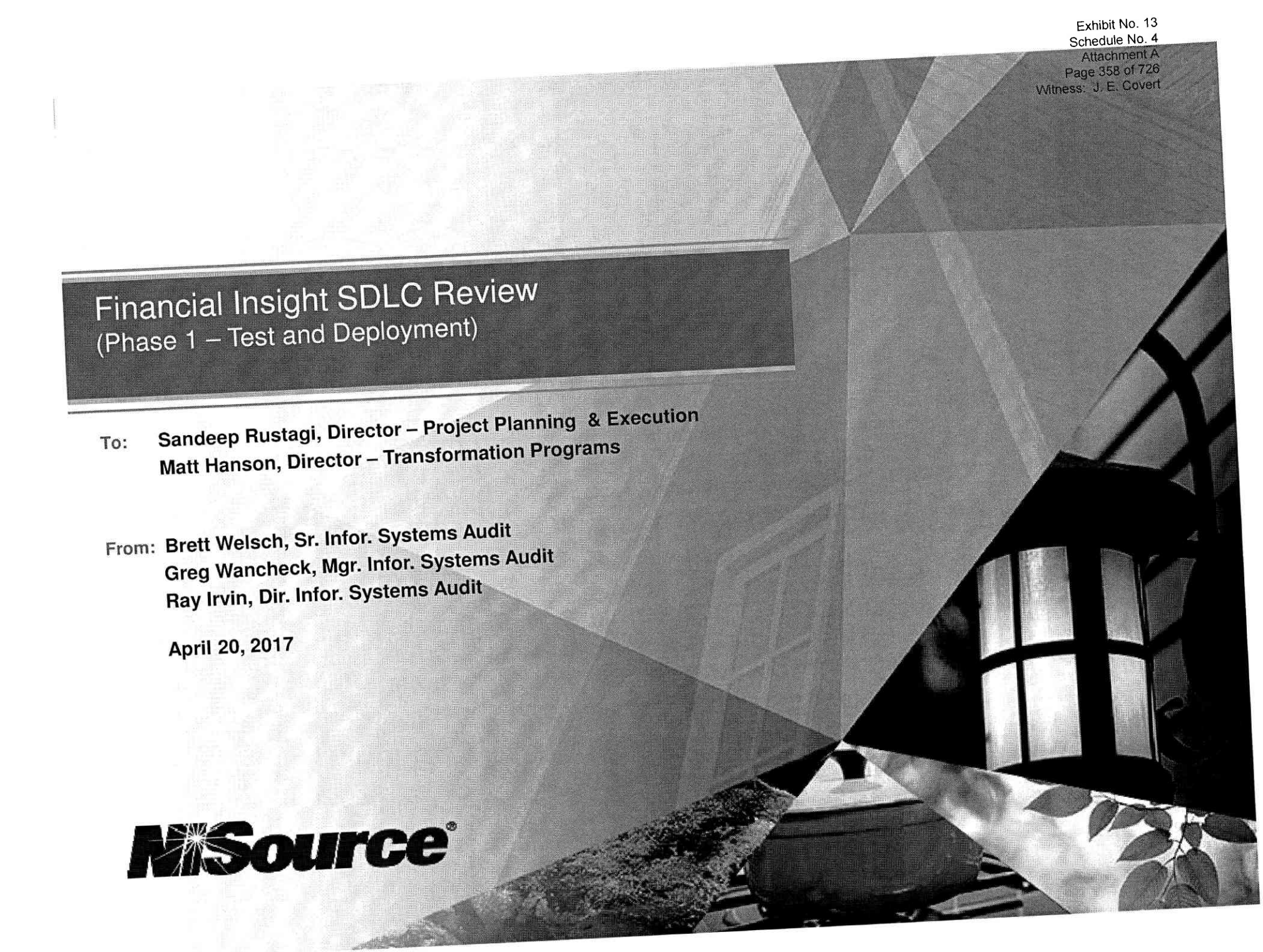
Each function/category in the NIST CSF framework has been mapped to one or more ISACA/COBIT controls to assist in the ability to audit and evaluate an entities adoption of the framework.

Financial Insight SDLC Review
(Phase 1 – Test and Deployment)

To: Sandeep Rustagi, Director – Project Planning & Execution
Matt Hanson, Director – Transformation Programs

From: Brett Welsch, Sr. Infor. Systems Audit
Greg Wancheck, Mgr. Infor. Systems Audit
Ray Irvin, Dir. Infor. Systems Audit

April 20, 2017



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Executive Summary

NiSource IT Audit continued its assessment of the Financial Insight (Phase 1) project, focusing on the Test and Deployment Phase components completed to date. In addition, IT Audit evaluated ongoing Financial Insight project management control adherence to NiSource's IT Project Management Methodology (PMM) and/or NiSource corporate policy, including those plans and processes executed to support both project and overall program closure efforts.

IT Audit's review found:

- **The Financial Insight (Phase 1) project continues to follow the NiSource IT PMM and project change control procedures.**

- **The Test Phase planning, execution, and defect resolution was completed with no critical path defects remaining open.**
    - IT Audit noted three (3) open Financial Insight (Phase 1) System Test defects prior to targeted April 20, 2017 go-live. These three (3) open defects, two (2) urgent and one (1) high, were found to NOT be in the project's critical path for deployment success with resolution continuing into the Phase 1 Turnover stage. These exceptions were documented and accepted by project leadership as part of the PMM Test Phase closure process.

- **The Deployment Phase components and checklists are continuing to be developed and reviewed.**
    - IT Audit noted that Financial Insight (Phase 1) management reporting components, originally targeted for generation in Design/Build and release in Deployment, were modified per PMM policy via an IT PMO leadership approved Project Change Request (PCR) to instead coincide with Turnover stage release in May 2017 due to their non-critical go-live path stature. IT Audit will continue to monitor these management reporting components throughout the Phase 1 Turnover stage to help insure appropriate report creation and authorization occurs.

In conclusion, IT Audit's review did not find any major challenges or issues that would be of concern to the Financial Insight project team moving forward with production deployment.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing whereby a summary, along with detailed observations, will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank the Financial Insight Project Team and management for their cooperation and time in support of this effort.

Executive Summary

Background

The Financial Insight project initiative, having commenced in Q2 2016, is targeted on consolidating multiple enterprise financial planning and budgeting systems into a single, integrated solution platform designed to enhance the efficiency and effectiveness of planning and budgeting functions across NiSource. Phase 1 of the project will focus on financial planning and budgeting while Phase 2 will emphasize operational planning and budgeting.

To assist with this initiative, and post due diligence efforts conducted with corporate NiSource Supply Chain guidance, NiSource IT management engaged The Hackett Group. The Hackett Group is an intellectual property-based strategic consultancy and leading enterprise benchmarking/best practices implementation firm who has successfully performed similar initiatives to what NiSource is pursuing with the Financial Insight project.

As part of our review, IT Audit initially engaged with the Financial Insight Project Team to evaluate the processes and procedures being used to develop and manage the Design and Build project stages of Phase 1 through February 2017. This current review is specifically focused on the Test and Deployment project stages of Phase 1, with IT Audit continuing its engagement with the Phase 1 project Turnover stage and ongoing Financial Insight (Phase 2) initiatives as appropriate.

Audit Scope and Approach

For testing purposes, IT Audit reviewed NiSource Project Management Methodology (PMM) controls over scope, cost, schedule and quality to ensure they were in place and operating as designed to address risks posed to delivering Financial Insight (Phase 1) program objectives. Additionally, IT Audit assessed the project Test and Deployment Phase 1 stages to provide reasonable assurance that test plans were appropriately generated from project requirements, test execution was monitored and recorded for the various test stages of the project, and defects were appropriately addressed when encountered. Lastly, IT Audit reviewed the planning for project deployment to ensure targeted Phase 1 go-live activities are occurring and key deployment deliverables are being considered.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below:

#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
Objective 1: Review Financial Insight program delivery based controls to provide a perspective on the organizational risk inherent in delivering project releases.		
1	Assess whether Project Scope, Cost and Schedule controls are in place and compliant with NiSource's IT Project Management Methodology (PMM) and Financial Insight policy.	**No Findings Noted.**
2	Assess whether Project Quality controls over solution conformance to requirements are in place and are operating as designed.	**No Findings Noted.**
Objective 2: Review Financial Insight (Phase 1) Test phase deliverables to provide a perspective on test plans, execution and defect resolution.		
1	Ensure Test plans were developed out of project requirements to ensure all necessary testing is being performed.	**No Findings Noted.**
2	Review execution of test stages to ensure testing is being appropriately monitored and recorded per project requirements.	**No Findings Noted.***
3	Determine how defect resolution is being handled and ensure defects are being addressed as encountered.	**No Findings Noted.**

*** IT Audit noted three (3) open Financial Insight (Phase 1) System Test defects prior to targeted April 20, 2017 go-live. These three (3) open defects, two (2) urgent and one (1) high, were found to NOT be in the project's critical path for deployment success with resolution continuing into the Phase 1 Turnover stage. These exceptions were documented and accepted by project leadership as part of the PMM Test Phase closure process.**

Audit Scope and Approach (cont.)

Objective 3: Review Financial Insight (Phase 1) Deployment planning to provide a perspective on Deployment plans and deliverables.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Ensure deployment planning efforts have been created by the Financial Insight Project Team and reviewed for completeness.	**No Findings Noted.****
2	Ensure the Phase 1 Deployment Plan(s) has been appropriately reviewed with key stakeholders providing approval prior to any production migration.	**No Findings Noted.**

**** IT Audit noted that Financial Insight (Phase 1) management reporting components, originally targeted for generation in Design/Build and release in Deployment, were modified per PMM policy via an IT PMO Leadership approved Project Change Request (PCR) to instead coincide with Turnover stage release in May 2017 due to their non-critical go-live path stature. IT Audit will continue to monitor these management reporting components throughout the Phase 1 Turnover stage to help insure appropriate report creation and authorization occurs.**

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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

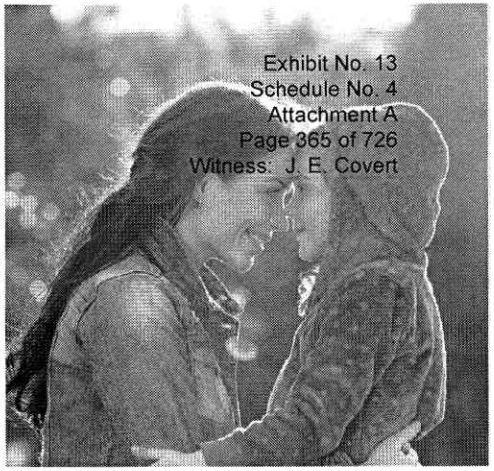
NiSource IT Service Provider Transition – Pre Go-Live Review

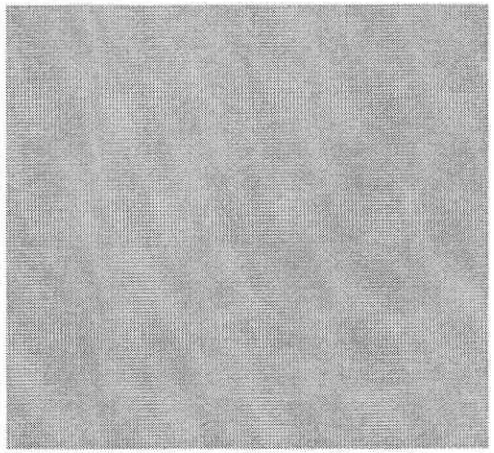
To: Russ Viater, VP – IT Transformation
Sandeep Rustagi, Director – IT Service Delivery

From: John Manfreda, Project Manager - Infor. Systems Audit
Brett Welsch, Project Manager – Infor. Systems Audit
Goranka Kasic, Sr. Auditor - Infor. Systems Audit
Greg Wancheck, Director - Infor. Systems Audit

November 14, 2017

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NiSource IT Audit conducted our 2017 IT Service Provider Transition Review from July 2017 through November 2017 to provide an independent perspective on activities associated with the IT Service Provider Transition program. This assessment is focused on pre go-live activities for service transition including implementation of enabling processes and technologies to support a multi-vendor environment.

IT Audit's review found the following:

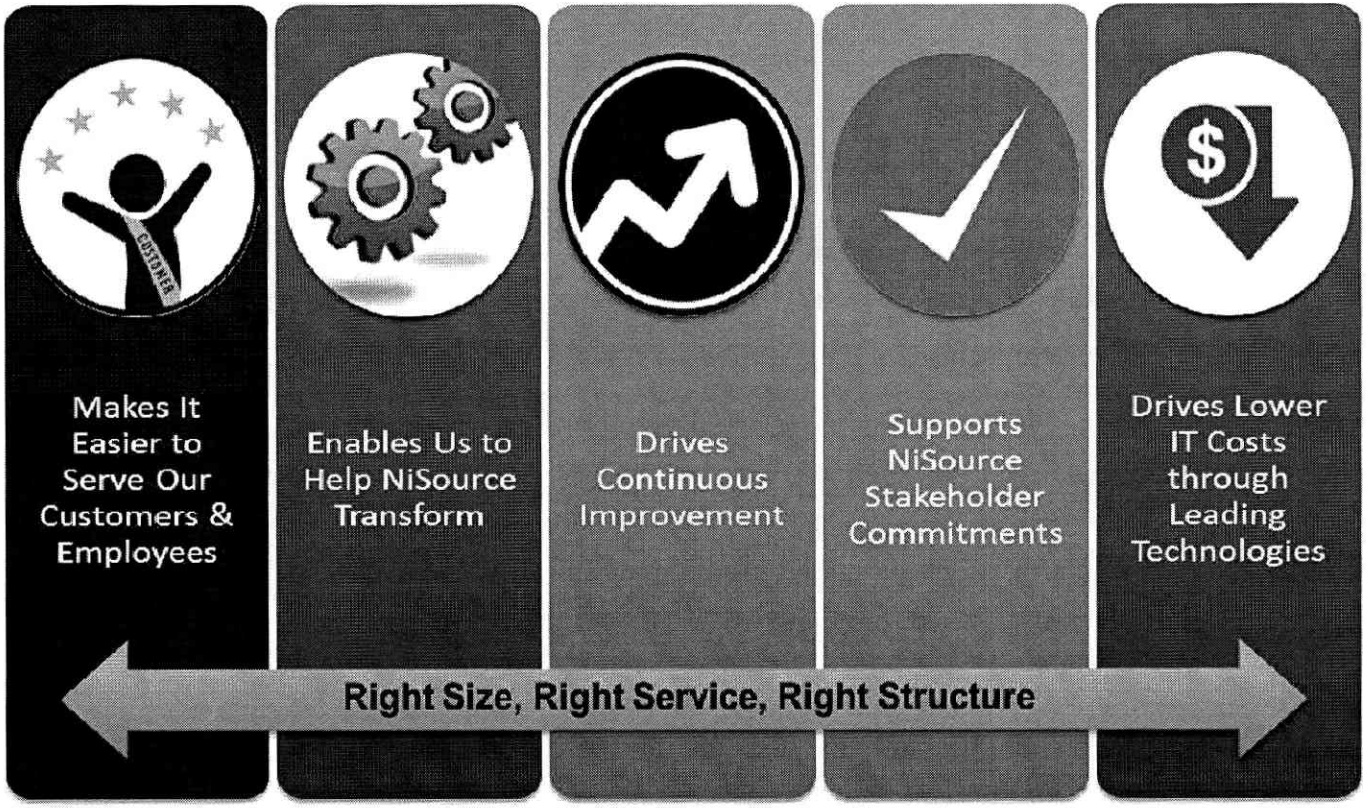
- **IT Service Provider Transition Program governance standards are in place and working as designed.***
- **Processes and procedures for IT Service Provider Transition delivery model setup (leveraged to manage program cost, scope, schedule, risk, issues, resourcing, organizational change management, and quality assurance) are in place and working as designed.**
- **IT Service Provider Transition Program process execution is adhering to NiSource IT policy and standards including work applicable to the NiSource IT Project Management Methodology (PMM).**
- **IT Service Provider Transition Program process execution in the areas of incumbent provider engagement and participation are in place and working as designed.**
- **The IT Service Provider Transition Program has included Sarbanes Oxley Act (SOX) control considerations for the new IT service providers, including engagement of the appropriate personnel.***
- **IT Service Provider Transition Program related Service Level Agreement (SLA) definitions and metrics have been defined and appear to have the responsible personnel and appropriate processes in place for go-live activities.**

***See Appendix B: High Level IT Service Provider Transition Program Risks (page 12) for on-going risks being actively assessed by NiSource IT Audit.**

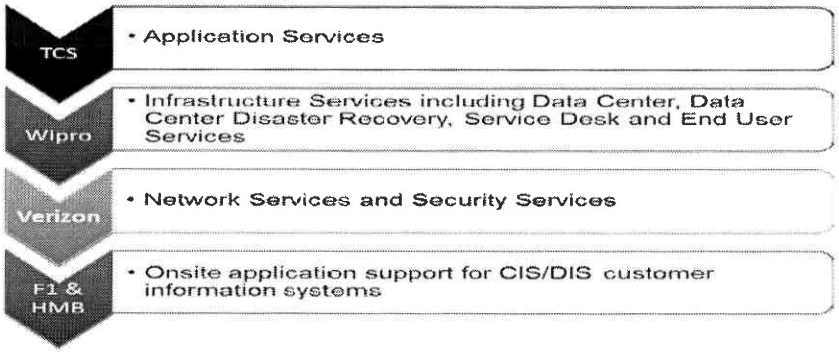
This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank IT Service Provider Transition management for their cooperation and time in support of this effort.

Beginning in July 2017, NiSource IT Management began the IT Service Provider Transition Program to enable a multi-provider IT service execution model. This was undertaken for the reasons depicted in the following program communication.

Our New IT Service Provider Model...



The following graphic depicts the 2018 NiSource steady-state IT operating environment by service area. Three IT Service Providers (TCS, Wipro, Verizon) are net new while two (F1 & HMB) have legacy operating history with NiSource.



The IT Service Provider Transition program has been further segmented into the following work-streams to enable both the transition of services and implementation of service integration management capabilities.

Workstream / Subworkstream	Area of Focus
Service Integration and Management (SIAM)	NEW functionality for a set of consistent processes to ensure centralized integration, coordination, collaboration and governance for multiple NiSource IT service providers
ServiceNow	Replacement of the existing IT ticketing system (ISM) with a new tool by the name of ServiceNow that enables industry leading capabilities
Infrastructure	Transition of 'Servers and Storage' type IT assets and services and Data Center operations, Service Desk, End User Services and Data Center Disaster Recovery tasked with working through transitioning Priority Resolution, desktop/laptop deployment, MDT deployment/replacement, and non-standard system access
Network and Security	Transition of Network and Security support services
Application Services	'Lift-and-Shift' approach of approximately 250 applications to new Service Provider
Service Provider Management	Relationship, contract, financial and performance management for all IT Service Providers
PMO	Provides oversight of the schedule and resources tasked with implementing the IT Service Provider Transition program

Audit Scope and Approach

For testing purposes, IT Audit reviewed the following:

- Governance standards
- Delivery model setup
- Delivery model execution
- IT SOX controls engagement
- Pre go-live management reporting

IT Audit additionally conducted a series of interviews with designated IT Service Provider governance personnel to gain a perspective on in-flight governance practices for the IT Service Provider program transition period.

Objective 1: Review governance standards created around the IT Service Provider Transition program to provide a perspective on the following: Sponsor Engagement, Executive Sponsor/Stakeholder Reference Group engagement, project organizational structure, and program team knowledge/skills/abilities.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Assess the process used to engage program Sponsors in the IT Service Provider Transition effort, along with the communication cadence being leveraged to continually inform program Sponsors of relevant IT Service Provider Transition activities.	**No Findings Noted**
2	Determine whether an IT Service Provider Executive Sponsor Team and Stakeholder Reference Group (SRG), has been created to aid with program activity governance. If in place, assess whether the Executive Sponsor Team and Stakeholder Reference Group has adequate membership and representation from appropriate organizations.	**No Findings Noted**
3	Provide a perspective on project organizational structure developed for the IT Service Provider Transition program to determine whether the program team possess the necessary tools, knowledge and resources for delivering solution components as required for successful transition.	**No Findings Noted***

Audit Scope and Approach (cont.)

Objective 2: Review process/procedure around IT Service Provider Transition delivery model setup to provide a perspective on the following: Program Cost Management, Scope, Schedule, Risk and Issues Management, Program Resource Management, Organizational Change Management, and Quality Assurance.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Assess how IT Service Provider Transition program costs are being gathered, maintained (specifically budget-to-actual) and reported. Determine whether the program's costing components have been aligned to provide for stakeholder transparency.	**No Findings Noted**
2	Determine whether program scope, schedule, issue and risk management processes/procedures/tools are being leveraged for adequate control around time capture, individual work stream completion metrics, variance analysis and scope creep prevention.	**No Findings Noted**
3	Provide a perspective on what efforts/initiatives the IT Service Provider Transition Team has in place to analyze and action the ongoing management of program resources, including internal NiSource, NiSource to 3rd party vendor(s), and 3rd party vendor to 3rd party vendor.	**No Findings Noted**
4	Assess the involvement and communication cadence structure of NiSource Organizational Change Management (OCM) within the IT Service Provider Transition program.	**No Findings Noted**
5	Determine whether the IT Service Provider Transition Team has developed a quality assurance structure over program delivery. Elements to consider in this area would be the program team's definition of quality, quality control plans and efforts, remediation plans and efforts for quality issues, audit advisory identification of potential quality gaps for consideration.	**No Findings Noted**

Audit Scope and Approach (cont.)

Objective 3: Review process/procedure around IT Service Provider Transition program delivery model execution to provide a perspective on the following: NiSource IT PMM and IT Policy and Procedure compliance, IBM Unwind work-stream management, tracking and monitoring of incumbent service provider participation/performance in the transition effort.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Determine whether the IT Service Provider Transition program is adhering to the NiSource enterprise IT Project Management Methodology (PMM). Are IT Service Provider Transition program deliverables being aligned with PMM?	**No Findings Noted**
2	Assess whether IT Service Provider Transition program efforts are being aligned to follow NiSource's enterprise IT policies and procedures.	**No Findings Noted**
3	Provide a perspective on the IBM Unwind work-stream to track and measure incumbent provider participation and performance.	**No Findings Noted**

Audit Scope and Approach (cont.)

Objective 4: Review IT Service Provider Transition program controls to provide a perspective on SOX controls design consideration, engagement of IT and SOX Compliance personnel, IT security considerations and whether SOX controls testing and reviews are conducted prior to go-live.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Determine whether general IT computing SOX control designs (IT GCC) are being considered in service integration development, testing and deployment efforts for the IT Service Provider Transition program.	**No Findings Noted***
2	Assess the engagement of NiSource/3rd party compliance entities (i.e. IT Compliance, SOX Compliance, Internal Audit and Deloitte) into relevant IT Service Provider Transition program work streams.	**No Findings Noted**
3	Provide a perspective on security design considerations and ongoing security execution components (specifically identity & access management and cybersecurity, data integrity and privacy) as they pertain to the IT Service Provider Transition program.	**No Findings Noted***
4	Determine how testing efforts associated with the IT Service Provider Transition are being planned and executed. Assess whether the proper individuals/teams are being proactively informed of their requirement to participate and being communicated to in a timely and transparent manner.	**No Findings Noted***

* Objective 4, Procedures 1,3 and 4 have associated program risks which have mitigation efforts underway by various IT Service Provider Transition project teams - **see Appendix B: High Level IT Service Provider Transition Program Risks on page 12 for details.**

Audit Scope and Approach (cont.)

Objective 5: Review reporting and knowledge dissemination components associated with the IT Service Provider Transition program to provide a perspective on the following: key performance indicators (KPI) related to program health, service level agreement (SLA) definition and execution, and knowledge transfer design/engagement for 3rd parties.		
#	**Procedures**	**Findings Summary (Refer to Appendix A for rating scale)**
1	Assess how key performance indicators (KPIs) associated with program health are being captured and reported. Determine whether KPIs being communicated are being relayed to IT Service Provider Transition stakeholders and relevant parties in a "complete" and "accurate" manner.	**No Findings Noted**
2	Determine how program service level agreements (SLAs) have been defined and who is responsible for invoking action to ensure SLA compliance. Analyze the process/processes used to monitor program SLA compliance in relation to pre go-live activities.	**No Findings Noted**
3	Provide a perspective on knowledge transfer design and execution efforts to inform new NiSource 3rd party providers of their contracted responsibilities.	**No Findings Noted**

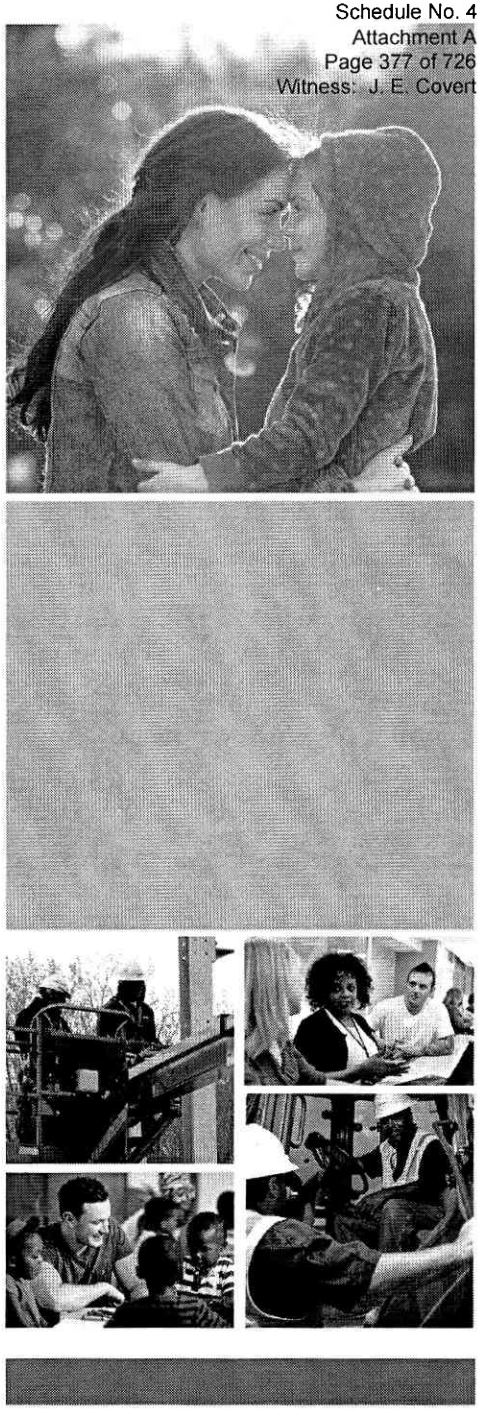
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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

IT Service Provider Transition – High Level Program Risks					
Risks (Identified as of November 6,2017)					
Risk Category	**#**	**Detailed Risk Title**	**Detailed Risk Description**	**Risk Owner**	**Target Close Date**
Program Risk	1	The NiSource IT organization will undergo drastic changes whereby defining end-state organization is critical for transition	Impacts functional and financial aspects of IT processes and governance.	NiSource IT Management	**Dec 01, 2017** In Process
SOX and IT Compliance Risk	2	Privileged Access Review (PAR)	Ownership/implementation of the PAR process needs to be established with Wipro along with the necessary tools for process automation needing to be identified. **Impacts the operation of six (6) IT SOX controls.**	IT SP Transition Program (Identity and Access Management Team)	**Nov 30, 2017** In Process
	3	Logging Capabilities	Log collection, analysis, remediation and archive process need to be established with the responsible IT vendor(s) to support IT SOX controls execution. **Impacts the operation of two (2) IT SOX controls.**	IT SP Transition Program (Network and Security Team)	**Nov 30, 2017** In Process
	4	Concerns regarding Knowledge Transfer of "Production Control Tasks"	Knowledge transfer tasks/activities need to be clarified, identified and owned in order to avoid impacts to IT SOX control operation. **Impacts the operation of fifteen (15) IT SOX controls.**	IT SP Transition Program (Data Center Team)	**Nov 30, 2017** In Process
	5	Confirmation of tools and reports for readiness of IT SOX control operation/support for Wipro	Lack of Wipro confirmation of tools and reports readiness for steady state IT SOX control operations. **Impacts all twenty-three (23) applicable IT SOX controls operated by Wipro.**	IT SP Transition Program (Process and Infrastructure Team)	**Nov 30, 2017** In Process



Change Management Process Audit

January 18, 2018

To: E.E. Kendall, VP Capital Allocation & Controls
J.E. Zucal, VP Major Projects - Electric
R. M. Kitchell, VP Major Projects - Gas

From: M.R. Easterday, Lead Auditor - Capital & Construction Audits
A.J. Patel, Manager - Capital & Construction Audits
R.W. Binkley, Director - Internal Audit

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Executive Summary

Internal Audit conducted a review of the change management process related to NiSource Major Projects (our sample of seven projects included NIPSCO Gas, NIPSCO Electric, and Columbia projects). The focus of the review was to ensure policies, procedures, and controls exist to capture and document project scope changes. Internal Audit will use existing NiSource Project Management standards, along with industry recognized best practices set by the Project Management Institute (PMI).

Audit Results Summary:

Based on the procedures performed, Internal Audit noted change management processes appear to generally conform to Organizational Project Management (OPM) standards and other corporate policies. However, Internal Audit identified (3) low risk, best practice findings associated with the following:

- Inconsistent documentation of Change Management Plans across NiSource segments.
- Existing Change Management Plans do not quantify risks in risk registers or outline guidance for use of project contingency.
- Inconsistent documentation of Change Order logs across NiSource segments.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, will be provided to the Audit Committee. IA would like to thank management for their cooperation and time in support of this audit.

Background

The Capital & Construction group of the Internal Audit department has conducted an array of audits involving Major Project controls, project management, as well as contractors performing work on major projects. A component of all major projects involves the processing of project scope changes. Based on our experience, a review of change management practices for major projects across NiSource was included for the 2017 Internal Audit Annual Plan.

Organizational Project Management (OPM) standards were established by NiSource in order to provide a common basis for defining practices, establishing performance metrics, and implementing governance of project management. Several OPM standards outline guidance for developing project management plans, assembling project execution plans, as well as managing, monitoring and controlling project execution. Specifically, OPM 5.0 includes guidance for establishing change management plans including criteria and thresholds for project scope changes while OPM 7.0 provides guidance for monitoring and reporting such changes.

Audit Scope and Approach

Internal Audit conducted a review of the change management process related to NiSource Major Projects. The focus of the review was to ensure policies, procedures, and controls exist to capture and document project scope changes. Internal Audit relied upon existing NiSource Project Management standards, along with industry recognized best practices set by the Project Management Institute. The review involved sampling seven major projects from across NiSource (three Columbia Company, two NIPSCO – Gas, and two NIPSCO – Electric). All of the projects were initiated prior to an April 2017 revision to the Organization Project Management (OPM) standards. Fieldwork was conducted during October and November of 2017. Review procedures included the following objective and associated procedures listed below.

Objective 1: Ensure policies and procedures related to scope changes for Major Projects are aligned with NIPSCO Major Project standards .		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Review corporate level standards (i.e. NiSource Capital Disbursements, Supply Chain, and Accounts Payable policies) in conjunction with Major Project Organizational Project Management (OPM) standards and a sample of project specific documents (i.e. project charters, project budget requests, etc.) to ensure Major Projects have implemented required change management processes.	**Finding #1 – See page 4** **Finding #2 – See page 5**
2	Select a sample of scope changes from Major Projects for Electric (T&D and Generation) and Gas (Columbia & NIPSCO) and review for compliance with corporate level standards, OPM standards, and project specific documentation.	**Finding #3 – See page 6**

Findings

Procedure #1: Review corporate level standards (i.e. NiSource Capital Disbursements, Supply Chain, and Accounts Payable policies) in conjunction with Major Project Organizational Project Management (OPM) standards and a sample of project specific documents (i.e. project charters, project budget requests, etc.) to ensure Major Projects have implemented required change management processes.	**Risk Rating**
Finding #1: Inconsistent documentation of Change Management Plans across NiSource segments.	**Low**
Process Owner(s): Project Controls	

Observation

Criteria: *OPM 5.0 - Assemble Project Execution Plan* section 6.0 establishes that Project Execution Plans consist of Project Baselines and Project Control Criteria / Change Management Plans. Section 6.2.0 further requires: *"The Project Manager will implement a "Project Change Control System" that will define how project objectives, deliverables, and/or documentation will be controlled, changed, and approved."*

Condition: Per review of project documentation it appears projects related to Columbia Companies do not formally document change management plans within the project charters, project budget request, or related documentation. Per discussion with Columbia Company project management, formal documentation detailing a specific change management plan for each project does not exist and project management relies upon current corporate policies and past practices to guide the execution of any necessary project changes. Selected NIPSCO projects appeared to have formal documentation for change management plans with only minor deviations from OPM standards.

Risk/Impact: A lack of documented procedures can result in inconsistent execution and reporting of project scope changes.

Recommendation

Project Controls should help ensure Project Management across NiSource have aligned processes and documentation with the Organization Project Management standards.

Management Response

Not Required for Low Risk Findings

Findings

Procedure #1: Review corporate level standards (i.e. NiSource Capital Disbursements, Supply Chain, and Accounts Payable policies) in conjunction with Major Project Organizational Project Management (OPM) standards and a sample of project specific documents (i.e. project charters, project budget requests, etc.) to ensure Major Projects have implemented required change management processes.	**Risk Rating**
Finding #2: Existing Change Management Plans do not appear to include quantified risk registers or outline guidance for use of project contingency.	**Low**
Process Owner(s): Project Controls	

Observation

Criteria: *OPM 5.0 - Assemble Project Execution Plan* section 6.2.9 stipulates: *"The approved risk response plan or risk baseline designates a requirement for the utilization of project resources to perform work, in a time frame, at an estimated cost. Risk response plans are considered part of the project scope, schedule, and funding. Additional risk response plans, contingent risk responses, or fallback plans are regarded as scope, schedule, and cost changes and will be evaluated consistent as a project change."*

Condition: Per review of project documentation, Internal Audit was unable to verify if project changes were due to execution of the risk response plans, per the PM Standard 6.2.9 or were treated as additional risk response plans (subject to change management).

Risk/Impact: By not delineating between execution of risk response plans and additional risks response plans, project lessons learned due to scope changes may not be accurately captured.

Recommendation

Scope change should be linked back to existing risks (risk register) or unforeseen risks (additional risks) to help properly capture lessons learned.

Management Response

Not Required for Low Risk Findings

Findings

Procedure #2: Select a sample of scope changes from Major Projects for Electric (T&D and Generation) and Gas (Columbia & NIPSCO) and review for compliance with corporate level standards, OPM standards, and project specific documentation.	**Risk Rating**
Finding #3: Inconsistent documentation of Change Order logs across NiSource segments.	**Low**
Process Owner(s): Project Controls	

Observation

Criteria: *OPM 5.0 - Assemble Project Execution Plan* section 6.2.11 stipulates: *"The Project Manager will establish the Project Change Log. …The Project Manager will ensure the criteria for change identification, change response, change resolution, etc. is supported throughout the project."*

Condition: Per review of project documentation and conversations with management, it appears (2) of the (3) Columbia Company projects reviewed did not historically maintain change logs. Per discussion with project management, a template has recently been disseminated and is currently being implemented by Columbia Company major projects. Selected NIPSCO projects appeared to maintain change order logs for scope changes as well as PO or payment related changes which do not always require documentation as stipulated by change management plans. The level of detail and qualifying factors determining if a project change is to be documented in the Change Order Log appears to be inconsistent across all NiSource change logs reviewed.

Risk/Impact: A lack of documented procedures can result in inconsistent execution and reporting of project scope changes.

Recommendation

Project Controls should help ensure Project Management across NiSource have aligned processes and documentation with the Organization Project Management standards. Internal Audit will review for continued implementation of change logs in future audits.

Management Response

Not Required for Low Risk Findings

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Appendix A

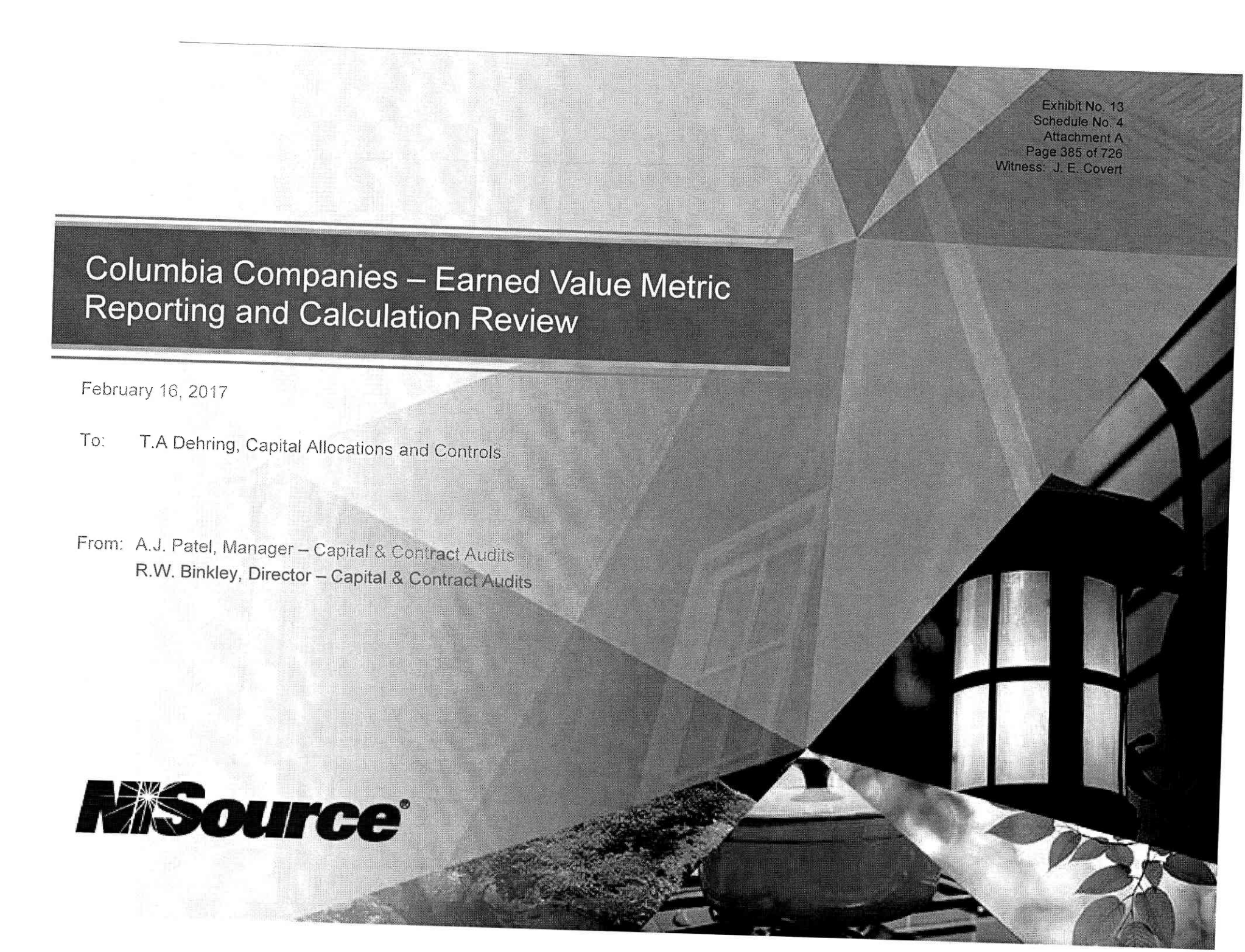
Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
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Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Columbia Companies – Earned Value Metric Reporting and Calculation Review

February 16, 2017

To: T.A Dehring, Capital Allocations and Controls

From: A.J. Patel, Manager – Capital & Contract Audits
R.W. Binkley, Director – Capital & Contract Audits



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The purpose of our audit was to ensure project metrics and reporting related to the Columbia Gas Companies are adequate to identify potential capital governance risk. Internal audit reviewed project metrics to ensure reported metrics accurately reflect the current project status as related to Earned Value and Actual vs. Estimated program costs. We evaluated the control procedures and construction management practices implemented to achieve the business objectives listed below. Our review was completed considering project management best practices as identified by the Project Management Institute (PMI).

Based on the scope of work identified above and the audit procedures completed (see Page 3 for summary), Internal Audit notes that Project Controls has documented, formalized policies and procedures for reporting Earned Value Metrics at Columbia Gas Companies, which is consistent with PMI standards.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, will be provided to the Audit Committee. IA would like to thank Project Controls staff and management for their cooperation and time in support of this audit.

Background

- The Project Controls group has undertaken an initiative to introduce Earned Value Metric reporting for capital programs at the Columbia Companies. The initiative is in the initial phases of a multi-year process intended to provide continuous improvement in Earned Value reporting at the Columbia Companies and eventually to NIPSCO Gas programs. The metrics covered under the initiative are for capital programs which are not subject to Major Project controls requirements.

- The earned value metrics cover Age & Condition Main, Replacement Service Lines, New Main Install, and New Service Taps by state. Project Controls is working to enhance the reporting to cover all areas of capital programs over the gas operations.

- The goal of the initiative is to provide management with a periodic review of capital spend that answers the following questions (See Appendix B):
    - *Is the work getting done?*
    - *Is the work getting done on time?*
    - *Is the work getting done on budget?*

Objective 1: Financial metrics and project status reports for capital projects are accurately reported to key stakeholders.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Review policies and procedures establishing financial and performance metrics around portfolio capital projects.	**No Findings Noted.**
2	For capital projects measured at a portfolio level, review to ensure that summary level activities and key milestones are in place to track portfolio level planning and schedule monitoring	**No Findings Noted.** *(See Appendix B, Slide 7 for metric reporting example)*
3	Ensure that policies and procedures are in place to properly segregate larger capital projects from overall portfolio metrics.	**No Findings Noted.** *(See Appendix B, Slide 8 for example)*
4	Recalculate Financial Metrics for accuracy and ensure they are accurately and consistently reported on a portfolio basis (projects under threshold amounts).	**Finding #2– See Page 4**

Procedure #4: Recalculate Financial Metrics for accuracy and ensure they are accurately and consistently reported on a portfolio basis (projects under threshold amounts).	**Risk Rating**
Finding #1: Current processes in calculating Earned Value Metrics are documented and defined (see Appendix B). However, the process for pulling information from COGNOS and manually recalculating the Earned Value Metrics is not formally documented.	**Low**
Process Owner(s): Project Controls	

Observation

Criteria: Documentation exists and is periodically updated to note/outline the Cognos reports used in calculating Earned Value Metrics.

Condition: Management currently maintains formal, documented policies and procedures for reported Earned Value Metric calculation and interpretation (Appendix B). However, a formal documented policy does not exist that designates where information is pulled from in Cognos.

Risk/Impact: As the Earned Value reporting grows in scope and nature, other members of Project Controls may not be able to recalculate metrics without documented instructions.

Recommendation

Management should consider creating a document of Cognos reports being pulled each month that clearly define fields used in calculating reported Earned Value Metrics.

Management Response

Not Required for Low Risk Findings

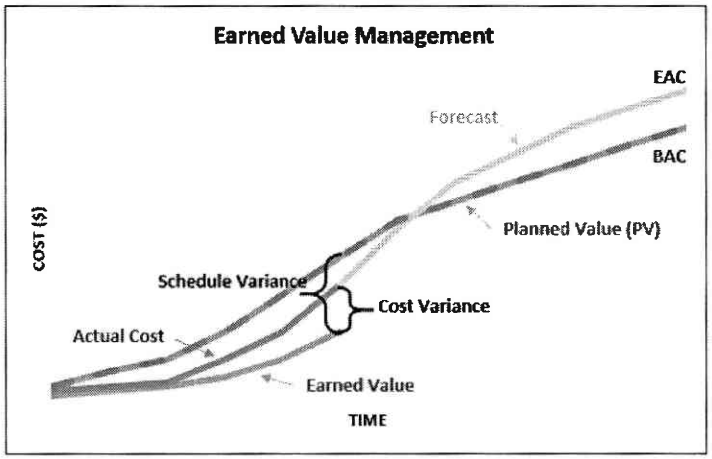
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J Hamrock	T. J. Tokish
D.E. Brown	I.T.H. Brown
C.J. Hightman	R.F. Ebright
C.W. Levander	S. Anderson
J. Stanley	Deloitte & Touche
P.A. Vegas	
M. Kempic	
V. Sistovaris	
S.K. Surface	
M.J. Finissi	
R.V. Mooney	
J.H. Carr	
T.C. Good	

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Earned Value Management

Measuring scope, schedule, & cost performance



Scope performance	Is the work **getting done?**
Schedule performance	Is the work getting done **on time?**
Cost performance	Is the work getting done **on budget?**

EARNED VALUE, The measure of work performed expressed in terms of the budget authorized for that work.

- Units of work completed * Planned cost per unit = Earned Value
- For budget and spend not associated to planned work units, $1 actual spend = $1 of earned value.

SCHEDULE PERFORMANCE INDEX (SPI), A ratio of Earned Value to Budget that represents the efficiency of work performed to work planned.

VARIANCES Positive is Favorable, Negative is Unfavorable

Cost Variance	**CV**	**= EV - AC**
Schedule Variance	**SV**	**= EV - PV**
Variance at Completion	**VAC**	**= BAC - EAC**

EFFECIENCIES Favorable is > 1.0, Unfavorable is < 1.0

Cost Performance Index	**CPI**	**= EV / AC**
Scheduling Performance Index	**SPI**	**= EV / PV**

ESTIMATE at COMPLETION

With Current Variances Typical	**EAC**	**= AC + (BAC - EV)**
With Performance Factor	**EAC_{CPI}**	**= AC + [(BAC - EV) / CPI]**

Planned Value (PV) is the Authorized Budget assigned to the scheduled work.

Actual Cost (AC) is the total cost actually incurred to perform the work.

Budget at Completion (BAC) is the total budget through any given level.

Estimate at Completion (EAC)- The forecasted cost at project completion.

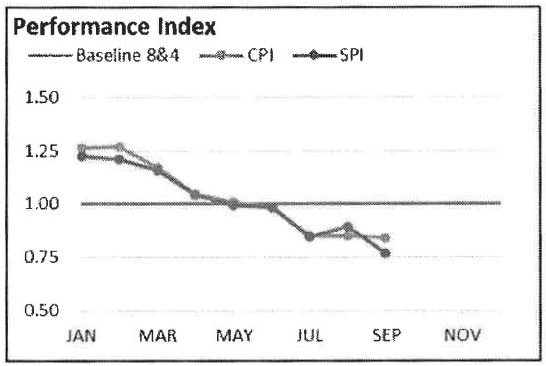
Baseline- The original scope, schedule, or cost plan for the project used to measure performance.

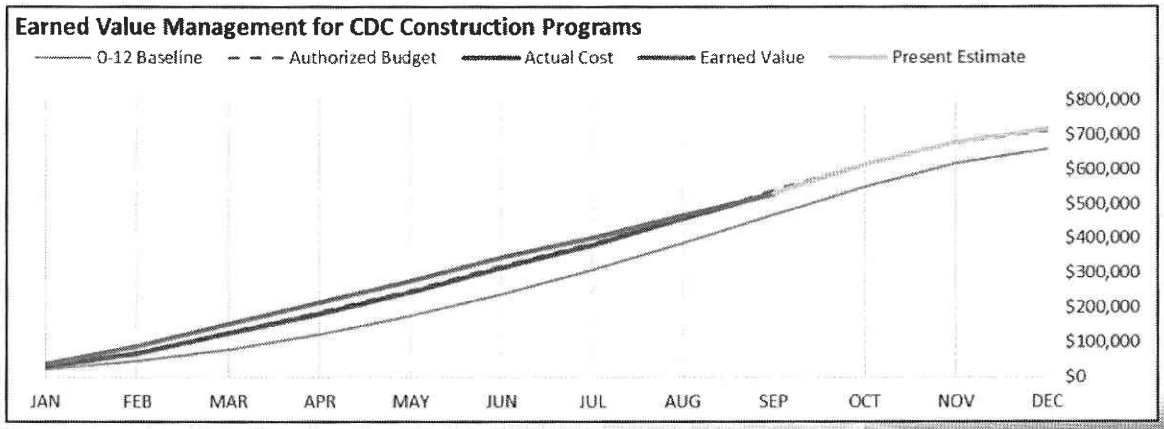
Cost Variance (CV) – The amount of budget deficit or surplus at a given point in time.

Schedule Variance (SV) – A measure of schedule performance expressed as the difference between the earned value and the planned value.

CDC Construction Programs

Construction Programs Gross Activity Spend - All Locations Budget Class Activities ($000)	Sep 2016	Year to Date
0-12 Baseline	$84,310	$470,122
Authorized Budget (8&4)	$80,241	$539,103
Actual Cost	$73,544	$531,686
Earned Value	$61,746	$528,562
Cost Variance	($11,799)	($3,124)
Schedule Variance	($18,495)	($10,541)
CPI	0.84	0.99
SPI	0.77	0.98





* Activities 555, 557, 559, 561, 563 and 565; excluding Major Projects

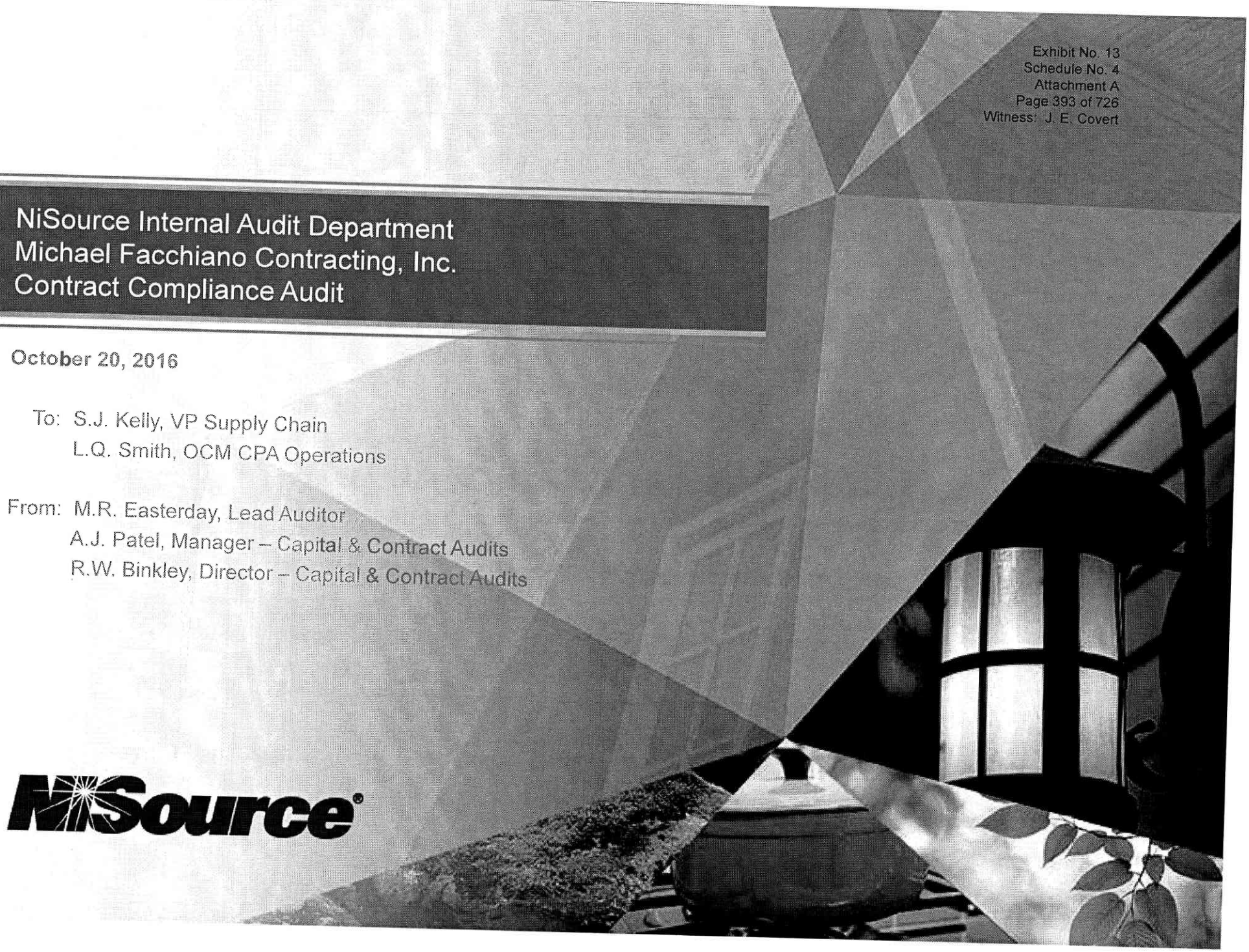
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NiSource Internal Audit Department
Michael Facchiano Contracting, Inc.
Contract Compliance Audit

October 20, 2016

To: S.J. Kelly, VP Supply Chain
L.Q. Smith, OCM CPA Operations

From: M.R. Easterday, Lead Auditor
A.J. Patel, Manager – Capital & Contract Audits
R.W. Binkley, Director – Capital & Contract Audits



Michael Facchiano Contracting, Inc. – Contract Compliance Audit

- **Executive Summary..... 3 - 5**
- **Background..... 6 - 7**
- **Scope, Results & Recommendations..... 8 - 23**
- **Report Distribution..... 24**

Michael Facchiano Contracting, Inc. – Contract Compliance Audit

Executive Summary

Internal Audit conducted a contract compliance audit of the General Services Agreements (GSA) and subsequent Service Authorizations between Michael Facchiano Contracting Inc. (Facchiano) and Columbia Gas of Pennsylvania (CPA) related to restoration work. The current GSA period is April 1, 2014 – March 31, 2017. Our audit included all activity related to GSA CW189868 and SA 14-6475-00 covering the audit period of April 1, 2014 to July 26, 2016. The review assessed the Contractor's degree of compliance with the terms and conditions of the contract. The audit examined both the business processes and financial terms of our relationship with the Contractor. During the Audit Period, NiSource made payments of approximately $23M to Facchiano.

The following audit observations are discussed in further detail within the Scope, Results, and Recommendations section of the report, which begins on page 8. The audit observations identified are as follows:

- Unit prices in our Work Management System (WMS) were aligned with contractual terms and conditions. System limitations prevent review of historical unit prices when contract rates are revised on multi-year contracts. Internal Audit noted that Management should consider methods for tracking historical prices.

  Backfill material charges during the audit period were not billed in accordance with Time & Equipment provisions of the contract. Internal Audit estimated a potential impact of ~$115K in total overbillings. In addition, rental charges related to backfill warehousing and hauling of project site spoils are not in the contractual terms and conditions. Internal Audit also identified ~18K in overcharges associated with insurance, sales tax, and materials. Management should ensure all necessary contractual arrangements are approved and enforced. Gas Operations and Supply Chain noted that they will meet with Facchiano to discuss and reaffirm contract requirements. See the next slide for more details.

Michael Facchiano Contracting, Inc. – Contract Compliance Audit

Executive Summary (Cont'd):

Summary of Potential Cost Recoveries			
	Total Overbilling		Page Reference
Backfill Materials	$	115,111	12
Workers Compensation*		4,563	16
Sales Taxes*		4,320	18
Materials Markup		8,734	18
Total Potential Cost Recoveries	**$**	**132,728**	

Michael Facchiano Contracting, Inc. – Contract Compliance Audit

Executive Summary (Cont'd):

- Internal Audit conducted a site visit and noted that certain materials and equipment were stored on Facchiano's property without an executed rental agreement in place. Internal Audit was unable to confirm who maintains liability for the rented facility or potential damages to NiSource-owned equipment. Internal Audit issued a Management Action Plan (MAP) to mitigate risks associated with renting property on a third party site. Operations Management noted that they will explore a lease agreement with the assistance of NiSource Real Estate to develop a proper lease agreement with Facchiano to mitigate risks associated with renting property on a third party site.

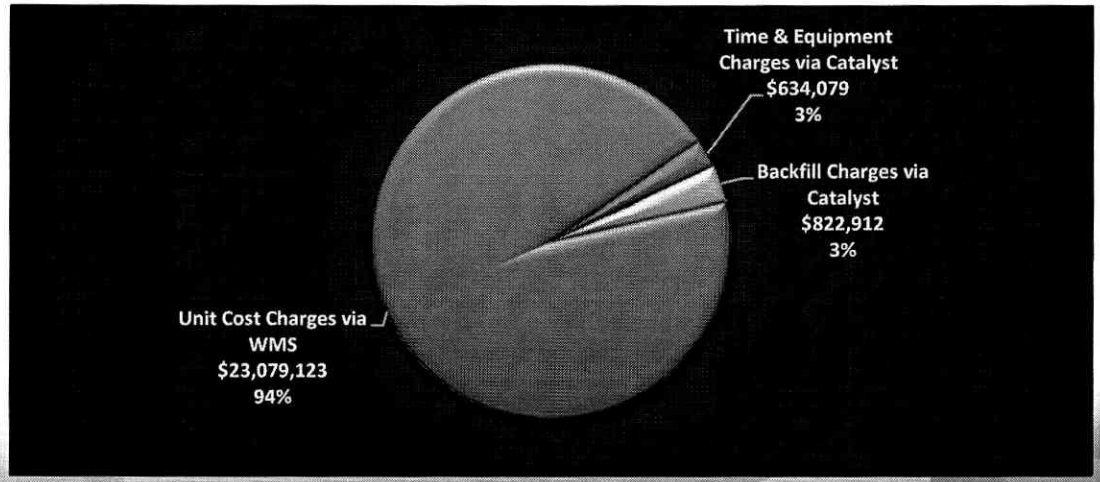
- Facchiano did not properly track Fuel & Asphalt usage per the contractual terms and conditions. Management should standardize reporting requirements for contractors when including such language in contracts. Supply Chain noted that they are actively working to standardize surface restoration reporting templates across gas and electric in our seven state footprint. The standardization will include exploring self-reporting requirements related to this specific commodity.

Internal Audit shared our results with Management and they agree with our conclusions.

Michael Facchiano Contracting, Inc. – Contract Compliance Audit

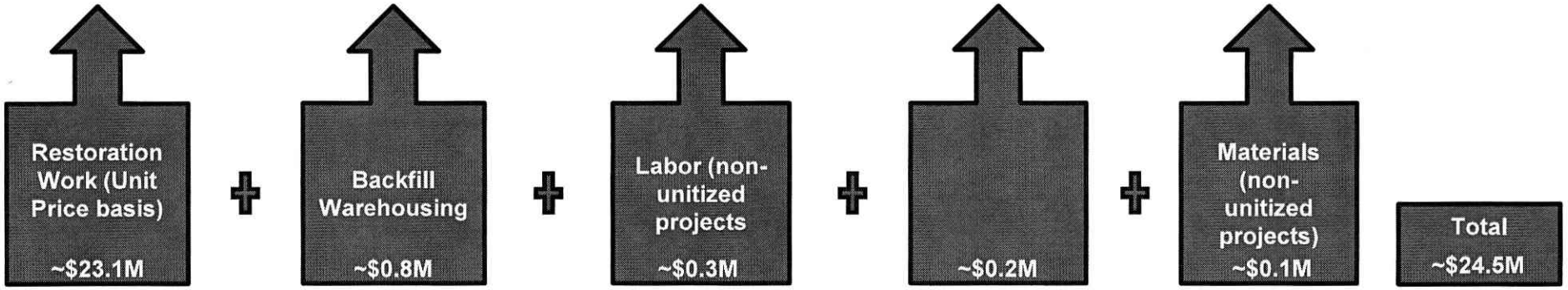
Background

- Michael Facchiano Contracting, Inc. (Facchiano), founded in 1956, is headquartered in Pittsburgh, PA and concentrates on Heavy Highway Construction, Bridge Inspections Services and Utility Contracting.
- Facchiano is the primary Contractor CPA utilizes for restoration work in the PA Central region. CPA's contractual relationship with Facchiano spans back greater than 20 years.
- For the period of April 1, 2014 to July 26, 2016 NiSource has remitted payments of approximately $23 million for restoration work performed on approximately 6,500 Job Orders in the WMS system. The primary basis for the work is a unit cost basis.
  - Facchiano was also paid approximately $1.5M during this time period for services billed through Catalyst on a Time & Materials (T&M) basis.



Michael Facchiano Contracting, Inc. – Contract Compliance Audit

Total Paid to Contractor = Job Order Restoration Work (unit priced) + Backfill Materials and Warehousing + Labor, Equipment, & Materials



Restoration Work Orders Authorized through WMS:
- Unit Priced, billed through WMS (reverse billing process)

Backfill
- Limestone, sand, and cold-patch materials used in backfill and temporary patching
- Transport of materials to storage site
- Rent on storage site
- Labor costs
- Spoils Hauling

Labor Charges + 35% Markup*:
- Hourly Union Wages
- Union Fringes (Health & Welfare, Pension)
- Payroll taxes (Social Security, Medicare, SUTA, FUTA)
- Insurance
- Workers Comp.

Equipment Charges + 5% Markup*:
- Company Owned Equipment
- Third Party Rentals

Materials + 20% Markup*

* Markup percentage not contractually agreed upon.

Scope, Results, & Recommendations

Audit Objective 1: Determine Contractor's compliance with policies, plans, and procedures in accordance with terms of the contract.

Scope Risks:

- Contractor unit prices and actual units installed are not in-line with the actual cost associated with direct labor, materials, fuel, and equipment charges;

- Other charges (reimbursable, time & materials, etc.), excluding unit prices, are not appropriately billed or adequately supported by source documentation; and

- Service Authorization provisions included in Exhibit E concerning adjustments to baseline pricing for fuel and asphalt prices were not administered appropriately.

Scope, Results, & Recommendations

- The scope of work comprises restoration work processed through the Work Management System; and
- The total payments are billed/paid on a unit basis per the agreement.

- The historic billing rates in WMS (prior to January 1, 2016) are not properly reflected in WMS. WMS only captures the current unit rate on multi-year agreements.
- Due to the system limitation noted above, Internal Audit divided the total amount billed by the installed units/billed hours and compared the recalculation to the historic billing rates in the contract.
  - *No significant variances were noted through the testing conducted above.*

Scope, Results, & Recommendations

- Per review of the job cost ledger, fuel and equipment charges were not charged against NiSource jobs.
- Since overhead and fuel were not included in the job costs, Internal Audit was unable to determine Facchiano's full, direct costs related to restoration work.

Scope, Results, & Recommendations

Observations – Field Walkthroughs

- Internal Audit performed a ride along with the PA Central Restoration Coordinator to gain an understanding of the role of Restoration Coordinators in the process and view Facchiano worksites. As the position was created approximately two years ago, previously Contractors worked directly with municipalities to determine the extent and methods for restoration. This position appears to be an important control in validating the work performed and billed by the Contractor is necessary and prudent. The coordinator examines most, but not all, sites for restoration and selects which ones to review based on past knowledge and experience.
- According to the coordinator, commonly, crews performing repair work on gas lines record estimated restoration dimensions into WMS incorrectly, accounting only for the size of the hole and not municipal requirements such as required cut-backs and any specific requirements such as mill and pave curb to curb, mill and pave to center line, mill and pave connecting patches within a certain distance of each other, etc. The coordinator works with the Contractor and municipal representatives to settle on the correct and lawful minimum requirements for restoration.

Recommendations – Field Walkthroughs

- Management should be aware restoration authorizations are consistently under-estimated in WMS and should not be used as a reliable basis for earned value or other metric estimates.

Management Response – Field Walkthroughs

- Observing party will need to take into account that actual field requirements/conditions may not be reflected on initial order as the field will only document size of repair, this does not take into account cut-backs, local municipality requirements, etc. Gas Operations will work with front line leaders on process for guidance that is provided to Contractors and crews.

Scope, Results, & Recommendations

- Internal Audit conducted a site visit and noted that the concrete blocks and a NiSource owned backhoe are segregated off in Facchiano's property by a metal fence. As no rental agreement is in place for this arrangement, Internal Audit was unable to confirm who maintains liability for the rented facility or potential damages to NiSource-owned equipment.

- The per ton rate charged by Facchiano varies with each delivery. However, the average cost between the audit period has ranged between $30 per ton and $33 per ton.

Scope, Results, & Recommendations

Observations – Backfill Charges (cont'd)

- As the limestone materials costs are not included with invoices from Facchiano, NiSource did not retain or require record of **actual costs** for the materials.
  - *Internal Audit did obtain invoices from the limestone supplier stating the actual cost to Facchiano to be around $17.75 per ton.*
- Internal Audit reviewed the invoice detail maintained by NiSource, noting 10,262 tons of materials were purchased from 2014-2016. Internal Audit did a quick calculation using the limestone supplier costs as actual costs – as a result we estimated that Facchiano **potentially** could have overbilled CPA $115,111. If NiSource required actual costs to be included in the invoice, Internal Audit would be able to fully conclude if NiSource was properly charged.

	2014	2015	2016	Comments
Total Tons	~2,907	~4,999	~2,356	*Per Catalyst Invoices*
Total Amount Billed	$ 91,886	$ 148,787	$ 74,817	*Per Catalyst Invoices*
Actual Cost (per ton)	$ 17.75	$ 17.75	$ 17.75	*Per Support from Neville Aggregates (limestone supplier)*
Total Cost Per Contract	$ 51,600	$ 88,738	$ 41,825	*$17.75 Actual Cost X Total Tons*
Markup	$ 5,160	$ 8,874	$ 4,182	*10% contractual T&E Markup on materials*
Total Actual Costs	$ 56,760	$ 97,611	$ 46,007	*Total Cost + Markup (10%)*
Overbillings	**$ 35,125**	**$ 51,175**	**$ 28,810**	
Total Overbillings	**$ 115,111**			

Scope, Results, & Recommendations

Observations – Backfill Charges (cont'd)

- In addition, CPA is charged $270 per haul to remove materials from CPA project sites throughout the service territory.
  - *These charges have not been formalized in the Service Agreement.*

Management Action Plan – Backfill Charges

- Internal Audit will issue a Management Action Plan to mitigate risks associated with renting property on a third party site. CPA Gas Operations should work with NiSource Real Estate to develop a proper lease agreement with Facchiano.

Recommendations – Backfill Charges

- Supply Chain and Gas Operations should work with Facchiano to true-up the Limestone material purchases during the service agreement term to recover any overbillings.
- Gas Operations should ensure that all backfill material, hauling services, along with associated labor and transportation charges, are based on actual cost plus markup per the Service Agreement. In addition, all materials should require cost support per Appendix F – Document Control, Reporting, and Audit Provisions of the Service Agreement.

Scope, Results, & Recommendations

Scope, Results, & Recommendations

Observations – Labor–Wages & Union Fringes (T&E Basis)

- Internal Audit noted that $100K of labor was billed on a Time & Equipment basis. These are related to projects that do not fit into the scope of the unit priced service agreements. Internal Audit agreed the hourly rates billed, including union fringe benefits (health & welfare and pensions), to the union books.
  - *No exceptions were noted.*

Observations – Labor-Payroll & Payroll Taxes (T&E Basis)

- Total Payroll Taxes (FUTA & SUTA) were $7,696.
  - Pennsylvania SUTA is billed at 10.89% (max rate) on the first $8,750 of wages per worker in Pennsylvania (annual maximum of $952.87 per worker). FUTA is billed at .06% on the first $7,000 of wages per worker (annual maximum of $42 per worker).
  - Facchiano billed 2.15% blended rate for payroll taxes. The bended rate is intended to account for the payroll tax caps ($8,750 SUTA and $7,000 FUTA). This rate may or may not represent actual payments for payroll taxes, especially for workers who are only on CPA related jobs throughout the year. Any worker that obtained more than $46,273 *($952.97 SUTA max + $42 FUTA max / 2.15%)* in wages would lead to a hidden profit center for Facchiano.
  - *No exceptions were noted.*

Scope, Results, & Recommendations

Observations – Labor-Workers Compensation (T&E Basis)

- Total workers compensation paid was $23,187.25. Facchiano applies a ~23% rate on workers compensation. Internal Audit obtained the Pennsylvania State Workers Insurance Fund (SWIF) Rates and noted that the state rate for Concrete Construction Worker was 19.69%.
  - Based on the SWIF rates, CPA paid about $3,380 *($23,187 X 23.05% - $23,187 X 19.69%)* more than if Facchiano obtained the insurance through the state fund.
  - *Including 35% markup, total potential overbilling is $4,563 ($3,380 X 1.35).*

Observations – Labor-Insurance (T&E Basis)

- Total payments for Public Liability Insurance and Property Liability Insurance were $8,742, representing a 8.69% markup on wages.
  - *Per review of the insurance premiums paid by Facchiano, the amount billed appears reasonable.*

Recommendations – Labor (T&E Basis)

- Supply Chain should cap all payroll taxes at the FUTA and SUTA limits in the service authorization or subject them to an annual "true-up" provision.

- Supply Chain should cap all workers compensation payments at the maximum SWIF rates or subject them to an annual "true-up" provision.

Scope, Results, & Recommendations

Management Response – Labor (T&E Basis)

- NiSource has agreed to pay an all inclusive hourly rate, not subject to review or alignment with any standard. This total rate includes labor, overheads, burden, and margin. This is not a cost plus item.

Scope, Results, & Recommendations

Observations – Materials (T&E)

- Facchiano billed $87,343 in total materials on a T&E basis and $17,469 in markups (20%).

- Internal Audit reviewed all invoices and noted certain invoices contained sales tax. Per the General Service Authorization and discussion with the NiSource Tax Department, restoration work in Pennsylvania is exempt from sales tax. In total, $3,600 of sales taxes were charged.
  - *Including the 20% markup, the total overbillings were $4,320 ($3,600 X 1.2)*

- Internal Audit also notes that the Service Authorization limits markups on a T&E basis to 10%. Facchiano charged 20% for materials on a T&E basis.
  - *Based on the contractual markup of 10%, Facchiano overbilled by $8,734 ($87,343 X (20% - 10%)).*

Recommendations

- Gas Operations should work with Facchiano to recover the overbillings on the sales taxes and materials markup.

Management Response

- Gas Operations will need to confirm with the Tax Department to determine if a Direct Pay Permit was issued. This varies state to state and on a case by case basis.

Scope, Results, & Recommendations

Observations – Equipment (T&E)

- Total Equipment charges were $241,048. Markup of 5% was included on equipment charges.
  - Third party equipment rentals were supported by proper invoices.
  - Company-owned equipment rates were supported by Federal Highway Administration fair market value guides.
  - *No exceptions noted.*

- Internal Audit noted the Service Agreement (SA) requires the use of unit prices in the agreement to be utilized for time & equipment rates. In some cases, discrepancies existed between the SA and rates billed by Facchiano in T&M invoicing. For instance an "F250/HD2500 Pickup Truck" was billed (including 5%) markup at a rate of $19.83/hr. while the SA calls for a rate of $35/hr. for a "Foreman Truck." These rates likely cover very similar vehicles yet have a variance of $15.17/hr. billed.

Recommendations – Equipment (T&E)

- As a potential best practice, Supply Chain should consider utilizing third-party benchmarks like the Federal Highway Administration guidelines as a way to cap total payments on Contractor owned equipment.

Scope, Results, & Recommendations

- Asphalt: Average index pricing was below the calculated band for the second quarter of 2016.
- Diesel: Average index pricing was below the calculated band for the fourth quarter of 2015 as well as the first and second quarters of 2016.

Scope, Results, & Recommendations

Recommendations – Exhibit E: Index Adjustments

- Supply Chain should consider a standardized template, subject to audit, for Contractors to self-report commodity usages when index adjustments are contained in contracts. The standardized templates should also be used to build a database of fuel usage across all NiSource companies.

Scope, Results, & Recommendations

Report Distribution CC:

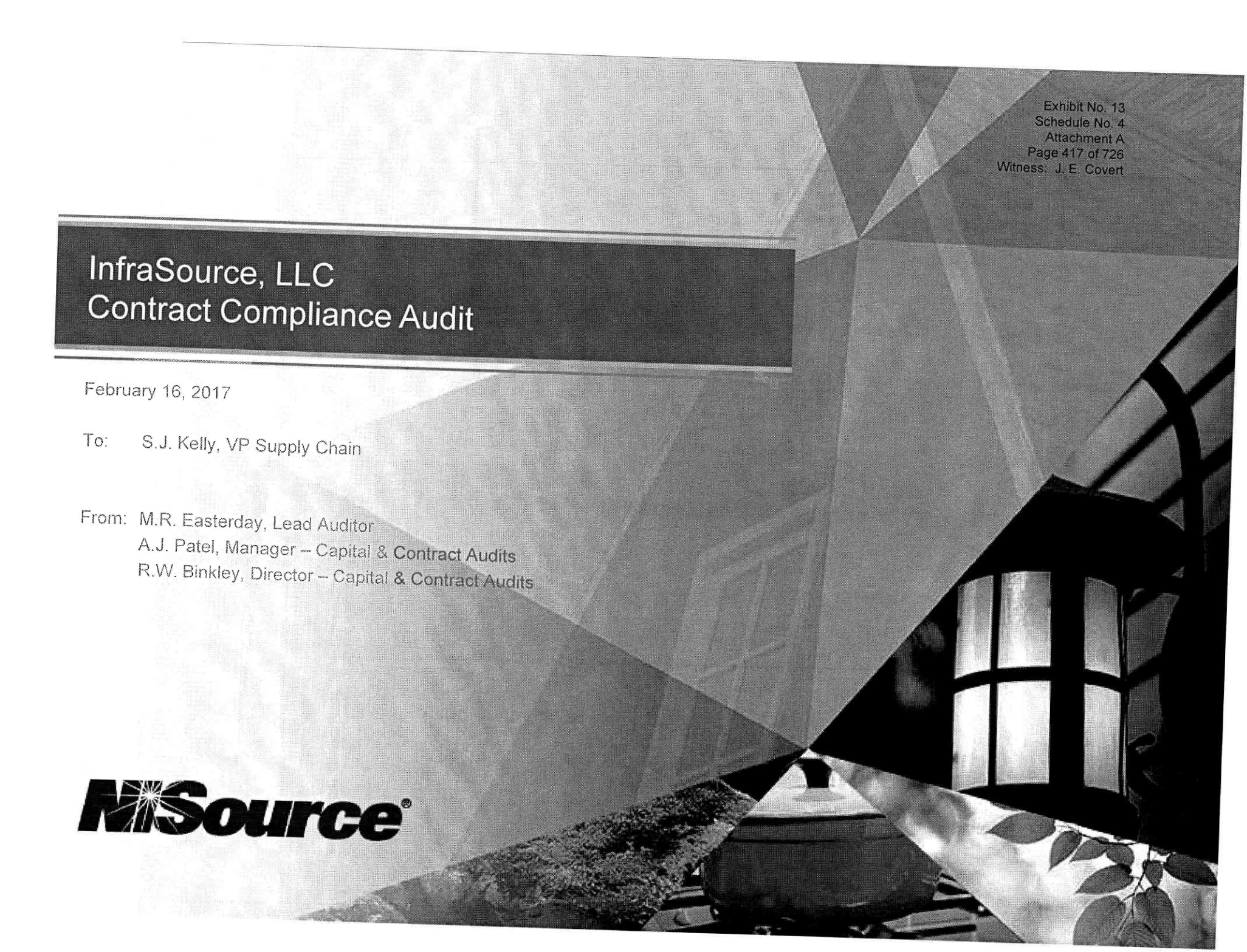
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D.J. Isensee
T.L. Tucker
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S.D. Noel
M.J. Finissi
G.E. Radabaugh
J.L. Hammond
D.G. DeFallo
R.J. Vaughn
J.M. Lange
Deloitte & Touche, LLP

InfraSource, LLC
Contract Compliance Audit

February 16, 2017

To: S.J. Kelly, VP Supply Chain

From: M.R. Easterday, Lead Auditor
A.J. Patel, Manager – Capital & Contract Audits
R.W. Binkley, Director – Capital & Contract Audits



Internal Audit performed a contract compliance review of the General Services Agreement (GSA) for Construction, Maintenance, Services, and Materials and select Service Authorizations and Purchase Orders between InfraSource and NiSource during an audit period of January 1, 2015 and November 16, 2016. The results of our review found InfraSource to be in compliance with billing NiSource under the current contractual terms and conditions.

In an effort to provide Management with insight into certain direct costs of InfraSource, Internal Audit attempted to perform review procedures on particular actual cost categories. The review of direct cost information was to be intended for Management to utilize for future contract strategy development. Internal Audit was unable to perform our review of actual, direct costs due to a lack of information provided by the vendor, despite the fact that NiSource was entitled to the information under the established audit rights provision(s). The inability to perform this review did not impact the overall audit conclusion above that billing and payment activity reviewed appeared to agree with contractual rates. Supply Chain made attempts to facilitate dialogue with InfraSource, while InfraSource representatives maintained their position to withhold the data requested as of the date of our review. Internal Audit has issued a "Moderate" finding regarding the matter and recommends management continue to pursue the information from the contractor to ensure the integrity of the audit rights provision and for the completion of our procedures. Management continues to pursue the information that will allow us to complete our procedures.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, will be provided to the Audit Committee. IA would like to thank the Supply Chain staff and management for their cooperation and time in support of this audit.

Background

As part of our overall program to ensure responsible management and accountability, NiSource has implemented an on-going program to periodically review our key contracts.

InfraSource Construction, LLC. (InfraSource) was identified as a key contractor and selected for review. InfraSource provides gas distribution installation and repair work primarily in Indiana (NIPSCO) and Ohio (NGD). For the period of January 2015 to November 2016, NiSource has remitted payments of approximately $127M. The primary basis for the contractual work is a unit cost basis.

Internal Audit performed a contract compliance review of the General Services Agreement (GSA) for Construction, Maintenance, Services, and Materials (Contract No. CW1887423), dated January 1, 2012 and select Service Authorizations and Purchase Orders between InfraSource and NiSource related to services rendered and payments made during an audit period of January 1, 2015 and November 16, 2016. Fieldwork was completed between November and December 2016. The scope of review included interviews with management and sample testing of payments to assess the contractor's degree of compliance with key terms and conditions of the contract.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below.

Objective 1: Determine contractor's compliance with policies, plans, and procedures in accordance with terms of the contract.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Review unit price charges to ensure billed per contractual terms and conditions.	**No Findings Noted.**
2	Review other charges (reimbursable, time & materials, taxes, etc.), excluding unit prices, to ensure appropriately billed or adequately supported by source documentation.	**No Findings Noted.**
3	Validate contractor unit prices and actual units installed are in-line with the actual cost associated with direct labor, materials, fuel, and equipment charges.	**Finding #1 – See Page 4**
4	Review Executed Change Orders, as applicable, to ensure they were priced per contractual terms and conditions.	**No Findings Noted.**
5	Ensure SA provisions concerning adjustments to baseline pricing for fuel and asphalt prices were appropriately administered.	**Finding #2 – See Page 5**
6	Review all bonds and insurance coverages obtained by the vendor to ensure they were obtained at required coverage levels specified in contractual terms and conditions.	**No Findings Noted.**

Procedure #3: Validate contractor unit prices and actual units installed are in-line with the actual cost associated with direct labor, materials, fuel, and equipment charges.	**Risk Rating**
Finding #1: Internal Audit was unable to perform procedures to provide insight into actual, direct construction costs incurred; InfraSource did not provide some of the requested information that they were obligated to provide as allowed by the established audit rights provision(s).	**Moderate**
Process Owner(s): Supply Chain **Executive Council Member Responsible: Jim Stanley, Chief Operating Officer**	**Target Remediation Date:** **03/31/2017**

Observation

Criteria: Standard NiSource GSA contractual language includes a provision for the right to audit and inspect various records to be maintained by vendors. Service Authorizations typically include exhibits that identify the data to be made available by vendors upon request, including actual costs and detailed payroll data. The review of the requested information was intended to provide additional insights to Management for future contract strategy development.

Condition: Internal Audit distributed an Audit Notification and Data Request to InfraSource management on November 15, 2016, which communicated a request for data as allowed by the audit rights provision(s). InfraSource management partially complied with the request (e.g. Aged Accounts Receivable and Invoice Log) and indicated they would not provide certain other portions of the data requested (e.g. job cost ledgers, time sheets, rental equipment detail, etc). Supply Chain management facilitated discussions with InfraSource representatives in an effort to convey more clearly our request and encourage InfraSource to comply with the contractual provisions. As a result of these discussions, InfraSource representatives maintained their position to withhold certain data requested by Internal Audit. As of our audit report date, Management continues to engage InfraSource to collect the remaining requested data.

Risk/Impact: Continued noncompliance with contract provisions can result in a lack of integrity of such provisions. Increased review and/or visibility to contractor direct construction costs could better position the Company when entering into future contracts to ensure such contracts are priced to align with NiSource's strategic goals.

Recommendation

Management should continue to engage and acquire the data requested by Internal Audit to fully complete our procedures.

Management Response

Management will continue to work with InfraSource to obtain certain data requested by Internal Audit to complete their review procedures.

Procedure #5: Administration of SA provisions concerning adjustments to baseline pricing for fuel and asphalt prices were not appropriately executed.	**Risk Rating**
Finding #2: Procedures to validate fuel usage reported by vendors for the purpose of calculating fuel price adjustments appear inadequate and lack formalized documentation.	**Low**

Process Owner(s): Supply Chain

Observation

Criteria: The service authorizations under review included a provision intended to insulate both the contractor and NiSource from commodity price risks for gasoline. Such adjustments rely on vendors to self-report fuel usage. Internal Audit believes best practices would include Management's validation of reported information.

Condition: While reviewing documentation related to a fuel pricing credit settlement with InfraSource in the amount of ~$450K, Internal Audit found Supply Chain personnel: performed appropriate calculations to identify periods during which a fuel adjustment was triggered; requested and obtained fuel usage from InfraSource; and properly calculated the necessary adjustment. Supply Chain personnel determined the fuel usage by InfraSource appeared reasonable based on a comparison to data reported by other vendors with similar contract provisions and scopes of work.

Risk/Impact: Informal procedures and documentation to validate reported fuel usage data can jeopardize the integrity of including commodity index pricing contract provisions and may result in inappropriate reimbursement amounts.

Recommendation

Supply Chain should consider a standardized template, subject to audit, for all contractors to self-report commodity usages when index adjustments are contained in contracts. The standardized templates should also be used to build a database of fuel usage across all NiSource companies for use in evaluating reported data.

Management Response

Not Required for Low Risk Findings

Cc:

J. Hamrock
J. Stanley
D.E. Brown
P.A. Vegas
C.J. Hightman
C.W. Levander
V. Sistovaris
M. Kempic
S.K. Surface
T.J. Tokish
J.L. Hammond
W.P. Kintz
D.A. Eckstein
M.J. Finissi
R.V. Mooney

M.J. Law
T.A. Dehring
S. Anderson
T.L. Tucker
Deloitte & Touche

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact at the unit level, low probability risk may result in contract termination, process/control designed effectively, yet not operating at optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Miller Pipeline Corporation Contract Compliance Audit

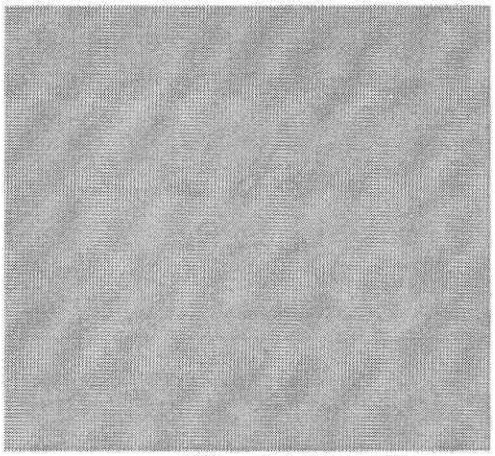
May 15, 2017

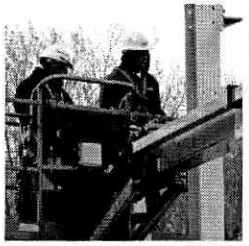
To: D.J. Speas, Director Procurement Operations
R.V. Mooney, VP Engineering & Construction Gas

From: J.A. Barnes, Senior Auditor – Capital and Contract Audit
A.J. Patel, Manager – Capital & Contract Audit
R.W. Binkley, Director – Capital & Contract Audit

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Executive Summary

The purpose of our audit was to ensure Miller Pipeline is in compliance with the NiSource Corporate Services Company General Service Agreements for Construction, Maintenance, Services, and Materials, (Contract No. CW1887419) (GSA), dated September 1, 2013 and subsequent Service Authorizations between Miller Pipeline Corporation (Miller) and NiSource. Internal Audit assessed the contractors degree of compliance with the terms and conditions of the contract. Our audit also examined both the business processes and financial terms of our relationship with Miller Pipeline.

Based on the audit scope noted above and audit procedures conducted on pages 3, Internal Audit noted:

1) *Sales taxes of $3,636 were improperly invoiced and paid by Columbia Gas of Ohio.*
2) *A total of $393,146 of payments were made through Catalyst during the audit period. The spend was properly approved, however, no supporting purchasing documents were executed prior to authorization, per Supply Chain Policy.*

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, will be provided to the Audit Committee. Internal Audit would like to thank Project Controls staff and Management for their cooperation and time in support of this review.

Background

As part of our overall program to ensure responsible management and accountability, NiSource has implemented an on-going program to periodically review our key contracts.

Miller Pipeline Corporation (Miller Pipeline) was identified as a key contractor and selected for review. Miller Pipeline provides gas distribution installation and repair work across NIPSCO and Columbia Gas. For the period of 1/1/2015 to 12/31/2016, NiSource has remitted payments of approximately $208M. The primary basis for the contractual work is a unit cost basis.

	2015	2016	Total (By Company)
NIPSCO	$ 15,704,297	$ 15,124,108	$ 30,828,405
Columbia Gas Companies	84,694,038	92,598,141	177,292,179
Total (By Year)	$ 100,398,334	$ 107,722,249	$ 208,120,584

Audit Scope and Approach

The purpose of our audit was to ensure Miller Pipeline is in compliance with the NiSource Corporate Services Company General Service Agreements for Construction, Maintenance, Services, and Materials, (Contract No. CW1887419) (GSA), dated September 1, 2013 and subsequent Service Authorizations (alternatively, Purchase Order) between Miller Pipeline Corporation (Miller) and NiSource. The audit period was 1/1/2015 through 12/31/2016.

Review procedures included the following objective(s) and associated action steps listed within the Audit Results below.

Objective 1: Determine contractor's compliance with policies, plans, and procedures in accordance with terms of the contract.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Obtain applicable contract(s), purchase order(s), change order(s), subsequent amendment(s), and previous audit reports.	**No Findings Noted.**
2	Review agreements to gain an understanding of the contract language, terms, and conditions, total spend, and project scopes.	**No Findings Noted.**
3	Review a sample of 25 NIPSCO billings/invoices for each item billed and verify that the pricing agrees with the contractual pricing.	**No Findings Noted.**
4	Review all crew rates (2-men, 3-men, 4-men, etc.) and unitized billings (WMS) to ensure adherence to contractual terms and conditions.	**No Findings Noted.**
5	Review the payment data for potential duplicate payments. Obtain a current, detailed aging report and review for unapplied cash and outstanding credits.	**No Findings Noted.**
6	Verify that "Change Orders" and non-unitized billings (Catalyst invoices) are appropriately priced according to the contract documentation.	**Finding #1 - See Page 4**
7	Verify that insurance policy under the contract (Workers Compensation; Employer's Liability; Commercial General Liability; and Automobile Liability) meets or exceeds contractual insurance requirements;	**No Findings Noted.**
8	Review payment terms to ensure compliance with contract obligations; and review key true-up provisions around commodity indices or other estimated costs.	**No Findings Noted.**

Findings

Procedure #6: Verify that "Change Orders" and non-unitized billings (Catalyst invoices) are appropriately priced according to the contract documentation.	Risk Rating
Finding #1: Catalyst invoices contained $3,636.30 of sales taxes (including markups) which may have been improperly paid, per the contractual terms and conditions.	Low
Process Owner(s): Columbia Gas of Ohio Operations	

Observation:

Criteria: Section 27 of the NiSource General Service Agreement with Miller Pipeline states *"Contractor shall, to the extent possible, utilize the following tax exemptions for listed Affiliates* [Columbia Gas of Ohio, Inc.] *in purchasing goods and services for all work performed and services rendered".*

Condition: For the audit period, Columbia Gas of Ohio paid $3,636 in sales tax related charges *($3,471 in sales taxes, plus $164.87 in markups)* on invoices billed through Catalyst.

Risk/Impact: Improper exclusion of sales taxes could lead to overbillings by contractors.

Recommendation

Columbia Gas Operations Management should create a procedure to identify Catalyst invoices with sales taxes to further investigate potential tax overbillings.

Management Response

Not Required for Low Risk Findings

Report Distribution

CC:

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V. Sistovaris
J. Stanley
P.A. Vegas
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M.J. Finissi
T.A. Dehring
M.J. Law
S.J. Kelly
T.L. Tucker
Deloitte & Touche

Appendix A

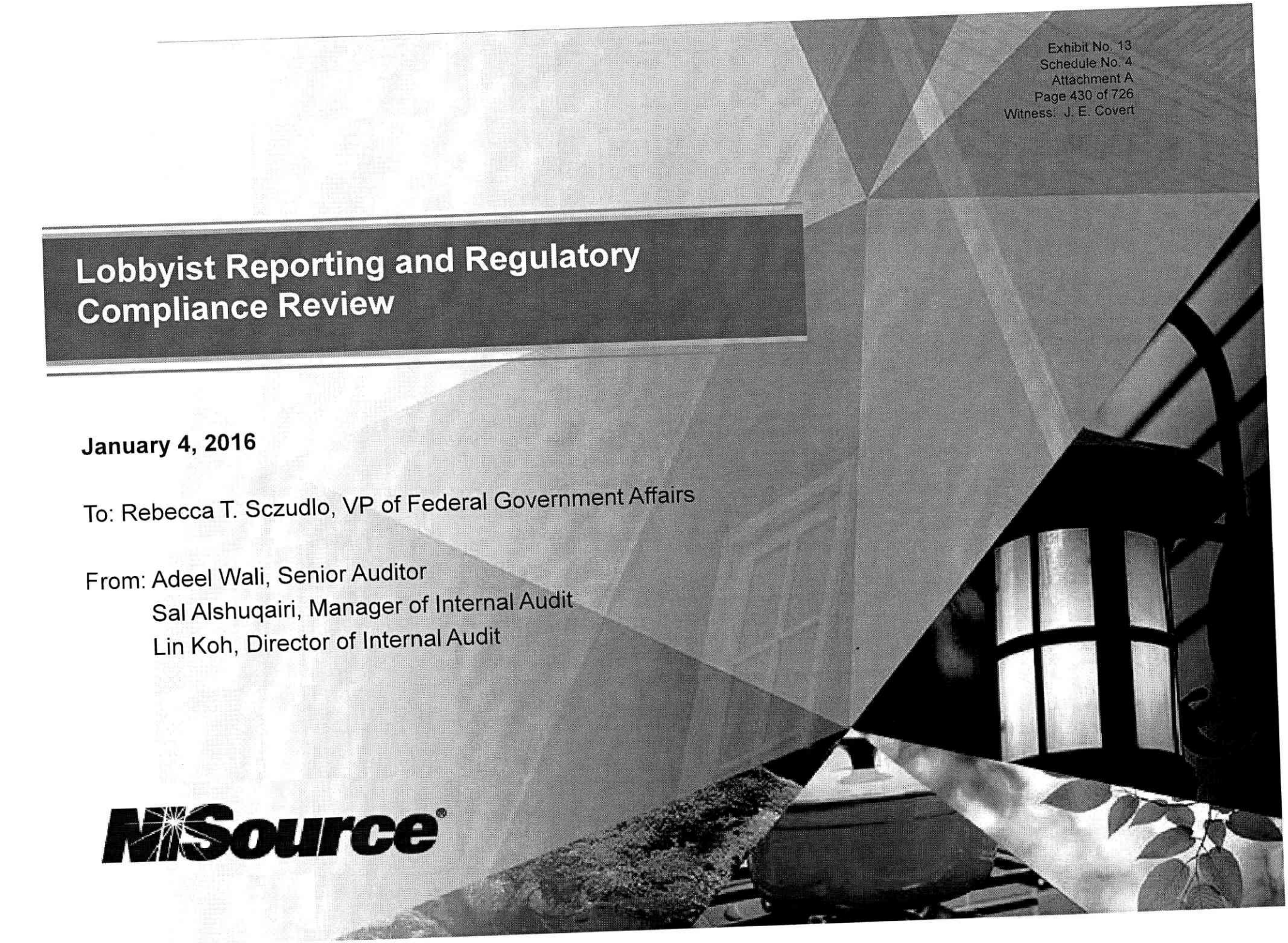
Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Lobbyist Reporting and Regulatory Compliance Review

January 4, 2016

To: Rebecca T. Sczudlo, VP of Federal Government Affairs

From: Adeel Wali, Senior Auditor
Sal Alshuqairi, Manager of Internal Audit
Lin Koh, Director of Internal Audit



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- Internal Audit performed a review of NiSource lobbying activities and regulatory reporting requirements. The purpose of this audit was to evaluate the risk exposures relating to the governance and compliance with federal reporting requirements for lobbying activities. The review covered NiSource lobbying activities from October 1, 2014 through September 30, 2015.
- This audit did not cover lobbying activities at the state or local levels.
- NiSource is committed to be a good corporate citizen in the communities in which it conducts its business and to participate constructively in the lobbying process where it's legal and appropriate. Additionally, it is NiSource's policy to not make direct independent expenditures at the federal level.
- Direct independent expenditures would consist of corporate funds spent on public communications in support of or in opposition to any federal candidates.
- Corporate funds may be used, where legally permissible, for lobbying activities and to participate in the election of state and local candidates who share NiSource's public policy views or in support of state and local ballot measures having an impact on the industry.
- The 1995 Lobbyist Disclosure Act, and the 2007 Honest Leadership Act are the governing rules and regulations for lobbying activities. The Honest Leadership Act amended parts of the 1995 Lobbyist Disclosure Act.
- There are reporting requirements under the Lobbying Disclosure Act with both the Clerks of the US Senate and House of Representatives.
- Under these reporting requirements, lobbyists are required to file on a quarterly basis throughout the year on their activities including:

    - The salaries spent on lobbying activities,
    - Expenses incurred on lobbying activities,
    - A list of issues lobbied.

- During May 2014, NiSource adopted a formal Political Spending Policy under the oversight of the Corporate Governance Committee of the Board of Directors. This policy was approved by the Board of Directors on May 13, 2014.
- Internal Audit performed procedures to identify comparative processes for lobbying activities by another peer company. During our review, Internal Audit observed some opportunities for improvement. The following observations were noted in relation to the current Political Spending Policy:
  - The current policy is consistent with federal rules and regulations; however, the policy may need to be documented in greater detail or additional procedures should be established to supplement the current policy.
  - The roles and responsibilities of the various personnel involved in the process are documented well; however, management should consider updating the job duties as needed to reflect current lobbying compliance responsibilities of all key personnel.
- All required regulatory filings for the period under audit were submitted on time.
- Internal Audit selected Q4 of 2014 and Q3 of 2015 filings for testing to assess whether lobbying expenses were properly and accurately reported to the regulators. The following were noted during our review:
  - For Q3 2015, the filing was accurate and adequate support was maintained by management.
  - For Q4 2014, a variance of $10K between the regulatory filing and the supporting documentation was identified.

These audit observations are discussed in greater detail in the *Audit Objective, Results, and Recommendations* section of this report.

- The Honest Leadership and Open Government Act was enacted on September 14, 2007 that amended parts of the Lobbying Disclosure Act of 1995. It strengthens public disclosure requirements concerning lobbying activities and funding, places more restrictions on gifts for members of Congress and their staff, and provides for mandatory disclosure of earmarks in expenditure bills.

- The Law requires full public disclosure of lobbying activity for the following activities:
  - Requires lobbyist disclosure filings to be filed on a quarterly basis.
  - Requires lobbyist disclosures in both the Senate and House to be filed electronically and requires the creation of a public searchable Internet database of such information.
  - Increases civil penalty for knowing and willful violations of the Lobby Disclosure Act from $50,000 to $200,000 and imposes a criminal penalty of up to five years for knowing and corrupt failure to comply with the Act.
  - Requires the Government Accountability Office to audit annually lobbyist compliance with disclosure rules.
  - Requires lobbyists to certify they have not given gifts or travel that would violate the Senate or House rules.
  - Requires the disclosure of businesses or organizations that contribute more than $5,000 and actively participate in lobbying activities by certain coalitions and associations.

During our audit, Internal Audit performed the following procedures:

- Conducted interviews with management to discuss and understand the current policies and procedures for the lobbying reporting and regulatory compliance process.
- Reviewed whether lobbyist reporting policy and procedures are adequate, up to date and readily available. In addition, our team reviewed whether the policy was approved by the Board of Directors.
- Reviewed the current process established by management for identifying, approving, disbursing, and tracking lobbying expenses.
- Evaluated whether the current policy and procedures are consistent with the lobbyist reporting regulations and guidelines.
- Evaluated whether the policy and procedures are adequate to provide reasonable assurance that lobbying activities are reported to regulators in a timely manner.
- Assessed whether the roles and responsibilities of the various personnel involved in the process are clearly documented.
- Evaluated whether segregation of duties exists among the various groups involved in the process.
- Obtained a list of quarterly filings including lobbying expenses incurred during the period from October 1, 2014 through September 30, 2015.

- Selected Q4 of 2014 and Q3 of 2015 filings and assessed whether:
  - Expenses were properly processed, reviewed and approved for payment.
  - Adequate support exists to substantiate lobbying expenses.
  - The reports/filings were accurately prepared, reviewed, and filed with the regulators in a timely manner.
  - Adequate records management procedures exist for maintaining these filings/reports as required by current regulations.

Audit Objective 1:

Assess whether NiSource has established adequate policies and procedures to ensure compliance with the federal lobbying laws and regulations.

- Assessed whether management has established adequate and formal lobbying policies and procedures.
- Evaluated the adequacy of the current policy and procedures established for managing and reporting lobbyist activities at the federal level.
- Assessed whether the roles and responsibilities of various personnel, involved with federal lobbying activities, are clearly defined and formally documented.
- Assessed whether management has established proper segregation of duties among the various groups involved with lobbying activities at the federal level.

- The 1995 Lobbyist Disclosure Act and the 2007 Honest Leadership Act are the governing rules and regulations for lobbying activities.
  - The 2007 Honest leadership Act amended parts of the 1995 Lobbyist Reporting Act.
  - It strengthens public disclosure requirements concerning lobbying activities and funding.
  - It also placed more restrictions on gifts for members of Congress and their staff.

- NiSource adopted a formal Political Spending Policy under the oversight of the Corporate Governance Committee of the Board of Directors to provide guidance on political and lobbying activities for NiSource. According to the policy:
  - The SVP of Corporate Affairs is responsible for reviewing corporate and business unit political spending.
  - The VP of Governmental Affairs is responsible for the internal monitoring and tracking of political and lobbying spending, direct and indirect political contributions, and ballot initiatives made by NiSource.

- Internal Audit observed that the Political Spending Policy was readily available and accessible on MySouce portal.

- The Political Spending Policy was approved by NiSource Board of Directors on May 13, 2014.

- Internal Audit performed procedures to identify comparative processes for lobbying activities by another peer company. During our review, Internal Audit observed some opportunities for improvement. The following observations were noted in relation to the current Political Spending Policy:
  - The current policy is consistent with federal rules and regulations; however, the policy may need to be documented in greater detail or additional procedures should be established to supplement the current policy.
  - The roles and responsibilities of various personnel involved in the process are well documented; however, management should consider updating the job duties on a regular basis to reflect current responsibilities of all key personnel.

- Internal Audit also received the approved roles and responsibilities that defines the duties and responsibilities of key personnel. Internal audit noted that the VP of Governmental Affairs is:
  - The main point of contact from NiSource and represents NiSource while working with lobbyists.
  - Responsible for ensuring that all activities relating to lobbying activities comply with the federal rules and regulations.
  - Responsible for ensuring that reports are filed with the regulators on a timely basis.

Recommendation:

- Management should consider updating the job duties of key personnel on a regular basis to reflect current roles and responsibilities.

Management Response:

- Management will update both the VP and Manager job descriptions to reflect job-specific responsibilities under the LDA

Audit Objective 2

Assess whether lobbying expenses are appropriately disbursed, accurately tracked, and are properly and timely reported in accordance with the relevant federal law requirements.

- Reviewed whether lobbying expenses were approved properly and disbursed in accordance with the current policies and procedures for lobbying activities.
- Assessed whether management has established adequate procedures to ensure that the required federal filings are properly and timely reported in accordance with applicable laws and regulations.
- Assessed whether management has established adequate controls over lobbying expenses to ensure that lobbying expenses are properly approved, tracked and reported.
- Assessed whether lobbying reports and required filings were properly and timely submitted to the federal authorities in accordance with the applicable laws and regulations.

- It is a federal requirement that each registrant must file a quarterly Lobbying Disclosure Report (Form LD2) no later than 20 days after the end of the quarterly period. Internal Audit observed that:
  - All regulatory filings in the audit period were filed with the regulators on a timely basis.
  - The VP of Government Affairs reviewed and submitted each quarterly filing on time.

- Internal Audit selected Q4 of 2014 and Q3 of 2015 for testing to assess whether expenses were properly and accurately reported to the regulators. The following were noted during our review:
  - For Q3 of 2015, the filing was accurate and adequate support was maintained by management.
  - For Q4 of 2014, a variance of $10K between the regulatory filing and the supporting documentation was identified by Internal Audit.

- Internal Audit observed that expenses for time spent on lobbying activities are manually tracked using Lotus Notes calendar functionality. Additionally, there are no formal documented procedures for tracking time spent on lobbying activities. Management indicated that they have begun the process to explore the need to document and formalize this process.

Recommendations:

- Management should consider formalizing and documenting the process for tracking time spent on lobbying activities by NiSource employees.

- Management should consider establishing formal procedures to ensure that expenses are accurately reported. These procedures should also include that in instances of errors or omissions, amended reports should be filed on a timely basis.

Management Responses:

- Management is currently in the process of evaluating how time is tracked by consulting outside counsel who previously advised of current process.

- Management will amend existing procedures to include a section on filing amended reports

Report Distribution

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Deloitte & Touche, LLP

Pension Trust and Benefits Review - NiSource

July 12, 2016

To: Shawn Anderson, VP Treasury & Chief Risk Officer
Rick L. Bond, Vice President Human Resources
Jillian Hansen, Manager Benefits

From: Anthony Fushi, Internal Audit
Ariel Malavolti, Staff, Internal Audit
Lin Koh, Director, Internal Audit



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- Audit Objective 3: Perform Demographic Testing – Frozen Pension Plan Participants.....
- Audit Objective 4: Recalculation of Benefit Payments.....
- Audit Objective 5: Ensure Benefit Assets are Properly Valued.....
- Report Distribution .....

Pension Trust and Benefits Review

Introduction

On an annual basis, Internal Audit performs a review of the Pension Trust Fund to assess the accuracy, completeness, and integrity of pension plan information. Internal Audit conducted and completed the annual review of NiSource Pension Plan for the year ended December 31, 2015.

Our review included the following:

- Evaluating the applicable internal controls, including an assessment of various oversight activities performed by NiSource Management, related to pension plan participant establishment, distribution, and fund management.
- On a sample basis, validating the demographic information of Bay State Union (BSU) and Bay State Nonunion (BSNU) participants.
- On a sample basis, recalculating the benefit payments administered by Aon Hewitt Associates (the Pension Plan Administrator), as well as disbursements made by Northern Trust (the Plan Trustee).
- On a sample basis, reviewing the performance of LCG Associates (the Fund Manager) and the investment reporting activities provided by Northern Trust.
- Reviewing NiSource administration procedures for the plan accounts, participants data, earning interfaces and retiree record management.

Pension Trust and Benefits Review

Summary of Results

Areas of Strength

- No exceptions were noted during our testing of the accuracy and effectiveness of the IT applications interface. Transmission of information between PeopleSoft and Aon Hewitt appears to be accurate and complete.

- Access to confidential information is granted to appropriate personnel and Management has authorized all relevant changes. No exceptions noted during testing.

- No exceptions were noted for pensionable pay re-calculation of the sample of 25 participants selected for testing. All relevant changes in payment information was properly reflected in the pensionable pay calculation.

- Internal Audit prepared a reconciliation of participants across the Bay State Union (BSU) and Bay State Nonunion (BSNU) pension plans and reconciled the number of participants, per census data, to the actuarial report. No exceptions were noted during the testing.

- During this year's audit, the cash account and domestic equity funds were selected for investment testing. There was sufficient evidence that plan funds and investment managers are appropriately being monitored.

Pension Trust and Benefits Review

Areas of Improvement

- A BSU participant was identified with an incorrect date of birth in PeopleSoft. PeopleSoft was subsequently updated with the correct date of birth.

- A BSNU plan participant had a benefit underpayment due to an error/oversight on Aon Hewitt's behalf. The participant was paid the remaining benefit on 05/13/2016.

- A BSU plan participant, previously identified by Aon Hewitt, had a benefit overpayment due to an extra month of interest calculated. Hewitt is still in the process of recouping the overpayment.

- A NI plan participant, previously identified by Aon Hewitt, had a benefit overpayment due to an omission of a second Qualified Domestic Relations Order (QDRO) in the pension benefit calculation. Hewitt is still in the process of recouping the overpayment.
  - ❑ Additionally, Internal Audit also noted a slight discrepancy in the benefit recalculation due to a discrepancy in earnings. The earnings discrepancy was due to Aon Hewitt not including the updated earnings into their system.

These findings and conclusions are discussed in greater detail in the Audit Objectives, Results, and Recommendation section of this report.

Pension Trust and Benefits Review

Pension Trust and Benefit Plans

- NiSource provides retirement benefits to both vested salaried and union employees through four subsidiary sponsored retirement plans.

- The four pension plans administered by NiSource are:
  - NiSource Plan (NI)
  - Columbia Energy Gas Plan (CEG)
  - Bay State Union Plan (BSU)
  - Bay State Nonunion Plan (BSNU)

- Internal Audit coordinates audit work with Deloitte & Touche (D&T) and it includes:
  - Performing demographic testing for Bay State Union and Bay State Nonunion pension participants
  - Performing benefit recalculations

- The sample sizes were determined by D&T for all demographic and benefits recalculation testing.

- In 2002, PeopleSoft was implemented as HR's system for records. The timeframe when records were updated in PeopleSoft was referred to as conversion date. During the conversion some participants were recorded with incorrect date of hire or termination due to manual uploading of information. Incorrect information in PeopleSoft does not impact pension participant calculations because Aon Hewitt is the system of records used for pension calculations.

Pension Trust and Benefits Review

- HR Benefits performs a Retirement Review for every retiree. For the review, Aon Hewitt provides all the earnings information that was transmitted to their system over the course of the employee's time at the company and HR Benefits reviews the earnings for discrepancies. All discrepancies are resolved before the benefit payment calculation is performed by Aon Hewitt.

Investment of Pension Funds

- Oversight responsibility of the investments of pension funds lies with the NiSource Benefits Committee (the "Committee").

- The Committee is assisted by LCG Associates to provide the following services:
  - Fund Manager's performance
  - Allocation of fund assets to maximize rates of return
  - Managing market risk

- To better manage the funded status changes in the various pension investments and balance its long-term goals with the desired risk levels, the Committee follows a dynamic asset allocation policy that adjusts the allocation between its return-seeking portfolio (equities and alternatives) and its liability hedging portfolio (fixed income).

Pension Trust and Benefits Review

Scope

- Select a sample of two monthly interface control total transmissions between PeopleSoft and Aon Hewitt to validate that HR Benefits performs a review for accuracy and completeness of information.

- Obtain a quarterly review of the deceased retirees from Northern Trust. Ensure Northern Trust has stopped pension payments for deceased retirees. Also, validate proper payout has been received by the beneficiaries.

Results

- Internal Audit selected May and July 2015 for interface testing and noted the following:

  - ❑ Each month, the Human Resource Information System (HRIS) Analyst generated the reports and identified variances in the interface between Aon Hewitt records and NiSource records.
  - ❑ The Earnings Interface Corrections file is also generated monthly to document changes made to pensionable pay transmitted to Aon Hewitt.
  - ❑ Variances identified by the HRIS Analyst in the files were resolved during the monthly audit.
  - ❑ The monthly audit occurs one month after the transmission, in order to capture any corrections made by the Payroll Department on a timely basis.

Pension Trust and Benefits Review

- Internal Audit noted that the review of the May and July 2015 interface performed by HR Benefits appears to be operating as intended. Interface variances were identified and resolved in a timely manner.

- Internal Audit performed a review of deceased participants on Q2 2015 and noted that Northern Trust stopped payments to deceased participants. The process for reviewing participant deaths appears to be properly managed. No exceptions were noted during the testing.

Recommendations

None

Pension Trust and Benefits Review

Scope

- Evaluate whether access to benefits is restricted to appropriate personnel. Obtain evidence of periodic management review and approval of changes performed during the year.

- Review whether the access to modify retiree pension amounts has been restricted to authorized personnel.

Results

- Internal Audit confirmed the following with the Benefits Manager:

  - ❑ HR Benefits team is responsible for the changes in pension benefit amounts and years of service.
  - ❑ All changes to the benefit payment amounts are discussed, reviewed, and approved by HR Benefits, Management, and Aon Hewitt.
  - ❑ Access has only been granted to appropriate personnel and Management has authorized all relevant changes.

Recommendations

None

Pension Trust and Benefits Review

Scope

- Validate that participant's "Demographic Information" (Name, SSN, Employee ID, Gender, Union Code, Date of Birth, Date of Hire, Date of Termination, Date of Retirement, Age, Months of Service, Eligibility Status, and Pensionable Pay) that may impact accumulated plan benefits is complete and accurate.

Frozen Plans

- Obtain a reconciliation of participants from the 2014 actuary census file to the 2015 actuary census file, by major categories (i.e. active, terminated vested, and retired), to identify participants with a status change between the major categories and participants without a status change.

- Obtain a detailed listing of participants with status changes by major category (i.e. active, terminated vested, and retired). Review the listing of changes and investigate for unusual activity. Also, reconcile the number of participants, as per census data, to the number of participants in the actuarial valuation report.

Pension Trust and Benefits Review

- D&T provided a sampling methodology, that resulted in a sample size of 55 participants distributed, as shown in the table below:

Name of Plan	Without Status Change	With Status Change	Total samples
1. Bay State Union	20	10	30
2. Bay State Nonunion	15	10	25
Total	35	20	55

Results

- Internal Audit validated a sample of 55 participants for the demographic information and noted an exception:
  - ❑ Internal Audit noted a BSU participant was identified with an incorrect date of birth in PeopleSoft. PeopleSoft was subsequently updated with the correct date of birth.

Pension Trust and Benefits Review

- Internal Audit performed a pensionable pay calculation on a sample of 25 participants. Internal Audit noted that pensionable pay was calculated accurately for all samples selected. No exceptions were identified during the testing.

- Internal Audit verified that all relevant changes in pay information were properly reflected in the pensionable pay calculation.

- Internal Audit prepared a reconciliation of participants across the Bay State Union (BSU) and Bay State Nonunion (BSNU) pension plans and reconciled the number of participants per census data to the actuarial report. No exceptions were noted during the testing.

  - Note: There was a methodology change to the 2015 actuarial reports, due to the separation from Columbia Pipeline Group in July 2015. The change was related to funding for the NiSource plan and Columbia Energy Group plan, since a portion of each plan's funding was transferred to Columbia Pipeline Group in the separation. The change in funding methodology did not affect the participant testing performed by Internal Audit.

Recommendations

None

Pension Trust and Benefits Review

Scope

- Across all defined benefit plans, perform a recalculation of benefit payments and ensure benefit payments are accurately calculated, processed timely, and properly authorized on the sample size selected by Deloitte shown in the following table:

Benefit Payout Format	Sample Size
Annuity sample (commenced in 2015)	8
Lump sum sample (paid in 2015)	16
Grand Total	24

- Validate that the checks, as disbursed by Northern Trust, are accurate and complete for the sample size selected by Deloitte for benefit recalculation.

- Review the 8 annuity selections made for 2014 and evaluate whether the calculations are still accurate and not changed.

Pension Trust and Benefits Review

Results

- D&T selected 24 participants for pension benefit calculations. Recalculations were performed on 24 pension participants, for the plan year ended December 31, 2015. The results of the recalculations are as follows:

  - One BSNU plan participant received a lump sum underpayment due to an error/oversight on Aon Hewitt's behalf updating trailing pay information and performing a "true-up". The participant was paid the remaining benefit payment on 05/13/2016.
  - One BSU plan participant, previously identified by Aon Hewitt, received a lump sum overpayment due to Aon Hewitt's system triggering a second "true-up". The second "true-up" caused the benefit calculation to include an extra month of interest. HR Benefits noted the overpayment in the 2015 Q2 SOX testing and the retirement review that they perform. Aon Hewitt updated their system in November 2015 to prevent this issue from occurring in the future. Hewitt is still in the process of recouping the overpayment.
  - One NI plan participant, previously identified by Aon Hewitt, received a lump sum overpayment due to an omission of a second Qualified Domestic Relations Order (QDRO) in the pension benefit calculation. Hewitt is still in the process of recouping the overpayment.
    - Additionally, Internal Audit also noted a slight discrepancy in the benefit recalculation due to a discrepancy in three months of earnings. HR Benefits determined that Aon Hewitt was notified of the earnings discrepancy in July 2015, but the updated earnings was not up updated in Aon Hewitt's system.

Pension Trust and Benefits Review

- ❑ The remaining 21 benefit recalculations and disbursements were found to be accurate and made in a timely manner.

- Internal Audit reviewed the 8 annuity benefit recalculations selected for 2014 to ensure that the calculations were still accurate and unchanged. All 8 annuity benefit calculations and disbursements were found to still be accurate and unchanged.

Recommendations

- HR Benefits should continue to follow-up with Aon Hewitt on the outstanding benefit overpayments made to participants, to ensure the pension funds' reimbursement.

Management Response

NiSource Corporate Benefits is continuing to work with AonHewitt to ensure this overpayment and any/all other overpayments identified through our routine payment review processes are properly reimbursed to the Pension Trust.

Pension Trust and Benefits Review

Scope

- Review NiSource Inc. defined benefit plan investment policy. Evaluate whether funds are properly allocated between asset classes in accordance with the NiSource investment strategy.
- Review all 2015 NiSource retirement plan administrative & investment committee meeting minutes. Validate that monitoring over investment funds is performed to ensure acceptable performance of fund managers.
- Obtain the Northern Trust Annual Report for the audit period of 1/1/2015 – 12/31/2015.
- Pension funds are tested on a 3-year cycle; 6 types of funds are in place: cash, domestic equity, international equity, private equity, fixed income, and hedge funds.
  - ❑ Select a judgmental sample of positions from **Cash Account** and **Domestic Equity** for the 2015 testing cycle (as stated in the audit plan rotation) and validate investments as reported by the fund managers, per the Northern Trust Annual Report, are properly valued.

Pension Trust and Benefits Review

Results

- Internal Audit obtained and reviewed:
  - ❑ The prevailing NiSource Inc. Investment Policy for the Defined Benefit Plans, dated March 14, 2012.
  - ❑ The minutes of the NiSource Benefits Committee quarterly meetings.
  - ❑ The fund performance and presentations by LCG Associates, the NiSource advisor who performs due diligence on Investment Managers.

- Internal Audit obtained the asset details for the Cash Account and Domestic Equity and verified that both funds were valued correctly.

- Internal Audit reviewed the asset allocation and verified that all six funds were allocated within range, as defined in the Benefit Investment Policy.

- Based on Internal Audit's review, Investments are valued correctly and there was sufficient audit evidence to demonstrate that the Fund and Investment Managers are appropriately monitored by Management.

Recommendations

None

Report Distribution

We appreciate the cooperation and assistance that your staff provided to the audit team during this review. Should you have any questions or require additional information, please do not hesitate to contact Ariel Malavolti at (219) 647-4440 or Lin Koh at (219) 647-4984.

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Point of Delivery Audit – Columbia Companies

December 16, 2016

To: Don Eckstein, Sr. VP Gas Operations
Dan Cote, VP Pipeline Safety and Compliance

From: Natalie Ladd, Senior Auditor
Sal Alshuqairi, Manger of Internal Audit
Lin Koh, Director of Internal Audit

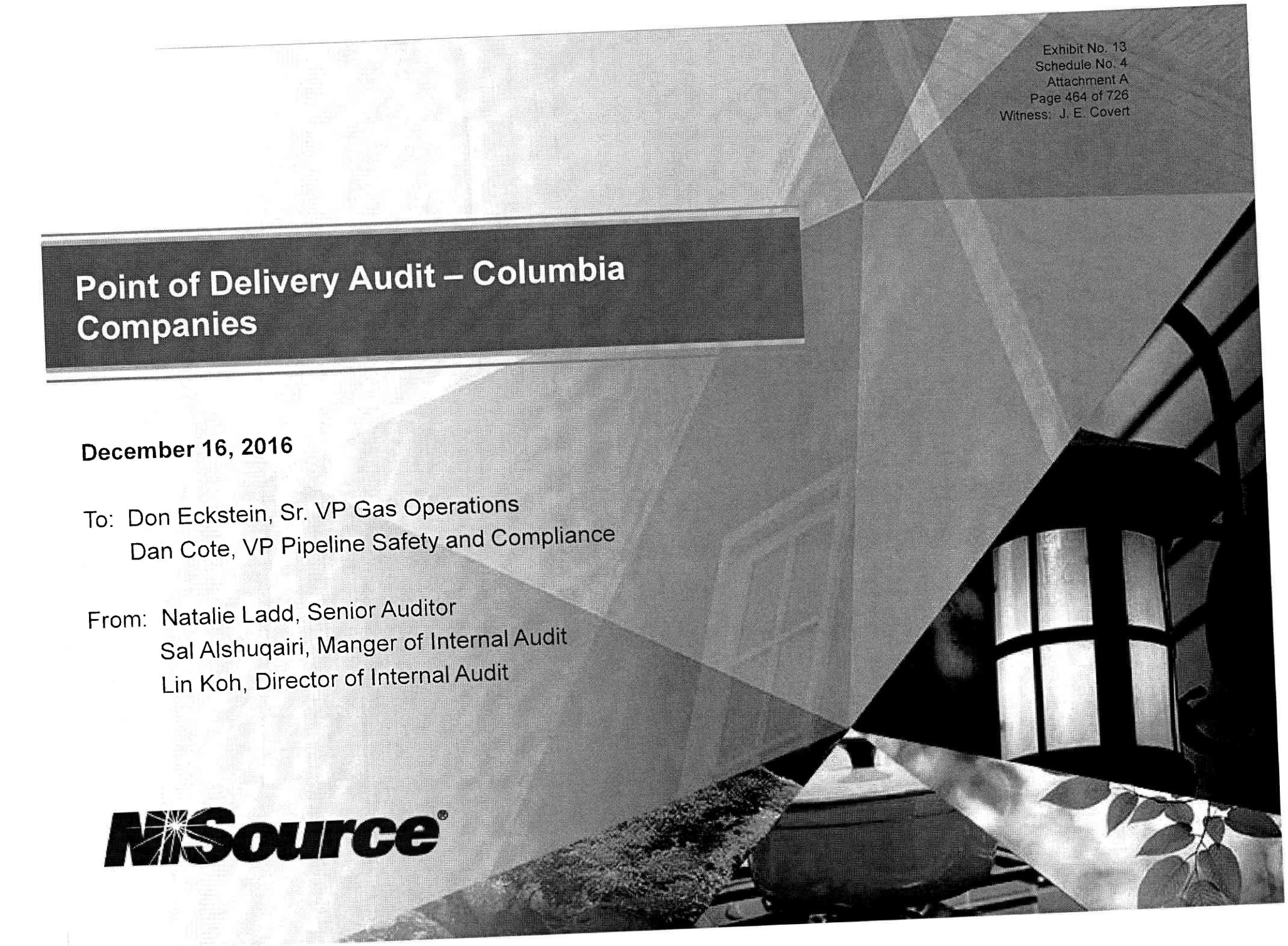


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Point of Delivery Audit

The transfer of Point of Delivery (POD) asset ownership from CPG to NiSource resulted from the broader NiSource - CPG separation. Internal Audit performed a review of the records management process currently in place for managing data at points of delivery at the Columbia Companies affected by the asset transfer. The audit covered the period from 7/1/2015 to 5/31/2016.

Our procedures focused on the following areas:

- Review policies and procedures in place for ensuring compliance with state and federal code.
- Review roles and responsibilities at the operations and management levels for managing data at points of delivery.
- Assess whether the level of documentation maintained at points of delivery is sufficient to comply with state and federal code.
- Assess whether management is using adequate systems and tools to ensure the reliability of their records.

Point of Delivery Audit

Summary of Results

The following is a summary of the observations noted during the course of this audit:

Areas of Strength

- Regulator Inspections for transferred POD stations are set up for inspection in WMS in accordance with Gas Standards.

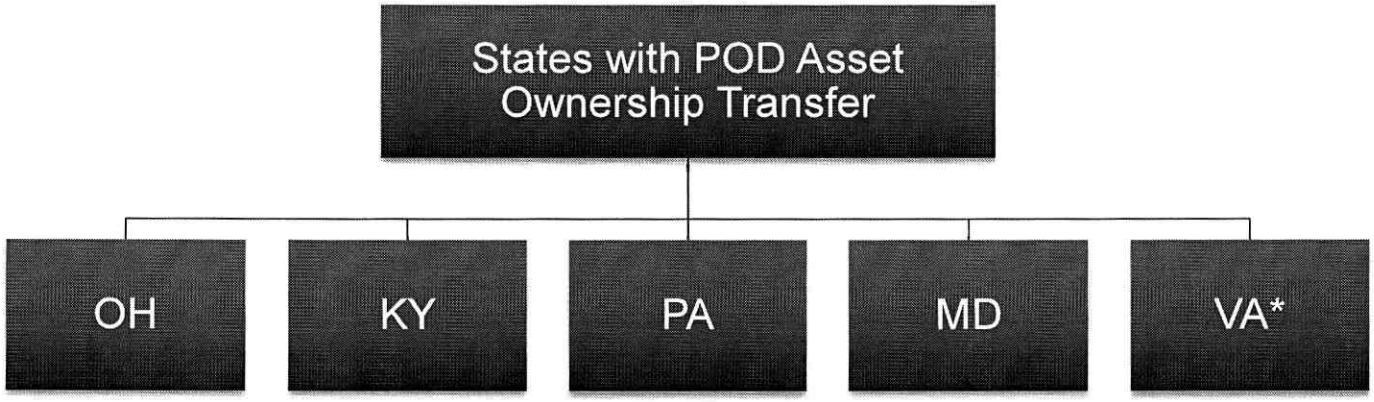
Areas of Improvement

- The roles and responsibilities for managing POD assets are not clearly defined between Operations and Compliance.
- An evaluation was not performed over the completeness of asset records received for transferred POD stations.
- Duplicate company premise IDs were added into WMS through the POD asset transfer.
- The designation of Critical Valves needs finalization in Kentucky.

Point of Delivery Audit

NI-CPG Separation and POD Asset Transfer

The transfer of ownership of POD assets resulted from the broader NI-CPG separation and was managed by a Separation team comprised of Engineering and M&R Operations.



*Note that that POD Assets were transferred in Virginia earlier than the other 4 states and, subsequently had a different team that lead the asset transfer. For purposes of this audit, Internal Audit reviewed Virginia's POD assets in the same manner as the other 4 states whose POD asset ownership transferred as part of the NI-CPG separation.

Point of Delivery Audit

POD Asset Transfer Process Overview

Planning: POD Stations

Who:	Actions:
CPG-NiSource Asset Separation Team	Determine stations, Create CPG-NI SharePoint Site, Plan asset review and transfer.

Step 1: CPG Site Visit

Who:	Actions:
CPG Field Operations	CPG physical review of the station assets.

Step 2: NiSource Site Visit

Who:	Actions:
NiSource Field Operations	NiSource physical review of station assets and information. Finalize demarcation point.

Step 3: Asset Creation in Work Management System (WMS)

Who:	Actions:
NiSource Asset Separation Team, Technology and Application Support Team	Upload stations into WMS.

Step 4: Repetitive Task (RT) Creation in WMS

Who:	Actions:
NiSource Field Operations and Engineering	Review station and CPG compliance work to create required RTs in WMS

Point of Delivery Audit

Audit Objective 1:

Assess whether management has established a plan for managing points of delivery to ensure compliance with state and federal code.

Audit Observations:

1. NiSource's Gas Standards related to Regulator Stations provide instructions for performing work to meet both federal and state standards.
   - Internal Audit reviewed the Gas Standards related to Point of Delivery Operations and Maintenance for the five states that had transferred stations.
   - The standards noted the specific 49 CFR Part 192 section, as well as any applicable state code.

2. NiSource's Gas Standards related to Regulator Stations do not consistently specify the types of records required for retention or designate responsibility for retaining records.
   - The standards presume that the group/department responsible for performing the standard is also responsible for record retention; however, the standards do not consistently identify who performs the standard or any documentation required outside of WMS.

Point of Delivery Audit

Audit Observations continued:

3. The records for Gas Standard 1756.010 "Annual Primary Relief Device Capacity Verification," requires the completion of a form with no required WMS record.
   - While stations may use a monitor regulator for primary safety, the inspection for settings with a primary pressure relief valve are not required to be documented in WMS.
   - From a selection of 25 stations across the 5 states affected by the transfer, all 25 had a monitor regulator facility in WMS and no separate primary pressure relief valve; therefore an annual inspection was not required.

4. The roles and responsibilities for performing compliance and maintenance activities at POD stations are not formally defined.
   - Currently, compliance reporting between Operations and Compliance is not formalized and consistent among the states. For example, for Ohio and Kentucky, Operations sends Compliance a monthly compliance report of executed compliance work, while Pennsylvania, Virginia, and Maryland Compliance leaders do not receive monthly reporting. This reporting is not a requirement, but a non-standard practice.

Point of Delivery Audit

Audit Observations continued:

5. An evaluation was not performed over the completeness of asset records received for transferred POD stations.
   - Limited physical documentation was transferred from CPG to NiSource outside of the POD Asset Transfer SharePoint site.
   - The POD Asset Transfer SharePoint site was the main repository for records transferred. This SharePoint site is not associated with WMS Docs, the central repository currently used for design capital job orders and MAOP records.
   - From a selection of 25 stations across the 5 states affected by the transfer, Internal Audit reviewed the following:
     - All 25 had isometric drawings and inventory cards.
     - 9 stations had historical pressure testing documentation uploaded to SharePoint. The remaining 16 stations did not have any pressure testing records.
     - 11 stations had additional work order or invoice information uploaded to SharePoint. The remaining 14 stations did not have any historical work order or invoice information.
   - When the station was originally being reviewed, the focus of Operations and Engineering was to evaluate the facilities and required RTs, not the records associated with the station.

Point of Delivery Audit

Audit Observations continued:

6. Duplicate company premise IDs were added into WMS through the POD asset transfer.
   - From a selection of 25 stations, Internal Audit identified 1 company premise ID that was a duplicate of an already existing company premise in WMS. The duplicate station did not have any associated facilities or RTs in WMS. Internal Audit obtained the correct company premise ID from Operations and used it in any further assessment (annual inspections, critical valve reviews).
   - Internal Audit obtained a COGNOS report from the Business Intelligence Group over all of the transferred company premise IDs and found that 32 company premise IDs do not have any associated facilities, which indicate either a potential duplication in WMS or a station without any scheduled compliance work. Refer to the following locations for the 32 company premise IDs without facilities:
     - Kentucky- 5
     - Maryland- 1
     - Ohio- 17
     - Pennsylvania- 9

Point of Delivery Audit

Audit Observations continued:

7. Regulator Inspections for transferred POD stations are set up for inspection in WMS in accordance with Gas Standards (1750.010, 1750.020, 1750.040, and 1754.010).
   - From a selection of 25 stations, Internal Audit reviewed the station and Repetitive Tasks (RTs) associated with its facilities and functions in WMS.
   - 5 stations were variable pressure gas measurement billing regulators (GMB), which require inspection every 7 calendar years (GS 1750.020), and were set up with Repetitive Tasks (RTs) for inspection every 5 years.
   - The regulation function for 1 station in OH was retired; therefore, no RT for inspection were required.
   - The remaining 19 stations were set up with annual inspection RTs every 12 months, not to exceed 15 months (GS 1750.010, 1750.040, 1754.010).

8. The designation of Critical Valves needs finalization in Kentucky.
   - From a selection of 25 stations, Internal Audit reviewed the station to assess whether Critical Valves were added to WMS and an associated annual inspection RT (GS 1760.010) was created.
   - 2 stations in Kentucky selected for testing did not have any critical valves; however, upon further inquiry with Kentucky Operations and Engineering, no valves from the 78 POD stations in Kentucky transferred as critical although some of these valves could be construed as critical in some operating areas. Engineering in Kentucky has not finalized the interpretation and classification of critical valves.

Point of Delivery Audit

Recommendations and Management Responses:

Recommendation #1

Management should evaluate and establish a system of record for tracking compliance and maintenance activities and assess whether the system captures all essential regulator station activity consistently.

Management Response:

The Columbia LDC's use the Work Management System (WMS) for asset management and work planning, scheduling, execution and documentation for work on regulator stations. This includes compliance inspections as specified in GS 1750.010

All pressure regulation facilities acquired during the POD purchase from CPG are managed using WMS. As part of the transition process, premises, facilities, functions and repetitive tasks (RT's) have been created in WMS.

One exception is capacity verification for any relief valve used for primary over pressure protection. Consistent with current practices, engineering will complete the capacity verification and maintain the compliance documentation.

Point of Delivery Audit

Recommendations and Management Responses continued:

Recommendation #2

Management should establish a formal process for reviewing ongoing compliance with required inspection, maintenance, and data capture requirements at M&R stations; and reporting the results of such audits/reviews to the appropriate level of management to remediate any issues.

Management Response:

Roles and responsibilities between CPG and Columbia Distribution are clearly defined within the "Delivery Interconnect Agreement" which was executed for each state as part of the sale to the Columbia Distribution companies. A sample of POD Attachment A from the appendix is shown below. An example of the complete 48 page agreement is also attached. This agreement clearly defines responsibilities. Within these agreements, the "Customer" is the Columbia Distribution Companies. System Operations within each Columbia Distribution Company has the "Customer" O&M responsibilities.

Management does not disagree that there is not a process in place that establishes a formal process for auditing ongoing compliance with required inspection, maintenance, and data capture requirements at M&R stations.

Exception reports go to I&C, are assigned, and get explanations that are documented. Currently the process is not consistent throughout the foot print., we are looking at using the Ohio/Kentucky model for the entire foot print.

Point of Delivery Audit

Recommendations and Management Responses continued :

Recommendation #3

Consistent reporting practices and data capture should be established to ensure adequate oversight over POD compliance activities.

Management Response:

Utilization of WMS provides consistent reporting practices and data capture as it does for all other pressure regulation compliance activities.

Recommendation #4

A review should be performed over the 32 company premise IDs with no facilities in WMS and any duplicates should be removed from WMS to eliminate redundancy. For any premise IDs that are not duplicates, the appropriate facilities and scheduled compliance work should be verified in WMS.

Management Response:

The POD transition team was not aware of the 32 duplicates described in the audit report. The 32 premises identified by the audit process will be evaluated and appropriate action (retired or populated with asset information) taken.

Point of Delivery Audit

Recommendations and Management Responses continued:

Recommendation #5

An inventory over the completeness and accuracy of records received for the transferred POD stations needs to be performed in order to identify missing records.

Management Response:
Records were requested from CPG multiple times and from several sources. Various team members collected over 14,300 records from CPG. Of those records, 12,085 have been loaded into WMS Docs as of 11/29/16. The remaining files will be loaded by 12/31/16. We were informed this was all the records CPG had or could locate.

An extensive records review will determine if the existing records are adequate to comply with DOT Part 192 requirements. This process will be similar to the investigation already undertaken for other transmission assets. Current assumptions are that under the proposed PHMSA rulemaking, that is anticipated to be finalized in 2017, a substantial number of stations may require capital investments due to the lack of adequate documentation. The proposed rule indicated a 15 year implementation time frame.

Management will continue to inventory the records on the PODs transferred from TCO to Columbia to reach a thorough upstanding on what presently exists for each POD. Where the specific records that will be required for these facilities going forward is going to be addressed in the pending PHMSA Transmission Integrity Rule, Management will begin to capture any needed data not currently available once the final rule is out and we understand what PHMSA will require.

Point of Delivery Audit

Recommendations and Management Responses continued:

Recommendation #6

Kentucky Engineering and Operations should implement a plan to finalize the treatment of critical valves in Kentucky based on federal and state codes. If the current treatment is deemed appropriate (no NiSource owned critical valves), this conclusion should be well documented and supported. If critical valves need further evaluation, Engineering and Operations should create a consistent assessment of valves at all transferred POD stations in Kentucky and create facilities and associated annual inspection RTs in WMS for any valves deemed critical.

Management Response:

As part of the CPG transfer of PODs to NiSource a standard practice was established to designate the first above ground valve at the POD as the critical inlet valve. Kentucky state regulations (807 KAR 5022 Section 4-(23)) sets requirements for the minimum distance a critical valve must be from the regulator station (POD). None of the station valves identified using the agreed upon standard practice meet the distance requirements of the Kentucky regulations.

CKY is taking a two-step approach to establish critical inlet valves for the transferred PODs. For the first step CKY has established all of the valves identified through the standard practice (first above ground valve) as critical valves in WMS with the associated RTs. We anticipate that the map revisions for these valves will be completed by 1/31/17. Note that we plan on retaining these critical valve after the completion of step two of our approach as an enhancement to safety at these PODs.

(continued on next slide)

Point of Delivery Audit

Recommendations and Management Responses continued:

Management Response continued:

For the second step of our approach, CKY is in the process of identifying the 'station control valves" on CPGs system and plans on designating these valves as the primary critical inlet valves for the transferred PODs. The records search for the 'station control valves' is 50% complete. Once all of the 'station control valves' have been identified CKY will establish these valves in WMS, create the required RTs and have the required map corrections completed. We anticipate that the second step of our approach will be completed on or before 6/30/17.

CKY operations confirmed WMS is updated and RT's are active for needed Critical Valves. Map revisions for the company-owned critical valves are the only step that remains to be completed. Currently, there is an anticipated completion by 01/31/17.

Report Distribution

We appreciate the cooperation and assistance that your staff provided to the audit team during this review. Should you have any questions or require additional information, please do not hesitate to contact Sal Alshuqairi at (219) 647-4437, Lin Koh at (219) 647-4984, or Natalie Ladd at (219) 647-4457.

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Treasury Management Review - NiSource

September 21, 2016

To: Brett Radulovich, Assistant Treasurer

From: Natalie Ladd, Senior Auditor
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Lin Koh, Director of Internal Audit

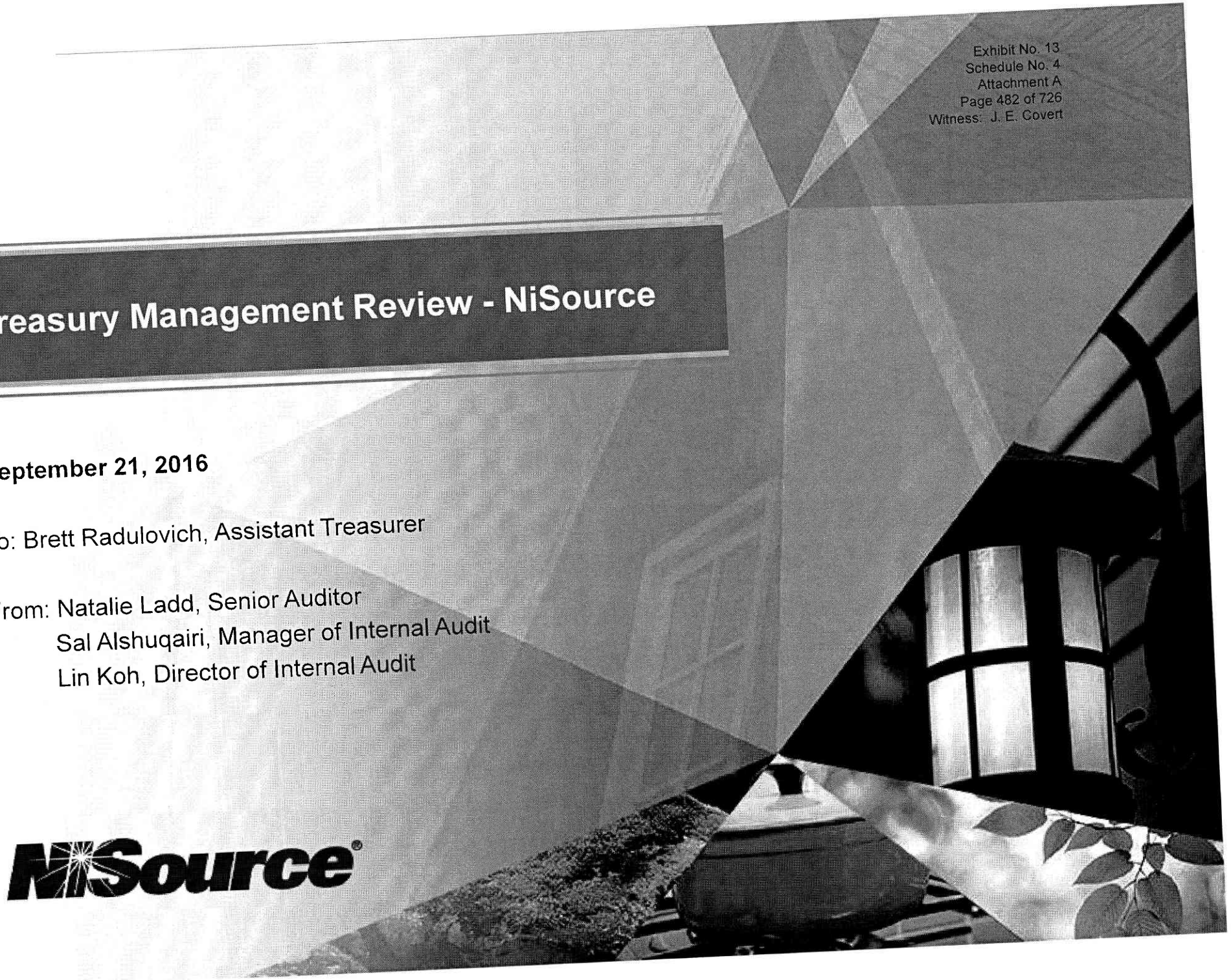


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Treasury Management Review

The Treasury and Risk Management Department performs multiple functions that contribute to the overall health of the NiSource Organization. Internal Audit performed a review of the processes and controls currently in place for the management of Treasury Operations at NiSource Corporate Services (NCS) post CPG separation. The audit covered the period from 7/1/2015 to 5/31/2016.

Our procedures focused on the following areas:

- Assessing whether NiSource treasury activities were appropriately organized after CPG separation.
- Assessing the current process and procedures used by Management to effectively manage daily cash operation activities.
- Assessing the current process and procedures used by Management to effectively manage liquidity and short term borrowings.

Treasury Management Review

Summary of Results

The following is a summary of the observations noted during the course of this audit:

Areas of Strength

- The roles and responsibilities of Treasury Operations personnel appear to be well-defined post-CPG separation.

Areas of Improvement

- There are no formal procedures or controls in place for Treasury to review bank account access to ensure access is limited to appropriate personnel.
- Two bank accounts at NiSource exist outside of Treasury management.
- Treasury does not have formal procedures for opening/closing bank accounts.
- There is no process in place for reviewing repetitive wire transfer templates to identify inactive templates.
- Management does not have specific key performance indicators or metrics to assess the effectiveness of Treasury operations activities.

Treasury Management Review

Treasury Operations Functions

Treasury Operations manages the daily cash needs and short term liquidity for the corporation. The following are some of the major functions that take place in Treasury Operations:

Daily Cash Operations

- ACH/Wire Transactions- Processes cash transactions for disbursements.
- Daily Cash Management- Manages the daily cash positions for Corporate and subsidiaries.
- Money Pool- Manages the daily balancing of Money Pool activity.

Managing Liquidity

- Forecasting- Creates the 12 week cash forecast.
- Commercial Paper (CP) Program Management - Administers CP on a daily basis to fund operations.
- Accounts Receivable (AR) Securitization Program Management - Monitors the company's three AR securitization programs.
- Revolving Credit Facility Management - Manages the use of the company's line of credit.
- Manages relationships between CP, AR, and Credit Facility parties

Other Activities

- Banking System Access - Administrator of banking system with authority to add or remove access.
- Banking Relationship Management - Works with financial institutions on a daily basis.
- Master Bank Account Listing - Manages the purpose of bank accounts.
- Banking Structure - Manages the flow of funds among accounts.
- Intercompany Non-Cash Transactions - Tracks non-cash subsidiary payments.
- Covenant Compliance Reporting - Calculates financial covenants and issues required quarterly covenant reporting. This reporting is technically a Corporate Finance function, but is under the scope of this audit.

Treasury Management Review

Major Events

There are three key events leading up to the start of the audit period (July 1, 2015) that affected Treasury Operations at NiSource:

Treasury Location Change:

- The Treasury Department physically moved locations from Merrillville, IN to Columbus, OH effective April 1, 2015.

NiSource-CPG Separation:

- NiSource separated from CPG on July 1, 2015.
- Excess cash resulted from the recapitalization that occurred from the separation.

New Treasury Staff:

- With the combination of a change in Department location and separation of CPG, the Treasury Operations team was formed with a new group of individuals with experience in both Treasury and NiSource.

Treasury Management Review

Audit Objective 1:

Assess whether NiSource and CPG treasury activities are appropriately separated post CPG separation.

Audit Observations:

1. Access to the Integrated Cash Management System (ICMS) Treasury Application is limited to appropriate Treasury personnel.
   - ICMS Treasury is a workstation which allows treasury to manage daily cash balance information to aid in cash operations, as well as monitor company debt.
2. There are no formal procedures or controls in place for Treasury to review bank account access to ensure access is limited to appropriate personnel.
   - Internal Audit reviewed all 71 bank account users and verified whether they are current NiSource employees and evaluated the appropriateness of their bank account access.
   - Two former NiSource employees had inappropriate access to NiSource bank accounts.
     - **User 1-** This user is a former NiSource employee and current CPG employee in the Accounting group with read-only access to statements. Upon further investigation , Internal Audit verified that this user was unenrolled in the banking system and never logged in or accessed the system.
     - **User 2-** This user is a former NiSource employee from the Corporate Services Accounting group who left the company in May 2016. Upon further investigation, Internal Audit verified this user had read-only access to statements.

Treasury Management Review

Audit Observations continued:

- Internal Audit verified the terminated status and former positions of these users with NiSource/CPG Human Resources personnel.
- Internal Audit notified Management and verified that access has since been removed for these two users in July 2016.
- Treasury reviewed bank account access prior to the CPG separation and removed access for active users transferring to CPG. One inactive user was not identified in this process.
- There is no process or controls in place for Treasury to review banking access of employees who change roles or terminated and no longer need access to the banking systems. Currently, it is the responsibility of the manager of the former employee to notify Treasury of the personnel change.

3. The roles and responsibilities of Treasury personnel appear to be well-defined post-CPG separation.
   - Treasury personnel have clear responsibilities and defined "back up" responsibilities in case a team member is out on vacation or leaves the company.
4. The TSA Financials and Governance group manage the TSA budget, TSA billings, and TSA agreements related to Treasury. This group compiles the hours reported by Treasury personnel for time spent on transition activities, sends invoices, and collects payments from CPG.
5. Treasury TSA services had billings of ~$1K and all services were provided within the end date of each agreement by appropriate Treasury personnel.
   - Internal Audit obtained the budget vs. actual tracking spreadsheet from TSA Financials and Governance and noted that Treasury services incurred >$1k compared to $35k budgeted as part of the TSA. The Treasury department overestimated the amount of support the CPG team would need. When the TSA services were budgeted for Treasury, NiSource initially expected the CPG team would need more assistance than they did. In actuality, the CPG team was entirely self sufficient upon separation, thus the minimal services were provided.

Treasury Management Review

Recommendations:

- Management should consider implementing a regular review of bank account access as a detective control to ensure only appropriate, current NiSource employees have access based on their job responsibilities.
- Management should consider adding a preventative control through coordination with Human Resources to integrate the removal of bank account access as a required step upon termination of employment with NiSource.

Management Response:

- Management will institute a quarterly process to review bank account access.
- Management will work with Human Resources to address the second recommendation.

Treasury Management Review

Audit Objective 2:

Assess the current process and procedures used by Management to effectively manage daily cash operation activities.

Audit Observations:

1. Detailed procedures exist for engaging in daily cash operations activities.
    - These procedures are newly documented by the newly formed Treasury Operations team that resulted from the departmental move to Columbus.
    - As these are new procedures, Internal Audit could not determine whether these procedures are updated and reviewed regularly.
2. Bank accounts controlled by Treasury have a defined business purpose.
    - Internal audit obtained an understanding of the purpose and structure of each bank account managed by Treasury.
3. Two bank accounts at NiSource exist outside of Treasury management.
    - These accounts were historically held and managed by other departments at NiSource.
    - One bank accounts is with 5/3rd Bank for the winding down activities of Lake Erie Land and is managed by the Legal department and is reconciled by NiSource Accounting.
    - The other bank account is a sweep account with Sun Trust Bank who operates as the agency collector (in person bill payment location) in the state of Virginia and is managed by the Cash Management group within the Accounting organization.

Treasury Management Review

Audit Observations continued:

4. One bank account was opened in the audit period to invest the excess cash that resulted from the reorganization of NiSource's capital structure when CPG separated from NiSource.
   - This account was authorized by the CFO, which is in accord and includes authorized signors comprised of Treasury Management personnel.
   - Based on Internal Audit's understanding of roles and responsibilities, the authorized signors are appropriate; however, there is no formal policy identifying appropriate authorized signors.
5. Treasury does not have formal procedures for opening or closing bank accounts.
   - There are no formal procedures, outside of the Corporate Accountability Policy, for who determines if a bank account should be opened/closed or what criteria are considered when opening/closing a bank account.
6. There is no process in place for reviewing repetitive wire transfer templates or to identify inactive templates.
   - Eleven repetitive wire transfer templates have been inactive for greater than 12 months.
   - From the 75 existing wire transfer templates, Internal Audit made a risk-based selection of 15 repetitive wire transfer templates and obtained an understanding of the purpose of each templates, reviewed set up and approval documentation, and assessed whether the code was active or inactive (not used for >12 months).
7. Wire transfers and ACHs are processed according to company procedures and within banking authority limits.
   - From a selection of 25 wire transfers/ACHs, Internal Audit reviewed supporting documentation to validate the amount, approval, and assess whether the transaction was within individual banking authority limits.
   - Refer to the table on the following slide.

Treasury Management Review

Audit Observations continued:

7. Wire Transfer Testing continued:

Wire Transfer Testing								
	Bank Statement			Internal Audit Testing				
Selection #	Type	Bank	Date Posted	Approval Appropriate (Yes/No)?	Amount per Support Agrees to Bank Statement? (Yes/No)	Support Appropriate? (Yes/No)	Within Bank Authority Limits? (Yes/No)	Exception Noted? (Yes/No)
1	Wire	PNC	08/03/2015	Yes	Yes	Yes	Yes	No
2	Wire	PNC	08/18/2015	Yes	Yes	Yes	Yes	No
3	Wire	PNC	08/25/2015	Yes	Yes	Yes	Yes	No
4	Wire	PNC	08/12/2015	Yes	Yes	Yes	Yes	No
5	Wire	PNC	08/11/2015	Yes	Yes	Yes	Yes	No
6	Wire	PNC	11/13/2015	Yes	Yes	Yes	Yes	No
7	Wire	PNC	11/30/2015	Yes	Yes	Yes	Yes	No
8	Wire	PNC	11/23/2015	Yes	Yes	Yes	Yes	No
9	Wire	PNC	11/09/2015	Yes	Yes	Yes	Yes	No
10	Wire	PNC	05/27/2016	Yes	Yes	Yes	Yes	No
11	Wire	PNC	05/31/2016	Yes	Yes	Yes	Yes	No
12	Wire	PNC	5/13/2016	Yes	Yes	Yes	Yes	No
13	Wire	PNC	5/17/2016	Yes	Yes	Yes	Yes	No
14	ACH	JP Morgan	5/3/2016	Yes	Yes	Yes	Yes	No
15	Wire	JP Morgan	5/20/2016	Yes	Yes	Yes	Yes	No
16	ACH	JP Morgan	5/11/2016	Yes	Yes	Yes	Yes	No
17	Wire	JP Morgan	5/26/2016	Yes	Yes	Yes	Yes	No
18	Wire	JP Morgan	8/5/2015	Yes	Yes	Yes	Yes	No
19	ACH	JP Morgan	8/10/2015	Yes	Yes	Yes	Yes	No
20	Wire	JP Morgan	5/17/2016	Yes	Yes	Yes	Yes	No
21	Wire	JP Morgan	5/26/2016	Yes	Yes	Yes	Yes	No
22	ACH	JP Morgan	11/3/2015	Yes	Yes	Yes	Yes	No
23	Wire	JP Morgan	11/16/2015	Yes	Yes	Yes	Yes	No
24	Wire	JP Morgan	11/20/2015	Yes	Yes	Yes	Yes	No
25	ACH	JP Morgan	11/25/2015	Yes	Yes	Yes	Yes	No

Treasury Management Review

Recommendations:

- Management should consider updating and reviewing departmental procedures on a periodic basis.
- Management should consider adding the 2 accounts that exist outside of Treasury to the ICMS system and overall banking structure to provide greater visibility and monitoring of these accounts.
- Management should consider creating a formal policy for opening and closing bank accounts, which includes authorization and a requirement to update the master listing of accounts and banking structure.
- Management should consider removing the 11 inactive repetitive wire templates to reduce redundant information and implement a periodic review of these templates to prevent this from reoccurring.

Management Response:

- Management will implement an annual process to review departmental procedures.
- Management will discuss the second recommendation with the groups currently managing the two accounts.
- The Corporate Accountability Policy addresses the authorization needed to open a bank account. Management will consider a formal policy that incorporates the requirements of the Corporate Accountability Policy, address closing bank accounts and addresses updates to the master listing of accounts and banking structure.
- Management will review the 11 inactive repetitive wire templates and determine if it is appropriate to remove them. Management will implement a periodic review of the repetitive wire templates.

Treasury Management Review

Audit Objective 3:

Assess the current process and procedures used by Management to effectively manage liquidity and short term borrowings.

Audit Observations:

1. Detailed procedures exist for managing cash and short term borrowings.
   - As was noted in Objective 2, these procedures are newly documented by the newly formed Treasury Operations team that resulted from the departmental move to Columbus.
   - As these are new procedures, Internal Audit could not determine whether these procedures are updated and reviewed regularly.
2. The twelve week cash forecast is performed in accordance with Treasury procedures.
   - The forecasting procedures provide adequate detail for each of the forecast inputs.
   - This forecast, which is included in the monthly Corporate Finance and Risk Book, has historically been prepared for twelve weeks to provide insight into the short term liquidity of the company.
   - A fifty-two week forecast can be created using the same procedures if requested by Treasury Management on an ad hoc basis.
3. Management does not have specific key performance indicators or metrics to assess the effectiveness of Treasury operations activities and short term borrowings strategy.
   - There is a lack of formal metrics for assessing performance associated with banking expenses, borrowing activities, liquidity management, and other treasury activities.

Treasury Management Review

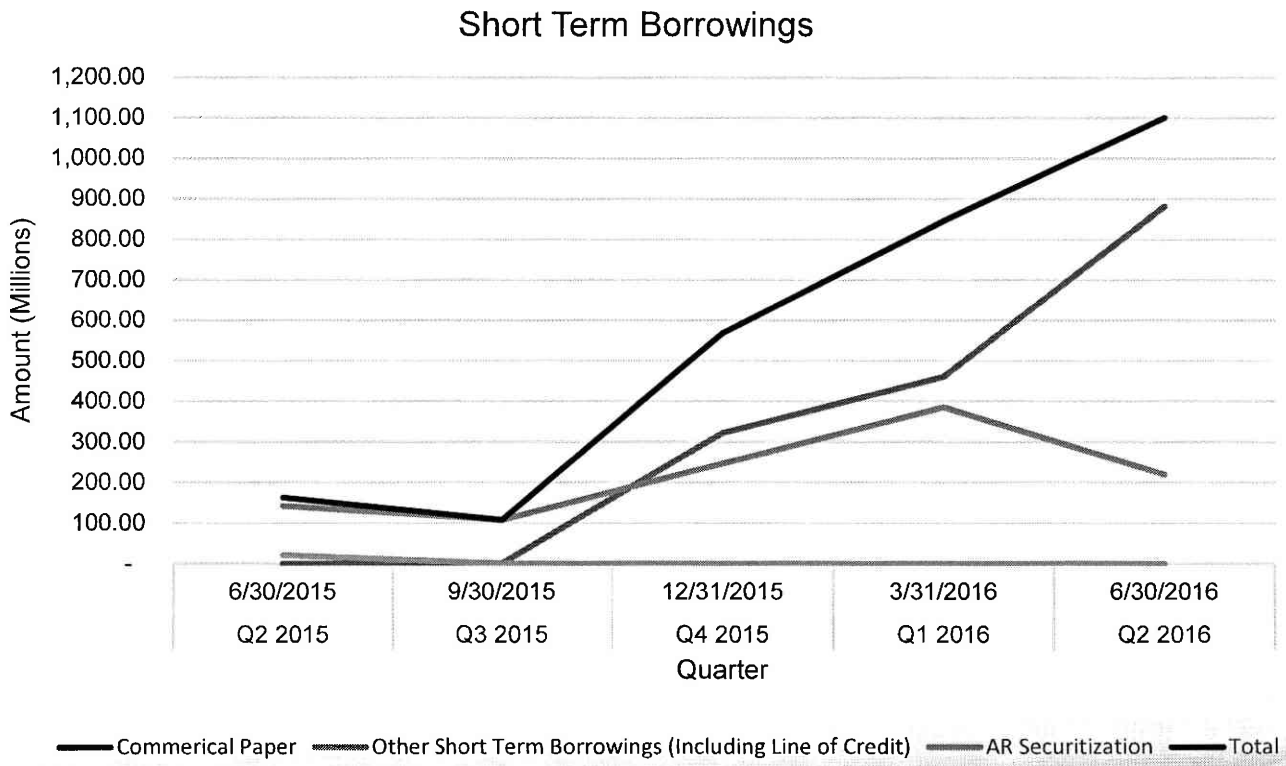
Audit Observations continued:

4. Excess cash that resulted from the CPG separation was invested in accordance with company policy.
   - As part of the recapitalization in connection with the CPG separation, CPG made cash payments to NiSource of approximately $2.6 billion as a special dividend and to pay down intercompany loans. Nisource used the majority of this cash to pay off two long-term loans and outstanding commercial paper and AR programs. The cash on hand at NiSource as of July 1, 2015 was invested in accordance with the Short-Term Investment policy and was ultimately used to fund the company's CapEx program and for other corporate purposes during the second half of 2015.
   - Internal Audit reviewed the instruments used to invest excess cash and noted it adheres to NiSource Corporate policy for short term investments.
5. Treasury follows a broad cash management strategy that focuses on keeping a daily Money Pool balance of $1-5 million and never over draft.
   - From a selection of two months within the audit period, the daily Money Pool balance was never over drafted and remained within an acceptable range.

Treasury Management Review

Audit Observations continued:

6. Treasury employs a short term borrowings strategy that first exhausts the least expensive borrowings, which includes the AR Securitization and Commercial Paper programs, before the other borrowings under the revolving line of credit, the most expensive short term instrument. However, Internal Audit noted that there is a lack of metrics to measure the effectiveness of their short term borrowings operations and results.



Short Term Borrowings Trends

- As Commercial Paper and AR Securitization borrowings has increased, reliance on other forms of credit under the revolving line of credit remain low.
- The increase in Commercial Paper from Q1 to Q2 2016 was due to the pay down of a large portion of A/R facilities, increased dividends period over period, increased capital expenditures, and gas payment seasonality (November through March, cash receipts from gas sales and transportation services typically exceed cash requirements, but cash receipts decrease in the Spring).
- The Commercial Paper Program is within its $1.5 billion limit.
- Each AR Program is within it's contractual limit (detailed further in Observation 7).

Treasury Management Review

Audit Observations continued:

7. AR Programs are monitored on a monthly basis by appropriate personnel.
   - NiSource has the following three AR Securitization Programs:
     - **Columbia Gas of Ohio Receivables Corporation (CGORC)**
       - *Term*: October 16, 2015- October 14, 2016 (364 day renewal)
       - *Maximum program limit:* $240,000,000 (with seasonal maximums making the limit higher in the winter and lower in the summer, in accordance with typical gas seasonality).
     - **Columbia Gas of Pennsylvania Receivables Corporation (CPRC)**
       - *Term*: March 9, 2015 2016 - March 8, 2017 (364 day renewal)
       - *Maximum program limit:* $75,000,000 (with seasonal maximums making the limit higher in the winter and lower in the summer, in accordance with typical gas seasonality).
     - **NIPSCO Receivables Corporation (NARC)**
       - *Term* August 24, 2016 – August 23, 2017 (364 day renewal)
       - *Maximum program limit:* $200,000,000 (with seasonal maximums making the limit higher in both the winter and summer, in accordance with gas and electricity seasonality, and lower in non-peak months).

Treasury Management Review

Audit Observations continued:

- From a selection of six months of reporting on the AR Securitization Programs, appropriate personnel ensure NiSource is within the contractual maximum limits and assess multiple targets associated with each program.

AR Securitization Program Testing									
#	Receivables Corporation	Month	Funding Limit Per Agreement	Within Funding Limit (Yes/No)?	Monthly Reporting Issued (Yes/No)?	Compliance Tests (Pass/Fail)?*	Reviewer Appropriate (Yes/No)?	Purchase Notice Issued (Yes/No)?	Purchase Notice Authorization Appropriate (Yes/No)?
1	CGORC	October 2015	240,000,000	Yes	Yes	Pass	Yes	Yes	Yes
2	CGORC	April 2016	240,000,000	Yes	Yes	Pass	Yes	Yes	Yes
3	CPRC	October 2015	75,000,000	Yes	Yes	Pass	Yes	Yes	Yes
4	CPRC	April 2016	75,000,000	Yes	Yes	Pass	Yes	No	N/A
5	NARC	October 2015	200,000,000	Yes	Yes	Pass	Yes	Yes	Yes
6	NARC	April 2016	200,000,000	Yes	Yes	Pass	Yes	Yes	Yes

*Refer to the following slide for the compliance tests.

Treasury Management Review

Audit Observations continued:

- The Compliance tests are ratio targets from the agreement that indicate the maximum ratios the banks are comfortable with and indicate that the risks associated with our borrowings under the program are acceptable.
  - **3 month rolling average Default Ratio:** Measures the percentage of receivables that are either 60+ days past due or Final Bill receivables.
  - **3 month rolling average Dilution Ratio:** Measures the percentage of gross sales to which credits are applied.
  - **3 month rolling average Loss to Liquidation (L to L) Ratio:** Measures bad debt write off as a percentage of total cash collections.
  - **Credit worthiness:** An evaluation of NiSource's ratings with Moody's and Standard and Poor's.
- In addition to the compliance tests, the monthly reporting also examines the AR Aging, Activity, Concentration of Receivables (customers with largest balances), Net Receivables Balance, and Reserve Calculations.

Treasury Management Review

Audit Observations continued:

8. Management effectively monitors covenant compliance and reporting requirements.
   - From a sample of three agreements that have quarterly compliance requirements, Internal Audit verified the mathematical accuracy of the financial covenant calculation, assessed whether the calculation was approved by appropriate individuals, and verified the compliance documents were reported to required parties.

Covenant Compliance Testing								
Selection #	Period	Agreement	Credit Amount	Calculation Performed (Yes/No)?	Mathematical Accuracy (Yes/No)?	Calculation Approved (Yes/No)?	Reporting Sent to Specified Parties (Yes/No)?	Exception (Yes/No)?
1	Q3 2015	Revolving Credit Facility	$ 1,500,000,000	Yes	Yes	Yes	Yes	No
2	Q1 2016	Term Loan due 3/29/19	$ 500,000,000	Yes	Yes	Yes	Yes	No
3	Q4 2015	Note Purchase Agreement	$ 900,000,000	Yes	Yes	Yes	Yes	No

Treasury Management Review

Recommendations:

- Management should consider establishing specific metrics for borrowing and cash management processes to measure the effectiveness of these processes.

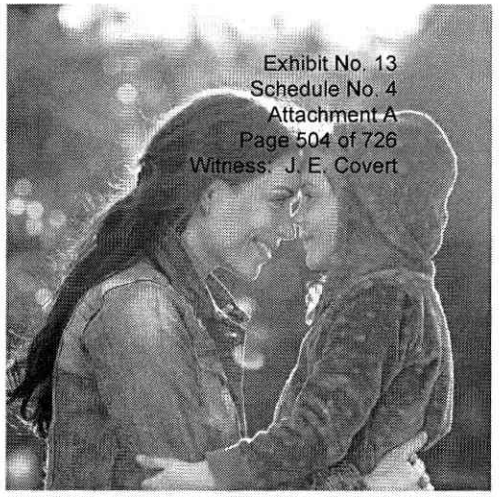
Management Response:

- Management has started a semi-annual review process with each of our commercial paper dealers to access the effectiveness of our CP program compared to other corporate issuers with similar credit profiles and program sizes. Management reviews short-term borrowing balances and short-term interest expense monthly. Results are compared to the plan of record and prior year actuals. Any material variances are reported in Monthly Results Package issued by Management Reporting. Management will consider other metrics that may be appropriate in measuring the effectiveness of the liquidity management processes.

Report Distribution

We appreciate the cooperation and assistance that your staff provided to the audit team during this review. Should you have any questions or require additional information, please do not hesitate to contact Sal Alshuqairi at (219) 647-4437, Lin Koh at (219) 647-4984, or Natalie Ladd at (219) 647-4457.

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Deloitte & Touche, LLP



2016 Pension Trust and Benefits

August 31, 2017

To: Rick Bond, VP of Human Resources
Brandon Evans, Director Benefit Plans Investment

From: Ariel Malavolti, Staff Auditor
Sal Alshuqairi, Audit Manager
Lin Koh, Audit Director

NiSource®



Executive Summary

The purpose of this audit was to assess the accuracy, completeness, and integrity of pension plan information. The audit covered the period from January 1, 2016 through December 31, 2016.

During our review, four pension benefit payments (out of a sample of 24) were discovered that had errors and one participant was found with an incorrect classification in the census data. Our review of the pension funds found that they are properly allocated and that hedge funds and international equity are properly valued. Additionally, access to modify pension related fields in PeopleSoft has been restricted to authorized personnel and the interface is properly managed to ensure an accurate data transfer to Alight Solution's Total Benefits Administration (TBA) system.

Internal Audit's review of the pension trust and benefits includes two green findings.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided. IA would like to thank NiSource staff and management for their cooperation and time in support of this audit.

Background

On an annual basis, Internal Audit performs a review of the Pension Trust Fund to assess the accuracy, completeness, and integrity of pension plan information.

Pension benefits are maintained by the outside vendor Alight Solutions. Previously, the vendor was Aon Hewitt, but in February 2017 Aon Hewitt sold their benefits and human resources platform to Blackstone. The benefits and human resources group was renamed Alight Solutions in June 2017. There were no significant changes in how pension benefits are managed and maintained for NiSource.

Audit Scope and Approach

The purpose of this audit was to assess the accuracy, completeness, and integrity of pension plan information. The audit covered the period from January 1, 2016 through December 31, 2016.

Internal Audit evaluated the interface by reviewing 2 months of interface corrections and evaluated the access granted to PeopleSoft by sampling 10 employees and verifying their access is necessary per their job requirements. Internal Audit also validated that assets are properly valued by recalculating the valuation of hedge funds and international equity (per the 3-year cycle of the six fund types). On behalf of Deloitte & Touche, Internal Audit validated employee information through demographic testing the information of 95 participants. Additionally, Internal Audit recalculated the pension benefit for 24 participants, as determined and selected by Deloitte & Touche, and validated that benefit payments made by Northern Trust agree with the benefit calculation.

Business Objective 1:		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Evaluate the interface for accuracy and completeness of information.	**No Findings Noted.**
2	Evaluate whether access has been restricted to authorized personnel only.	**No Findings Noted.**
3	Validation of information through demographic testing.	Finding #1 – See Page 4
4	Perform a benefit payment recalculation on a sample selected by Deloitte & Touche.	Finding #2 – See Page 5
5	Ensure assets are properly valued and presented in accordance with management's investment policy.	**No Findings Noted.**

Findings

Business Objective 1: Procedure #3: Validation of information through demographic testing.	**Risk Rating**
Finding #1: One out of 95 participants was misclassified in the census data.	**Low**
Process Owner(s): Rick Bond, VP of Human Resources	

Observation

Criteria: All participants are properly and accurately classified within the census data.

Condition: One participant was classified as active Bay State Union in the census data when they should have been classified as inactive Bay State NonUnion.

Risk/Impact: The company's liability for the applicable pension plans are under/over-stated by immaterial amount.

Recommendation

Establish controls to ensure participants are properly classified in the census data.

Management Response

Not Required for Low Risk Findings

Findings

Business Objective 1: Procedure #4: Perform a benefit payment recalculation on a sample selected by Deloitte & Touche.	**Risk Rating**
Finding #2: Four out of 24 pension benefit calculations had immaterial errors.	**Low**
Process Owner(s): Rick Bond, VP of Human Resources	

Observation

Criteria: Pension benefits are calculated with complete and accurate information and are paid accordingly.

Condition: Four pension benefit calculations had immaterial errors leading to three underpayments and one overpayment.

Risk/Impact: Participants do not receive their earned benefit and the pension trust is under/over-stated.

Recommendation

Benefits should continue to follow up with Alight Solutions to ensure payment is made for the three benefit underpayments and to ensure reimbursement to the pension fund for the one benefit overpayment.

Management Response

Not Required for Low Risk Findings

Report Distribution

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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

TO: Dan Cote, Vice President Pipeline Safety and Compliance
Chuck Shafer, Vice President Engineering & Construction Gas Operations

FROM: Jaclyn Callahan, Audit Manager Jaclyn Callahan
Al Sawaneh, Senior Auditor
Ryan Binkley, Audit Director

DATE: January 28, 2015

SUBJECT: Excess Flow Valve Installation Review – Management Request (Interim Report)

At the request of Management, Internal Audit completed a review of all Columbia Gas Companies (Ohio, Pennsylvania, Virginia, Kentucky, Massachusetts, and Maryland) to determine whether data maintained within the Work Management System (WMS) and the Distributive Information System (DIS) supports the installation of Excess Flow Valves (EFVs) on new and replaced service lines in accordance with applicable Company Standards* during the period of May 2007 through September 2015. EFVs are used in natural gas distribution pipelines to restrict flow of natural gas and related methane emissions if a line is broken or damaged, limiting the impact of a leak or explosion.

Background

Beginning in May 2007, Columbia Companies required the installation of EFVs on all new and replaced service lines serving single residential customers operating continuously throughout the year at 10 pounds per square inch gauge (PSIG) or greater. The Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) matched those requirements with the issuance of Code of Federal Regulations (CFR) §192.381 effective February 12, 2010.

Additionally, in January 2015, Columbia Companies updated their Gas Standards to require EFV installations on service lines to multi-unit residential and non-residential customers in addition to the single residential customers. (For purposes of this review, the updated Gas Standard was not considered effective until May 31, 2015, allowing for sufficient time to provide the necessary operator qualification training to all individuals performing service line installations.)

Applicable Company Standards as well as CFR §192.381 allow for exceptions to EFV installation requirements when at least one of the following conditions are met:

- The system does not operate continuously throughout the year at a pressure of 10 PSIG or greater;
- EFVs meeting the Department of Transportation's Pipeline and Hazardous Material Safety Administration (PHMSA) performance standards are not commercially available to the Company; or
- The Company has prior experience with contaminants in the gas stream that could interfere with the operation of an EFV, cause loss of service to a residence, or interfere with necessary operation or maintenance activities, such as blowing liquids from the line.

Pipeline Safety and Compliance personnel perform on-site quality assurance procedures for samples of job orders across all Columbia Gas Companies, which include efforts to physically verify the proper installation of EFVs. Internal Audit incorporated their perspectives into the review; however, results from field audits did not directly impact the results of the data analysis performed.

Interim Results

Based on the initial analysis of WMS and DIS data, Internal Audit identified items requiring further investigation to determine compliance with Company Gas Standards and associated PHMSA CFR. (See **Appendix A** for procedures performed to identify the population to be investigated.) The charts below break out the population identified based on the applicable Standard, job type and company:

Standard Applicable from 5/1/2007 - 5/31/2015
(New/Replaced service lines serving a single RESIDENTIAL customer)

Job Type	Company	Total Records	EFV Eligible* Records	Potential Exceptions** (Based Upon System Data)	Potential Exceptions** (Based Upon System Data) %
565					
	COH	226,458	108,330	7,000	6%
	CPA	58,851	27,202	794	3%
	CMD	5,243	2,097	127	6%
	CKY	15,627	7,129	999	14%
	CGV	12,192	7,096	576	8%
	CMA	10,188	3,205	799	25%
	NGD	**328,559**	**155,059**	**10,295**	**7%**
563					
	COH	64,583	34,558	1,214	4%
	CPA	26,604	14,443	499	3%
	CMD	2,666	1,162	26	2%
	CKY	4,301	1,747	96	5%
	CGV	29,390	21,710	200	1%
	CMA	10,080	5,318	215	4%
	NGD	**137,624**	**78,938**	**2,250**	**3%**
TOTAL				**12,545**	

*Met criteria established within Company Standards for EFV installation

These potential exceptions are based upon a review of system data. Management is currently performing additional, manual procedures to further determine if a valid exception exists. See Management's Response on **Page 4.

Standard Applicable from 6/1/2015 - 9/30/2015 (New/Replaced service lines serving single residential, multi-unit residential and non residential lines)					
Job Type	Company	Total Records	EFV Eligible* Records	Potential Exceptions** (Based Upon System Data)	Potential Exceptions** (Based Upon System Data) %
565					
	COH	16,653	13,386	302	2%
	CPA	3,148	2,187	42	2%
	CMD	258	182	9	5%
	CKY	766	420	42	10%
	CGV	662	487	38	8%
	CMA	1,653	1,217	168	14%
	NGD	**23,140**	**17,879**	**601**	**3%**
563					
	COH	3,661	2,917	124	4%
	CPA	1,271	1,010	60	6%
	CMD	122	80	3	4%
	CKY	233	185	14	8%
	CGV	1,297	1,255	17	1%
	CMA	2,146	1,641	266	16%
	NGD	**8,730**	**7,088**	**484**	**7%**
TOTAL				**1,085**	
*Met criteria established within Company Standards for EFV installation					
These potential exceptions are based upon a review of system data. Management is currently performing additional, manual procedures to further determine if a valid exception exists. See Management's Response on **Page 4.					

Limitations in the ability of Company systems to capture necessary data or data entry errors by Company personnel have created the following scenarios which could overstate the totals identified in the tables above:

- According to Company Gas Standards, the requirement to install an EFV is triggered during a replacement or repair when a service line is disconnected from the tap at the main. Service lines that are replaced from the property line to the meter would not require EFVs to be installed; however, there is not currently a required WMS field associated with service line replacements (Job Type 565) to designate where the disconnect occurred for the service line replacement.

- System controls do not exist to prevent a WMS user from selecting "No" within an EFV Indicator field while entering a code representing the installation of an EFV model into the Special Conditions fields, resulting in **598** records with inconsistent data fields.

- "V1" transactions in WMS with EFV stock numbers signify that EFVs were used on the job order and then reordered. Management noted that the use of "V1" transactions is inconsistent by field personnel. Internal Audit identified **489** job orders that had an EFV Indicator field of "No" but also had "V1" transactions with EFV materials applied, resulting in inconsistent data fields.

- Manual service line record forms (also known as tap cards) are completed in addition to entering job order data in WMS. Internal Audit noted instances where information on selected tap cards did not agree to the data within WMS. A portion of the tap cards selected for review could not be located to validate system data accuracy. **(Note: Management established a project team during 2015 with the initiative of improving the ability to access tap cards.)**

We have shared our data analysis with Management and they have provided the following response:

> Management is utilizing the data provided by Internal Audit to perform additional records and field investigation. Initial investigation of a representative, statistically significant sample is being completed. First reviews indicate approximately 76% of the sample either does not require an EFV or actually does have an EFV installed. The remaining 24% will require a field investigation where service will be interrupted. Accordingly, Management plans to complete that investigation once the winter heating season passes in order to minimize the inconvenience to our customers. In addition to the investigation of the sample, Management plans to reinforce documentation requirements related to EFV installation. Retraining will be completed prior to March 31, 2016 and the ramp up of the 2016 construction season. Management will also work with Internal Audit to perform sample audits of EFV documentation after the training is completed. Results will be reviewed and appropriate corrective actions will be taken to reinforce proper documentation.

Internal Audit will perform a follow-up review later in 2016 (Projected Q4) to align with and review the processes Management established to investigate and resolve any confirmed exceptions and improve data integrity. As noted in the Management response above, further investigatory processes undertaken by management will be manual in nature and will require appropriate time and resources of additional company personnel to fully review. We appreciate the outreach to Internal Audit by Management in making this request as well as the cooperation and assistance that was extended to us by WMS Application Support, Pipeline Safety and Compliance, and Engineering/Construction Services during this review. Should you have any questions, please do not hesitate to contact Ryan Binkley at (614) 460-5985, Jaclyn Callahan at (614) 460-5493 or Al Sawaneh (614) 460-6864.

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APPENDIX A – Summary of Testing Procedures

Audit Objective 1: Verify that Columbia Companies consistently installed EFVs during the period May 1, 2007 through September 30, 2015 as set forth in applicable Company Standards and CFR §192.381 and accurate documentation of the work was maintained.

- The completion of job orders is documented within WMS for all Columbia Companies (Massachusetts converted to WMS in October 2012, and job order data was not obtained for work recorded outside of the WMS system for purposes of this review.)

- Field personnel also manually document work performed on service line order forms (also known as tap cards).

- With the assistance of WMS Application Support, Internal Audit obtained WMS job order records for all new service line installations (Job Type 563) and service line replacements (Job Type 565) completed during the period May 1, 2007 and September 30, 2015. The records included the following data fields:

    - Job Order Type – indicates the type of work performed
    - Job Order Number – a unique identifier specific to work performed at a specific location
    - Job Order Crew End Date – indicates the date when the physical work related to the job order was completed
    - Job Order Summary Description – a free form text field which allows for field personnel to input a description of the work performed
    - Work Location Number – a unique identifier indicating a specific area where the work is being performed
    - Permanent Service Identification (PSID) – a numeric identifier unique to each service location
    - System Number – a numeric identifier representing the set of distribution piping sharing common characteristics for maximum allowable operating pressures and method of delivery
    - Company/Contract – Identifies whether the job order was completed by a NiSource Company crew or by a third party contractor
    - Project ID – signifies whether the job order was related to a capital project

- As information specific to the premise is necessary to determine whether an EFV must be installed, Internal Audit also obtained the following data fields from the Distributive Information System (DIS), the customer information system for all of the Columbia Companies with the exception of Massachusetts: (Note: Although Massachusetts utilizes a separate customer information system, certain tables specific to Massachusetts customers were available within DIS.)

    - Customer Service Line (CSL) Operating Pressure – indicates the level of gas pressure in the service line (e.g. low, intermediate, medium or high)
    - EFV Indicator – a required field that indicates "Yes" or "No" to signify EFV installation

- This field is originally input into WMS and then interfaces with DIS. However, this field can be subsequently updated in DIS if additional repair work is performed. Therefore, this field was pulled from the DIS system.

- Special Conditions – non-required fields which allow for field personnel to provide additional information about materials installed on a job order, including codes which represent the model of an EFV utilized
- Master Tap Code – indicates if service line leads to a single or multiple customer location
- Main Number – identifies the main supply line to which the service line is connected
- Revenue Class – indicates the rate class associated with the customer at a specific premise

- Utilizing the data obtained, Internal Audit performed the following steps to identify instances where WMS data did not support the installation of a required EFV:

  - Step 1 – Identify Eligible Job Orders Per Applicable Standards
    - For service line installations and replacements completed from May 1, 2007 through May 31, 2015, EFV installation was required for service lines to single residential customers only. Internal Audit identified these locations by selecting job orders with a Revenue Class Code corresponding to a residential customer and a Master Tap Code corresponding to a single customer (i.e. field in the system is blank).

      - Note: Although an updated Standard was issued as of January 1, 2015, Internal Audit utilized the date of May 31, 2015 as it was noted by the Gas Standards Department that the updated Gas Standard would not have been considered effective until the necessary operator qualification training was provided to all individuals performing service line installations.

    - For job orders completed from May 31, 2015 through September 30, 2015, filters on Revenue Class Code and Master Tap Code were not necessary as EFV installation was required for all revenue types and service locations as long as the criteria set forth in the Standard was met.

  - Step 2 – Identify Sites with Eligible Operating Pressures
    - Using the CSL Operating Pressure field, Internal Audit identified job order sites (PSIDs) with an operating pressure designated as Medium or High as it was determined through conversation with Pipeline Safety and Compliance that only sites operating at Medium or High pressure would meet the criteria of operating **continuously** throughout the year at a pressure of 10 PSIG or above. See the definitions of CSL Operating Pressure below:

      - Low Pressure - Gas pressure in the main normally ranges from 7 to 14 inches of water column
      - Intermediate Pressure - Gas pressure in the main normally ranges from 2 to 10 PSIG, but may drop to 1 PSIG during times of high demand

- Medium Pressure - Gas pressure in the main normally ranges from 11 to 60 PSIG, but may drop to 2 PSIG during times of high demand
- High Pressure - Gas pressure in the main or transmission line is normally greater than 60 PSIG

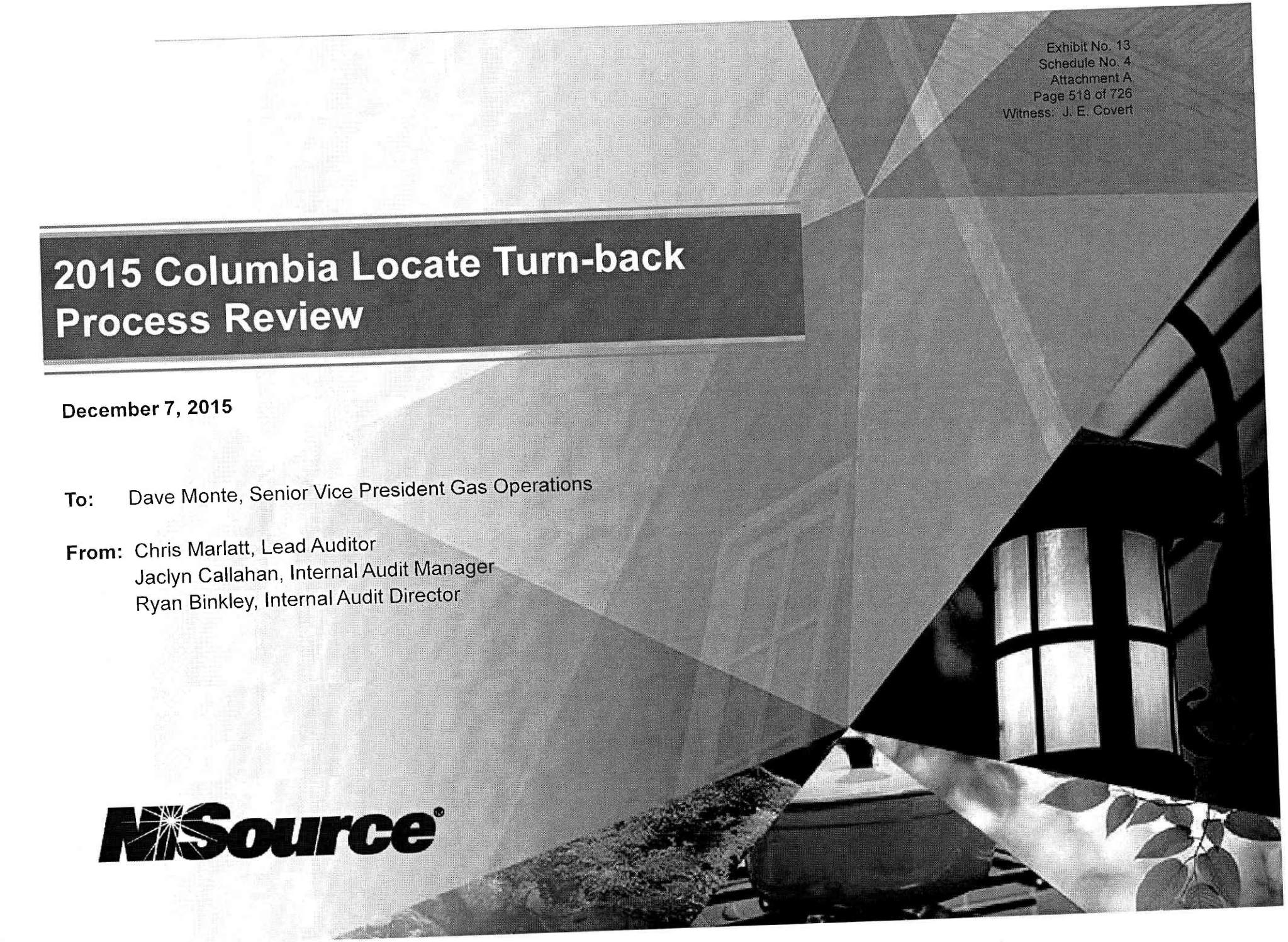
- Step 3 – Review the EFV Indicator Field
  - Utilizing the EFV Indicator Field, Internal Audit identified the job orders with records indicating that an EFV was not installed on the service line associated with the job order to determine the number of items requiring further investigation.

2015 Columbia Locate Turn-back Process Review

December 7, 2015

To: Dave Monte, Senior Vice President Gas Operations

From: Chris Marlatt, Lead Auditor
Jaclyn Callahan, Internal Audit Manager
Ryan Binkley, Internal Audit Director



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2015 Columbia Locate Turn-back Process Review

EXECUTIVE SUMMARY

Executive Summary

At the request of Management, Internal Audit performed a review of the processes and controls associated with locate turn-backs for all Columbia companies (Virginia, Pennsylvania, Ohio, Massachusetts, Maryland, and Kentucky). Locate turn-backs occur when the individual, either a company employee or a third party contractor, attempting to locate a main or service line is not successful. In these circumstances, each Columbia company is responsible for ensuring the timely completion of the locate. The locate turn-back process falls under NiSource Gas Standard GS 1100.010 for each Company.

Internal Audit performed process walkthroughs and interviews with Columbia Company Operating Center Managers (OCMs) as well as key personnel from various departments (i.e. Damage Prevention, Damage Prevention Screening, Integration Center, and Operations) involved with the turn-back process.

As a result of the walkthroughs and interviews performed, Internal Audit gained an understanding of the following steps within the locate and subsequent turn-back processes:

- Receipt of the initial locate request:
  - Locate tickets originate from a third party calling 811, the multistate "call before you dig" system.
- Screening:
  - The Damage Prevention Screening Department is responsible for reviewing locate tickets and determining whether the impacted Columbia company has any facilities at the requested location.
- Assigning:
  - Once the locate ticket is screened, the locate request is then sent to a contractor to perform the locate.
  - If the contract locator cannot complete the locate, the locate ticket is then sent to the Integration Center (at this point the locate is considered a turn-back).
  - The Integration Center will then process the locate ticket, create a job order, and assign the job order to operations for completion.
- Completion of the Locate:
  - Operations will locate the turn-back job order and, if necessary, make the pipe locatable for future contract locators and/or make any mapping corrections/edits.

Executive Summary

Overall Results and Recommendations:

As a result of the in-depth process walkthroughs performed, Internal Audit was able to identify the following best practices or potential process improvement opportunities which were shared with Management. Internal Audit fully understands the significant investment required to implement these recommendations, especially those requiring Information Technology involvement, and understands that Management will need to consider all aspects of implementation.

Potential Information Technology Investments:

- Management should consider implementing a reporting tool across the Columbia companies to monitor whether locates are being completed within regulatory requirements and identify instances of non-compliance.

- Management should consider whether a reporting/monitoring tool could be created to track the lifecycle of an 811 call ticket, including the length of time and actions associated with each stakeholder.

Tools to Ensure Future Locates:

- Management should consider performing Quality Assurance/Quality Control (QA/QC) procedures and reporting tools to monitor how company assets were made locatable after a turn-back is completed to facilitate the completion of future locate requests.

- Management should continue evaluating the tools (i.e. marker balls, marker rope/tape, GPS, etc.) available to support the locate process.

Staffing:

- Management should evaluate risks associated with utilizing Integration Center Assigners and/or current screening processes in place of employees from the Damage Prevention Screening Department to screen emergency locate tickets after business hours, weekends, and holidays.

- Management should evaluate whether staffing is adequate at each location to address locates and locate turn-backs.

Executive Summary

Overall Results and Recommendations (Cont'd):

Ohio and Kentucky Specific:

- Management should consider utilizing a consistent 'Company Locate Turn-back Survey' form across all locations.

  NOTE: The 'Company Locate Turn-back Survey' form is used after a locate turn-back is completed capturing key data related to the turn-back.

- Management should consider the costs and benefits of creating the ability to complete the 'Company Locate Turn-back Survey' forms electronically and retaining the resulting data in a reportable data warehouse.

- Management should consider working with USIC and S&N, the two contract locators that service Ohio and Kentucky, to develop a monitoring report which tracks the number of turn-backs ranked by the Company as "Easy to Perform".

We would like to acknowledge the cooperation and support provided by Management to Internal Audit during the course of this review. Internal Audit will work to partner with process owners in an appropriate capacity to support Management's efforts to address recommended process improvements.

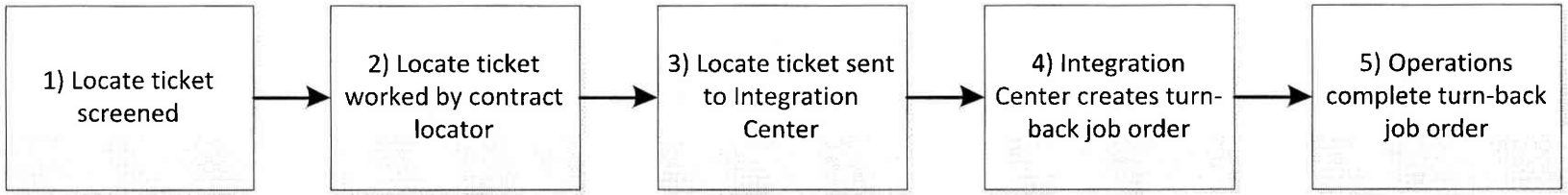
2015 Columbia Locate Turn-back Process Review

Background & Process Details

Background & Process Understanding

- To initiate a locate request, a third party can call 811, a three-digit calling code that has been mandated by the Federal Communications Commission as the "call before you dig" number used to request an underground locate before any excavation activity. 811 integrates with a ticket management software that Columbia employees can access to review locate requests.

- Internal Audit noted that locates and subsequent turn-backs ***typically*** follow the steps outlined below. (Refer to **the next two slides** for differences noted in process execution.)



1. Locate ticket screened
   - *After a third party calls 811, the Damage Prevention Screening Department will determine whether the Columbia company has any facilities at the requested location.*
   - *If facilities are identified, the screening department will forward the locate request to a contract locator.*
2. Locate ticket worked by contract locator
   - *If the contract locator can perform the locate, the ticket request is fulfilled.*
   - *If the locate contractor cannot locate the pipe, the locate becomes a turn-back and the contractor will send the locate ticket to the Integration Center.*
3. Locate ticket sent to Integration Center
   - *The Integration Center receives the locate ticket request via a Lotus Notes inbox from the contract locator.*
4. Integration Center creates turn-back job order
   - *The Integration Center will create a Work Management System (WMS) job order related to the turn-back and assigns the job order to Operations for completion. All locate turn-backs are assigned to company employees.*
5. Operations complete turn-back job order
   - *In addition, operations will make any mapping corrections/edits if required.*

Background & Process Understanding

- As compared to the process outlined on the previous slide, Internal Audit noted the following **differences** in process execution across the Columbia companies and operating centers:

  - The following represent instances when the Damage Prevention Screening Department does not perform screening for locate requests:
    - In Virginia, Utiliquest, the contract locator, performs the screening for **ALL** locate tickets.
    - In Maryland, Company Operations Personnel, performs the screening for ALL locate tickets.
    - Springfield and Brockton operating center within Massachusetts, Company Operations Personnel, performs the screening for ALL locate tickets.
    - Integration Center Assigners are responsible for screening emergency locate tickets after business hours, weekends, and holidays.
      - Emergency locate tickets are classified as any condition constituting a clear and present danger to life or property or where interruption of public services has occurred.

  - Certain states or operating centers exclusively utilize company employees to perform locates and turn-backs:
    - All operating centers in Pennsylvania
    - All operating centers in Maryland
    - Springfield and Brockton operating centers within Massachusetts
    - Ohio Valley operating center in Ohio
    - Remote locations within Virginia and Kentucky

Background & Process Understanding

- The chart below outlines the contract locators utilized to perform locates for each state or operating center:

  Note: In (April) 2015, USIC (United States Infrastructure Corporation) purchased Premier Utility Services which previously served Ohio, Kentucky and Lawrence.

State	Contract Locator
Ohio	USIC and S&N
Kentucky	USIC
Massachusetts	USIC – Lawrence Operating Center
Virginia	Utiliquest

- Operating Centers in certain cases can utilize a contractor to perform the turn-back locate. For example:
  - Operating Centers that experience a spike in Turn-backs compared to historic averages.
  - Operating Centers that utilize a Vacuum Truck for assistance in excavation when that location does not own the truck.

Background & Process Understanding

State	State Legislation	Time to complete locate ticket*	Fine or Penalty for Out of Compliance	In Effect
Ohio	ORC 3781.29	Two days (48 hours)	Up to $2,500 for first Up to $5,000 for subsequent Up to $10,000 for persistent noncompliance	Starting January 2016
Pennsylvania	Act 287	Two days after day of locate request	$2,500 up to $50,000 ($50k related to personal injury/death)	Currently in Effect
Kentucky	KRS 367.4909	Two days after day of locate request	$250 for first Up to $1,000 for second Up to $3,000 for subsequent	Currently in Effect
Massachusetts	Chapter 82 Section 40B	Three days (72 hours)	$1,000 for first Between $5,000 and $10,000 for subsequent	Currently in Effect
Maryland	§ 12-126	Two days after day of locate request	Up to $2,000	Currently in Effect
Virginia	§ 56-265.17	Two days after day of locate request	Up to $2,500	Currently in Effect

*Internal Audit noted time to complete the locate is counted in **business days** for all locations.

2015 Columbia Locate Turn-back Process Review

Results & Recommendations

Results and Recommendations

Potential Process Improvement Opportunity 1 - Information Technology Investments:

Management should consider implementing a reporting tool across the Columbia companies to monitor whether locates are being completed within regulatory requirements and identify instances of non-compliance.

Internal Audit Notes:

- While most states periodically compile information as to how many locates and turn-backs were performed during a period of time, Internal Audit noted that none of these reports identify whether the locates were completed within the applicable regulatory timeline.

- To determine whether a locate ticket has been completed timely, operations personnel currently utilize the various avenues outlined below:
  - All individual locate tickets can be reviewed within a ticket management software which integrates with locate request tickets from third parties calling 811;

  - Locates with an associated WMS job order (i.e. locations which perform locates internally instead of using contract locators and for those locates which become turn-backs) can be tracked by job order commit date within the "Good Morning Report", a daily operations report generated from WMS.
    - Management noted that company operations strives to complete all assigned WMS job orders; however, Internal Audit noted that there is the possibility that a locate request is already out of compliance at the time it is provided to the Columbia company as a locate turn-back.
    - As part of this review and during the course of interviews, Internal Audit observed instances of non-compliance, but no specific audit procedures were performed as it was out of the scope of this review.
    - Refer to **Potential Process Opportunity 2** for additional discussion on how to monitor contractor performance.

- As the processes currently utilized to monitor compliance must be performed on an individual locate ticket basis, Internal Audit noted it may be beneficial to create a report showing how many locate tickets were worked for a given period of time (daily, weekly, monthly) versus how many locates (including turn-backs) were completed within regulatory requirements.

  - This type of reporting could be used to perform trending analysis to identify instances of non-compliance by factors such as state, operating center, contractor or employee and these results could facilitate a root cause analysis.

Results and Recommendations

Potential Process Improvement Opportunity 2 - Information Technology Investments:

Management should consider whether a reporting/monitoring tool could be created to track the lifecycle of an 811 call ticket, including the length of time and actions associated with each stakeholder.

Internal Audit Notes:

- This improvement opportunity is similar to the recommendation on the previous slide; however, the reporting herein would provide tracking information for a locate ticket at each step within the process.
  - For example, if this type of reporting existed, a ticket in Ohio could be tracked by the following:
    - The length of time the Damage Prevention Screening Department held the ticket for screening,
    - The length of time the ticket was with the contract locator once it was assigned,
    - The length of time the Integration Center utilized to process the locate ticket if the locate was turned-back, and
    - The length of time Operations needed to complete the turn-back.
- If a tool like this could be created, it could provide another level of monitoring over the locate and turn-back process as no metrics currently exist that specify best practices for the actual time required to execute each of the steps within the locate and turn-back processes.
- Data provided from this tool could be used to create benchmarks for the period of time a locate ticket remains within each step of the process, which would allow Management to monitor locate performance and potentially identify issues, including those related to contractor performance.
- In addition to the cost/benefit analysis that must be performed to determine whether Management would be able to create this tool, Internal Audit understands that challenges exist to create this type of reporting capability due to the integration of multiple applications (e.g. ticket management software, Lotus Notes, WMS) in the locate ticket process.

Results and Recommendations

Potential Process Improvement Opportunity 3 - Tools to Ensure Future Locates:

Management should consider performing Quality Assurance/Quality Control (QA/QC) procedures and reporting tools to monitor how company assets were made locatable after a turn-back is completed to facilitate the completion of future locate requests.

Internal Audit Notes:

- Through the course of process walkthroughs, Internal Audit noted that the following efforts are made to ensure that pipe can be easily located in the future (i.e. "locatable")
  - Marker balls: Ball dropped next to the pipeline which an instrument on the surface can detect
  - Tracer Wire: Wire laid alongside pipe that is detectable on the surface
  - Test Stations: Above ground riser pipe attached to a section of underground pipe which allows access to a tracer wire for readings
  - Service line order (SLO): Completing an SLO provides detailed information on the service line at a given location
    - Internal Audit noted that a SLO goes through an upload process into Open Text, online application that warehouses all SLOs. Currently, the Business Application Department is working to implement processes and controls to improve the integrity of data uploaded and the time in which the data is reflected within Open Text.
  - Mainline map edits are made and sent to the Mapping Department to be uploaded into GIS.

- Internal Audit noted that company crews are required to document how the pipe was made locatable when a turn-back is completed.

- Adding a physical review of how the pipe was made locatable on a sample basis (i.e. having another company personnel return to selected locations to verify if a locate can be performed) would add additional assurance that future locates would be successful by the contract locator.

- Management should evaluate the costs and benefits of implementing these suggested QA/QC tools, procedures and determine an acceptable frequency and appropriate level of staffing.

Results and Recommendations

Potential Process Improvement Opportunity 4 - Tools to Ensure Future Locates:

Management should continue evaluating the tools (i.e. marker balls, marker rope/tape, GPS, etc.) available to support the locate process.

Internal Audit Notes:

- Among those interviewed, there were different opinions as to the best tools available to make pipe locatable. For instance, some locations reported that marker balls have been successful in making pipe locatable. Other locations have reported that marker balls are inconsistent because an excavator or another utility performing a locate at that location can move the marker ball after its initial placement. Internal Audit notes that Management should continue evaluating the products available, including the impact of Global Positioning System (GPS) tools that are currently being implemented in certain areas.

Potential Process Improvement Opportunity 5 - Staffing:

Management should evaluate risks associated with utilizing Integration Center Assigners and/or current screening processes in place of employees from the Damage Prevention Screening Department to screen emergency locate tickets after business hours, weekends, and holidays.

Internal Audit Notes:

- During the work week, the Damage Prevention Screening Department will determine whether the Columbia company has any facilities at the requested location and make the necessary assignments for locate tickets; however, Internal Audit noted that Integration Center Assigners are responsible for screening **emergency** locate tickets after business hours, weekends, and holidays. Emergency locates require excavators to notify the utility owner immediately as an immediate threat exists to life or property or where interruption of public services has occurred.

- Integration Center Assigners are staffed to cover twenty-four hours a day for all seven days of the week which is why they have been available to screen emergency locate tickets after hours. Currently, Assigners are not provided formal training specific to screening, however, they learn how to address emergency locate tickets through on the job training (OJT). In addition, screening the emergency locate tickets is not the primary job responsibility of the Integration Center Assigners. This may create potential risk of improperly addressing an emergency locate resulting from a lack of experience or knowledge or time constraints due to other job responsibilities.

Results and Recommendations

Potential Process Improvement Opportunity 6 - Staffing:

Management should evaluate whether staffing is adequate at each location to address locates and locate turn-backs.

Internal Audit Notes:

- Internal Audit noted that Field Operation Leaders (FOL) and Damage Prevention Coordinators (DPC) play a pivotal role in the locate and turn-back processes, whether it is coaching employees or contract locators who perform the locates, performing QA/QC on the contract locators, or following up with assigned resources to ensure that turn-backs are completed on time.

- Internal Audit noted some common challenges were expressed by FOLs and DPCs based on the following two operating center location types:
  - Operating Centers that Cover Rural Areas: These typically span larger geographic areas, and the FOL or DPC may spend a large portion of their time traveling to locate sites leaving less time available to assist in working locate tickets (i.e. providing guidance to the locator or excavator).

  - Operating Centers that Cover Urban locations: For the operating centers that cover urban areas, spikes in the volume of call tickets may create challenges in operating center resource availability to perform the locates timely.

- Further reporting, as noted in **Potential Process Opportunity 1 and 2**, would help provide insight into areas that may potentially need additional staffing to ensure adherence to regulations.

Results and Recommendations

Potential Process Improvement Opportunity 7 - Ohio and Kentucky Specific:

Management should consider utilizing a consistent 'Company Locate Turn-back Survey' form across all locations.

Internal Audit Notes:

- Company employees who complete a locate turn-back in Ohio and Kentucky are required to complete a 'Company Locate Turn-back Survey' form.

  NOTE: Forms are not completed in locations utilizing company locators. Other locations who utilize contractor locators choose not to complete the form due to other processes in place (e.g. Virginia requires the contractor to return to a locate if it was determined that the contractor should have been able to perform the locate.)

- Internal Audit noted the forms generally include the following information about the turn-back:
  - The individual who performed the turn-back;
  - What type of pipe was located (i.e. service versus main, plastic versus service);
  - How the pipe was made locatable;
  - How easy the locate was to perform through a ranking system (on a scale of one through five with one representing an easy locate that the contract locator should have been able to locate and five representing the most difficult locate); and
  - A notes section for any additional information.

- The format of the forms and the required fields were not the same for each operating center. Management should consider utilizing the same form across all Ohio and Kentucky locations to ensure that the same data is captured.

  NOTE: For consistency purposes, Management may also want to consider the use of a standard "Company Locate Turn-back Survey form" for all locations across the Columbia footprint that utilize contract locators.

Results and Recommendations

Potential Process Improvement Opportunity 8 - Ohio and Kentucky Specific:

Management should consider the costs and benefits of creating the ability to complete the 'Company Locate Turn-back Survey' forms electronically and retaining the resulting data in a reportable data warehouse.

Internal Audit Notes:

- Currently the 'Company Locate Turn-back Survey' forms are compiled manually and many of the fields and data collected are not being utilized. Management should consider the possibility of completing the survey form electronically while in the field and storing the data in a reportable database. Further data analysis around locate turn-backs could be leveraged from having the data electronically and would allow for the review of incomplete or inaccurate fields. For example, Management could quantify the turn-backs rated as a 1 or 2 and provide that information back to the contractor.

Potential Process Improvement Opportunity 9 - Ohio and Kentucky Specific:

Management should consider working with USIC and S&N, the two contract locators that service Ohio and Kentucky, to develop a monitoring report which tracks the number of turn-backs ranked by the Company as "Easy to Perform".

Internal Audit Notes:

- Based on walkthroughs performed, it appears that turn-backs ranked as "Easy to Perform" are being communicated back to the contract locator during weekly and/or monthly meetings; however, it appears there is no reporting or trending of the total number of turn-backs provided back to USIC or S&N.

- Further reporting on the total number of turn-backs would help create accountability and identify if there are performance issues with specific employees of contract locators.

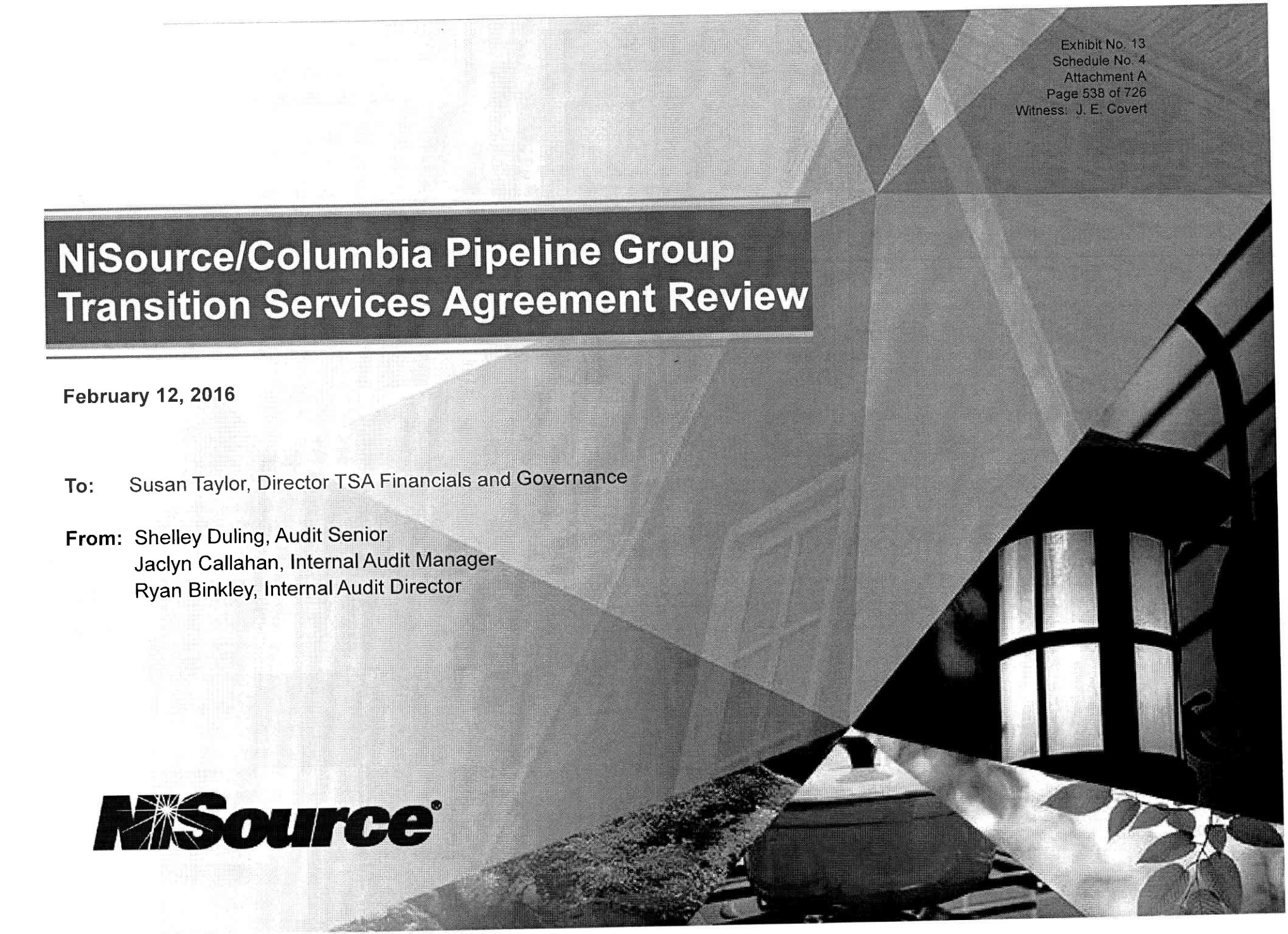
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NiSource/Columbia Pipeline Group Transition Services Agreement Review

February 12, 2016

To: Susan Taylor, Director TSA Financials and Governance

From: Shelley Duling, Audit Senior
Jaclyn Callahan, Internal Audit Manager
Ryan Binkley, Internal Audit Director



NiSource®

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NiSource/Columbia Pipeline Group Transition Services Agreement Review

EXECUTIVE SUMMARY

Executive Summary

Internal Audit conducted a review of the processes being utilized to monitor the transition services related to the NiSource/Columbia Pipeline Group (CPG) separation effective July 1, 2015.

Specifically, the focus of our audit included the following:

- Determine that governance processes and controls related to the Transition Services Agreement (TSA) are operating effectively; and

- Verify that monthly invoices from NiSource to CPG are properly approved and accurately calculated in accordance with the TSA.

Internal Audit has reviewed our results with Management.

Note: The Transition Management Department oversees the network, infrastructure and business application transition efforts to complete the separation of Information Technology between NiSource and CPG. Additionally, the Transition Management Department is responsible for IT projects benefiting NiSource, including new replacement systems for employee expense and Corporate Procurement. Approximately one third of the labor costs in the Transition Management Department are charged to regulated NiSource companies, where the remainder is directly charged to CPG and NiSource Inc. (Company 58). The costs charged to NiSource Inc. will be further reviewed as part of the NiSource Corporate Services Cost Allocation Audit to be performed by Internal Audit in 2016.

Executive Summary

Audit Objective 1: Ensure that the established TSA governance processes and controls are being properly executed.

Audit Results

- The Transition Management Department has developed processes to ensure any issues or proposed contract modifications experienced during the execution of the TSA activities have a path to resolution;

- Performance scorecards summarizing the status of key TSA items are presented to the Transition Management Office and Executive Steering Committee on a weekly basis; and

- Processes exist to adequately monitor the status of sunset plans (i.e. plans for service termination) for each TSA Specified Service. Sunset plans include consideration of proper staffing, adequate knowledge transfer and necessary technology requirements. Internal Audit verified that approval was obtained by the appropriate CPG and NiSource representatives for a selection of services that had sunset as of the date of testing.

Executive Summary

Audit Objective 2: Verify that monthly invoices are properly approved and accurately calculated in accordance with the TSA.

Audit Results

- The monthly TSA invoices from NiSource to CPG are properly approved by TSA Management and are accurately calculated in accordance with the TSA.
  - Various percentages are used to allocate project costs to NiSource and CPG.
    - Written approval was obtained from CPG and NiSource for the allocation percentages related to the Project Management portion of the TSA project, which was based on an estimate determined to be equal to the overall budgeted allocation to CPG and NiSource of ***84%*** and ***16%***, respectively, for the remaining TSA projects.
    - The allocation percentages used for the remaining TSA projects are based on direct, historical data; as such, written approval was not deemed necessary for these items.
- Reverse TSA invoices (CPG to NiSource) are approved in Catalyst in accordance with the NiSource *Requisition and Disbursement Approval Levels* policy.
- TSA Management has established processes in place to monitor personnel charging time to the TSA project.

Executive Summary

Audit Objective 2 - Audit Results (Cont'd):

- The true-up mechanism, as outlined by the contract for Specified Services, was prepared in accordance with the TSA as of December 31, 2015 (See ***Slide 21*** for further details).
  - Environmental, Safety and Sustainability (ES&S), Information Technology (IT), and Real Estate functions all triggered the thresholds for the **prospective** true-up.
    - The Real Estate function sunset as of December 31, 2015.
      - A true-up was not deemed necessary as the adjustments are prospective only.
    - ES&S and IT estimates were revised in November 2015 as part of the Change Request Management process discussed at ***Slide 13***.
      - Financial data supported that ES&S and IT would meet the thresholds for a potential true-up at December 31, 2015, as such TSA Management was proactive in revising these Specified Service estimates in November. No additional revisions were necessary based on the December analysis performed by TSA Management.

Background

Background

- As part of the NiSource/Columbia Pipeline Group (CPG) separation effective July 1, 2015 ("transition date"), services are being provided to CPG by NiSource under a Transition Services Agreement (TSA) dated June 30, 2015. Services are also being provided by CPG to NiSource as part of a "Reverse TSA"; however, the audit scope focused primarily on those services provided by NiSource to CPG.
  - Services are estimated to be provided through December 31, 2016; however, many services are expected to terminate (i.e. "sunset") prior to the aforementioned date.
  - TSA costs that will be billed to CPG are estimated to be ***$68.6*** million over the term of the TSA with ***$15.8*** million billed through December 31, 2015 as reported by TSA Management.
    - » While ***$15.8*** million has been billed through December 31, 2015, there were several large projects incorporated in the ***$68.6*** million that had not yet commenced as of December 31, 2015.

NiSource/Columbia Pipeline Group Transition Services Agreement Review

Results & Recommendations

Audit Procedures, Results and Recommendations

Audit Objective 1:

Ensure that the established TSA governance processes and controls are being properly executed.

Audit Procedures:

1. Determine that governance processes and controls related to the TSA are operating effectively.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Procedure 1: Determine that governance processes and controls related to the TSA are operating effectively.

Audit Results

The Transition Management Department has developed processes to ensure any issues or proposed contract modifications experienced during the execution of the TSA activities have a path to resolution. Issues encountered as part of the transition and proposed contract modifications are discussed during monthly meetings among TSA Management and functional team leaders at both NiSource and CPG.

Issue Resolution

It is the goal of TSA Management to resolve any issues during the monthly meetings with the functional leaders; however, if an issue is deemed significant and/or has a global effect based on the judgement of TSA Management, it is presented to the Executive Steering Committee (ESC) and Transition Management Office (TMO) during their weekly meetings. These significant issues are also tracked via the CPG Separation SharePoint ("SharePoint") site.

- As of the date of this report, there was only ***1*** issue noted in SharePoint related to the use of MyMeeting and Avaya VoIP.
  - Per discussions with TSA Management, the issue has been resolved and is being monitored.
  - Internal Audit verified that the issue is being included on the TSA Scorecards presented to the TMO and ESC.
    - » *See **Slide 14** for further discussion on the TSA Scorecards.*

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

Change Request Management

Proposed contract modifications, including additional services, duration adjustments, and terminations, derived from the monthly meetings with the functional leaders are tracked via SharePoint using the following status criteria:

- ***New*** - Awaiting approval by the TMO group
- ***Approved*** - Approved by the TMO group; monthly invoices can be revised and legal can include language related to the change request in the next contract amendment
- ***Closed*** – Formal contract amendment has been issued for the change request
    - ***Note:*** *Given the volume of change requests and relatively low dollar impact to the overall TSA project, amendments are only issued quarterly.*

As of January 17, 2016, there were ***37*** change requests noted within SharePoint related to the TSA. Internal Audit selected a sample of ***10*** change requests with at least one selection from each status type and verified the following:

- Change requests in "***closed***" status were reflected in an executed TSA amendment;
- Change requests in "***approved***" status were properly and timely reflected in the invoices selected for testing at ***Audit Objective 2***; and
- Change requests in "***new***" status were created within the prior 30 days from the date of testing, supporting that change requests are approved timely to reflect billing impacts in the proper period.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

TSA Scorecards

TSA Management also presents a weekly TSA Scorecard to the TMO and ESC which, at a minimum, includes the following:

- Status of Sunset Plans (***See Slide 15***)
- Key Financial Operations Items (i.e. billing, etc.)
- Status of Open Issue Resolutions
- Proposed TSA Revisions (Change Requests)
- Upcoming Activities/Milestones

Internal Audit selected a sample of ***5*** weeks since the date of transition and verified that a TSA Scorecard was prepared. TSA Management corroborated that the scorecards were presented to the TMO and ESC for the applicable weeks.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

Sunset Plan Monitoring

Sunset plans are monitored by TSA Management via an excel document that outlines the service period for each TSA service along with the status of key sunset plan items, such as staffing, knowledge transfer and technology requirements. Items are color-coded to signify whether the requirements are on track to meet the estimated sunset date. Data is driven by input from the functional leaders at both NiSource and CPG as discussed during their monthly meetings. In order for an item to sunset, approval must be obtained by both NiSource and CPG representatives. Approvals are tracked via the SharePoint site.

Internal Audit reviewed the sunset plan tracking document noting that services planning to sunset through March 2016 appeared to be on track for all plan requirements. For a selection of ***3*** services* that had sunset as of the date of testing, Internal Audit verified that the proper approvals were obtained, noting no exceptions. These approvals signify that both CPG and NiSource agree that all requirements have been met to sunset the process, including an appropriate level of knowledge transfer.

Internal Audit Recommendation(s): None

Audit Procedures, Results and Recommendations (Cont'd)

Audit Objective 2:

Verify that monthly invoices are properly approved and accurately calculated in accordance with the TSA.

Audit Procedures:

1. Determine that monthly invoices related to the TSA are properly approved and accurately calculated.

2. Review the true-up calculation related to July 1, 2015 through December 31, 2015 activity and verify that any adjustments are properly reflected in January 2016 invoice.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Procedure 1:

Determine that monthly invoices related to the TSA are properly approved and accurately calculated.

Audit Results

In accordance with the TSA, NiSource submits an invoice to CPG by the 15th day of each month for the costs incurred related to the contract. Internal Audit held a walkthrough with TSA Management noting that each invoice classifies TSA costs into the following sections:

- ***TSA Services ("Specified Services" per the TSA)***
  - IBM labor costs associated with maintaining service (i.e. network server, Wi-Fi)
    - Actual costs incurred are billed to CPG in the subsequent month (i.e. August actuals are billed in September)
  - Internal labor costs associated with performing Specified Services up to the sunset date
    - Charges are based on a predetermined monthly estimate amount outlined in the TSA subject to a true-up mechanism. See ***Slide 21*** for further details related to the true-up.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

- ***Transition Project Team***
  - Project work related to the transition (i.e. cost associated with the TSA Management Department and establishing a new server room at CPG)
  - Actual costs incurred are billed to CPG in the subsequent month (i.e. August actuals are billed in September)

- ***NiSource/CPG Roadmap***
  - Primarily IBM purchases made for CPG through the NiSource IBM contract (i.e. hardware, satellites, phone upgrades)
  - Actual costs incurred are billed to CPG in the subsequent month (i.e. August actuals are billed in September)

- ***Other Miscellaneous***
  - Various charges not aligning with another section of the invoice
    - For example, CPG used the Expense Reporting System (ERS) where payment is linked to a NiSource cash account. Thus, CPG must reimburse NiSource monthly for employee expense transactions paid by NiSource on behalf of CPG.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

Internal Audit reviewed the September and November invoices and performed the following:

- Verified invoice was properly reviewed and approved by the Director of TSA Financials and Governance.

- Identified significant components of each bill and verified the accuracy of the invoiced amounts by reviewing source data and percentages used to allocate charges to CPG, as applicable. Internal Audit reviewed formal, written approval by CPG and NiSource Transition Executives for the allocation percentages utilized for the Project Management portion of the TSA project, which was based on an estimate determined to be equal to the overall budgeted allocation to CPG and NiSource of ***84%*** and ***16%***, respectively, for the remaining TSA projects.

    - TSA Management noted that allocation methodologies based on direct data (historical ERS usage, etc.) were approved during a monthly TMO meeting and formal, written approval was not necessary for these allocations given there is data to support the allocation percentage. In addition, certain TSA projects are clearly a direct cost to CPG or NiSource, such as the Charleston Server Room project, as such written approval is also not deemed necessary for these projects.

Audit Procedures, Results and Recommendations (Cont'd)

Audit Results – Audit Procedure 1 (Cont'd):

- Verified that the invoice from CPG to NiSource (i.e. Reverse TSA) was properly approved within Catalyst aligning with the NiSource *Requisition and Disbursement Approval Levels* policy.

In addition, Internal Audit performed a walkthrough of the processes established to monitor proper coding of TSA project costs, including internal labor, noting that they appeared adequate to identify significant coding errors.

Internal Audit Recommendation(s): None

Results and Recommendations

Audit Procedure 2:

Review the true-up calculation related to July 1, 2015 through December 31, 2015 activity and verify that any adjustments are properly reflected in January 2016 invoice.

Audit Results

Charges for Specified Services are based on a predetermined monthly estimate amount outlined in the TSA.

- For any six month period ended December 31, 2015, June 30, 2016 and December 31, 2016, if estimated internal labor differs from the actual labor charges incurred by an amount equal to the greater of 10% or $100K by functional area, a prospective adjustment ***may*** occur to subsequent amounts to reflect revised budgets (i.e. workload greater/less than initial estimate); and

- These adjustments **do not** recoup prior variances.

Results and Recommendations

Audit Results – Audit Procedure 2 (Cont'd):

Internal Audit reviewed the December 31, 2015 true-up analysis noting the following:

- Environmental, Safety and Sustainability (ES&S), Information Technology (IT), and Real Estate functions all triggered the thresholds for a potential **prospective** true-up.
  - The Real Estate function sunset as of December 31, 2015.
    - A true-up was not deemed necessary as the adjustments are prospective only.
  - ES&S and IT estimates have already been revised as part of the Change Request process discussed at ***Slide 13***.
    - Financial data supported that ES&S and IT would meet the thresholds for a potential true-up at December 31, 2015, as such TSA Management was proactive in revising these Specified Service estimates in November. No additional revisions were necessary based on the December analysis performed by TSA Management.

Internal Audit Recommendation(s): None

cc: J. Hamrock
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2015 NiSource Employee Expense Reimbursement Audit

April 13, 2016

To: Ronald Plantz, Controller Corporate Accounting

From: Jaclyn Callahan, Audit Manager
Michelle Eich, Lead Data Analyst
Al Sawaneh, Senior Auditor
Ryan Binkley, Audit Director

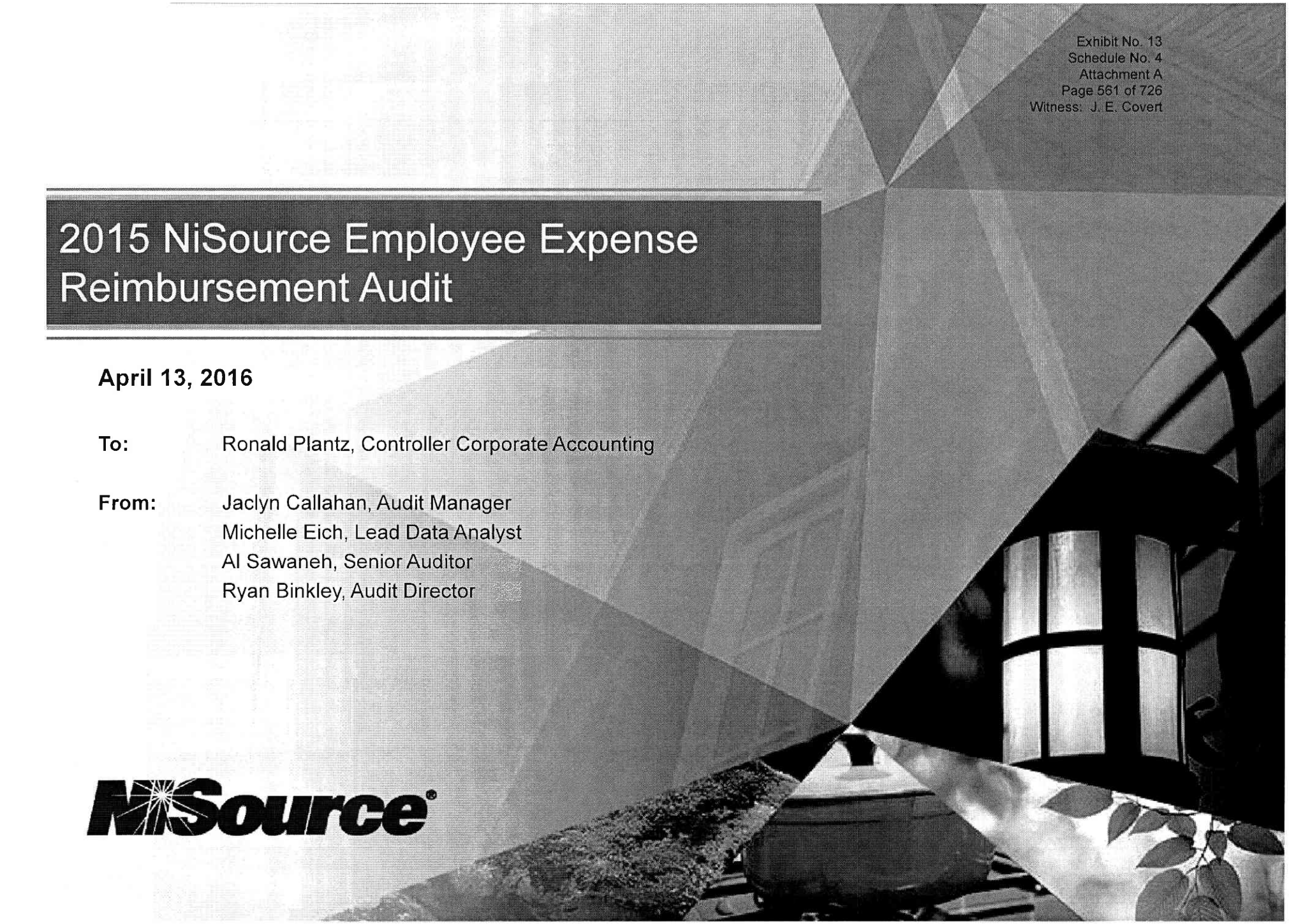


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- **Report Distribution List.....32**

NiSource Employee Expense Reimbursement Audit

(Audit Period: January 1, 2015 through December 31, 2015)

EXECUTIVE OVERVIEW

Executive Overview

The Internal Audit Department began performing regular audits of the expense reimbursement process in 2009 to analyze trends in employee spending and aid in identifying non-compliant expense transactions.

As part of a continuous audit process, Internal Audit performed a review of the administration of the Employee Expense Reimbursement Programs within NiSource. We assessed the overall compliance with the requirements of the Corporate Credit Card policy and the applicable Business Expense Reimbursement and Reporting Policies for the period January 1, 2015 through December 31, 2015.

Executive Council (Officer) expense statement reviews are also performed annually. Internal Audit issued a separate report for the 2016 Officer Expense Reimbursement Review in April 2016.

This report includes analytics and procedures that have been completed on a comparative basis for the period January 1, 2014 through December 31, 2015.

> ***Note:*** *As the NiSource/Columbia Pipeline Group (CPG) Transition was effective on July 1, 2015, Internal Audit excluded all spend for any employees associated with the CPG organization for the entire year to reflect only spend associated with the NiSource organization; however, a small number of employees associated with the NiSource Corporate Service Company who transitioned to CPG are reflected in the analysis presented herein, since the inclusion of those expenses included during the period were incurred for the benefit if NiSource business operations.*

Executive Overview

Specifically, the focus of our audit included the following procedures:

- Perform data analysis on employee expense reimbursement data to identify any unusual items and/or trends and provide management with insights into employee expense activity within NiSource.

- Determine that employee expenses are submitted timely and processed in accordance with corporate policy and Internal Revenue Service guidelines.

Overall Conclusions:

During the review, Internal Audit identified some minor exceptions to established employee expense policies and procedures and have made certain recommendations to Management:

- Reinforce documentation requirements for Gift and Other transactions to ensure compliance with Company policy;

- Management should enhance current processes to ensure all taxable gift transactions are properly identified and included in income for IRS reporting purposes; and

- Management should continue to ensure that taxable travel expenses are properly identified, supported, and included in income for both employees utilizing the Company-leased aircraft and those who maintain unique commuting arrangements.

Executive Overview

Analytic Observations:

Perform data analysis on employee expense reimbursement data to identify trends in spend data and examine historical spending patterns to detect significant variations over time.

- Internal Audit observed an increase of **$192K** (~1%) in total NiSource spending from 2014 to 2015, primarily due to an increase of **$1.1M** in the Other Expense category which was partially offset by a decrease in the Meals Category of **$808K**.

Spend Category	2014 ERS Spend	2015 ERS Spend	Variance	% Change Y/Y
Other	$3,989,677	$5,109,598	$1,119,921	28%
Personal Mileage	$1,836,705	$1,950,033	$113,328	6%
Gift	$301,003	$337,451	$36,448	12%
Hotel	$6,094,623	$6,107,590	$12,967	0%
Entertainment	$574,577	$517,041	($57,536)	-10%
Car Rental	$955,512	$862,734	($92,778)	-10%
Air Travel	$3,777,637	$3,645,253	($132,384)	-4%
Meals	$5,095,165	$4,287,373	($807,792)	-16%
Total	**$22,624,899**	**$22,817,073**	**$192,174**	**1%**

Executive Overview

Audit Objective:

As a result of data analysis observations and through appropriate sampling methodology, determine that employee expenses are submitted timely and incurred and reimbursed in accordance with Company Policy and Internal Revenue Service guidelines.

As part of our Audit procedures, Internal Audit concluded the following:

- Through a risk based sampling process, Internal Audit reviewed **117** expense transactions submitted by employees via the Expense Reporting System (ERS) managed by IBM, noting no significant policy violations

  NOTE: *Current policy requires receipt documentation for a limited set of transactions (i.e. Hotel & Cash transactions over $25), therefore Internal Audit's assessment of selected expense items as a reasonable business expense in accordance with corporate policy was limited in some cases based on the information retained in ERS*

- ***Internal Audit made the following observations which were communicated to Management:***
  - Two (2) Retirement Gift transactions totaling $1,010 for a single recipient were not properly included in the recipient's income
  - Two (2) Gift transactions totaling $2,152 to non-employees did not meet the criteria of a negligible fringe benefit defined in Company policy as cash equivalents were provided to non-employees

Executive Overview

Audit Objective (Cont'd):

- ***Internal Audit made the following observations which were communicated to Management (Cont'd):***

  - Eleven (11) Gift transactions totaling $3,297 met the criteria of a charitable contribution and should have been processed through Accounts Payable to be properly deducted for tax purposes. Additionally, the Business Expense Reimbursement and Reporting Policy identifies charitable contributions as personal expenses that are not reimbursable.

  - Multiple transactions did not include the business purpose and other descriptive details to support the expense reimbursements. For example, reimbursements for business dinners, lunch, and entertainment events should include an attendee list or name of the group being entertained.

  - Multiple reimbursements for personal mileage did not include trip details to ensure comparison of trip cost with the cost of a rental car for similar trip or explanation for the use of personal vehicle instead of a rental car as required by policy when the total reimbursement (using the current IRS per mile rate) for the use of a personal vehicle exceeds the rental rate.

    - Additionally, as a result of the data analytics performed, Internal Audit identified twenty-three (23) employees requesting reimbursement for over 12,000 miles annually and provided this information to Supply Chain for review as these employees may be eligible for a Company vehicle

Executive Overview

Audit Objective (Cont'd):

- ***Internal Audit made the following observations which were communicated to Management (Cont'd):***
  - Accounts Payable (A/P) performs periodic audits on employee expenses based on consistent criteria and risk factors;

    A/P's assessment of whether an expense item is in accordance with policy can be affected by the limited amount of detail required to be input into ERS.

  - Generally, NiSource employees remit expenses within 45 days after incurring expenses, as required by policy;

    In a trend that is consistent with 2014 expenses, Internal Audit identified employees have been submitting expenses timely, with 98% of all expenses being submitted within the 45 day requirement in 2015.

  - Taxable travel expenses for employees with unique commuting arrangements and for employees with personal use of the Company-leased aircraft were properly tracked and reported as income, with the exception of the following amount identified during the review.

    One employee's taxable expenses was under reported by $266 for 2015.

Executive Overview

Audit Objective (Cont'd):

Internal Audit Recommendation(s):

- Management should enhance current processes to ensure all taxable gift transactions are properly identified and included in income for IRS reporting purposes.

- Management should communicate the need to include the business purpose and other descriptive details for each transaction in accordance with the "Business Expense Reimbursement and Reporting Policy" before approving the reimbursement request.

- To ensure compliance with the policy requirement for rental vehicles when the total reimbursement (using the current IRS per mile rate) for the use of a personal vehicle exceeds the rental rate, Management should request personal mileage reimbursement submissions include the trip origin, destination, and number of miles for each trip segment. This would increase transparency and basis for measuring the personal mileage reimbursement amounts to the cost of a rental car for similar trip. Additionally, Management should continue to assess whether employees requesting reimbursement for over 12k miles annually are eligible for a Company vehicle.

- Management should continue to ensure that taxable travel expenses are properly identified, supported, and included in income for both employees utilizing the Company-leased aircraft and those who maintain unique commuting arrangements.

We have shared our audit and analytic objective observations with Management and they agree with our results.

NiSource Employee Expense Reimbursement Audit

Analytic Objective

(Analytic Period: January 1, 2015 through December 31, 2015)

ANALYTIC OBSERVATIONS

Perform data analysis on employee expense reimbursement data to identify trends in spend data and examine historical spending patterns to detect significant variations over time

Analytic Observations

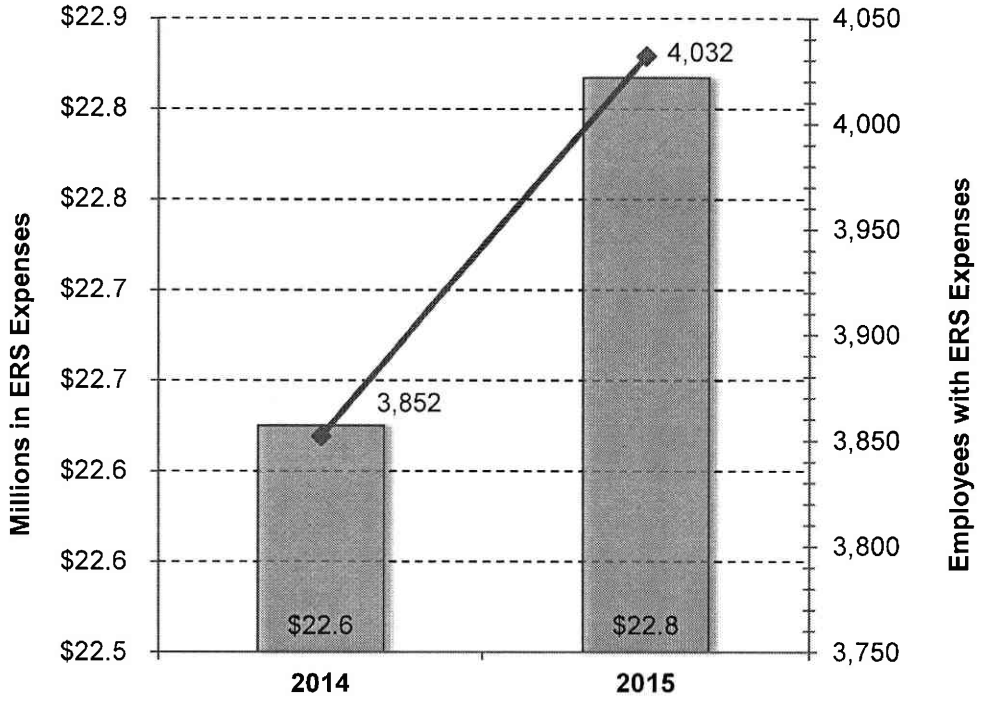
Analytic Observations:

- For the current and prior audit periods, Internal Audit independently accessed ERS through its online reporting tool (GERS) and extracted all employee expense data from January 1, 2014 – December 31, 2015.
  - *The employee spend displayed on Slides 13 - 17 includes "Officer" spend to properly illustrate overall NiSource employee expense spending.*
  - *As the NiSource/Columbia Pipeline Group (CPG) Transition was effective on July 1, 2015, Internal Audit excluded all spend incurred by CPG employees for the periods under review.*
    - *As the NiSource/Columbia Pipeline Group (CPG) Transition was effective on July 1, 2015, Internal Audit excluded all spend for any employees associated with the CPG organization for the entire year to reflect only spend associated with the NiSource organization; however, a small number of employees associated with the NiSource Corporate Service Company who transitioned to CPG are reflected in the analysis presented herein, since the inclusion of those expenses included during the period were incurred for the benefit if NiSource business operations.*
- As part of Internal Audit's continuous review process regarding the audit of ERS data, our dedicated Data Analyst Team developed data analytic processes and procedures using the "Tableau" data analytic tool. Internal Audit independently imported all ERS data for the two years presented and performed our audit procedures to reach these data analytic observations.
  - *Data accuracy is limited by potential data input errors by employees (i.e. coding an expense incorrectly).*

Analytic Observations

Total NiSource ERS Expenses

(2014 – 2015)

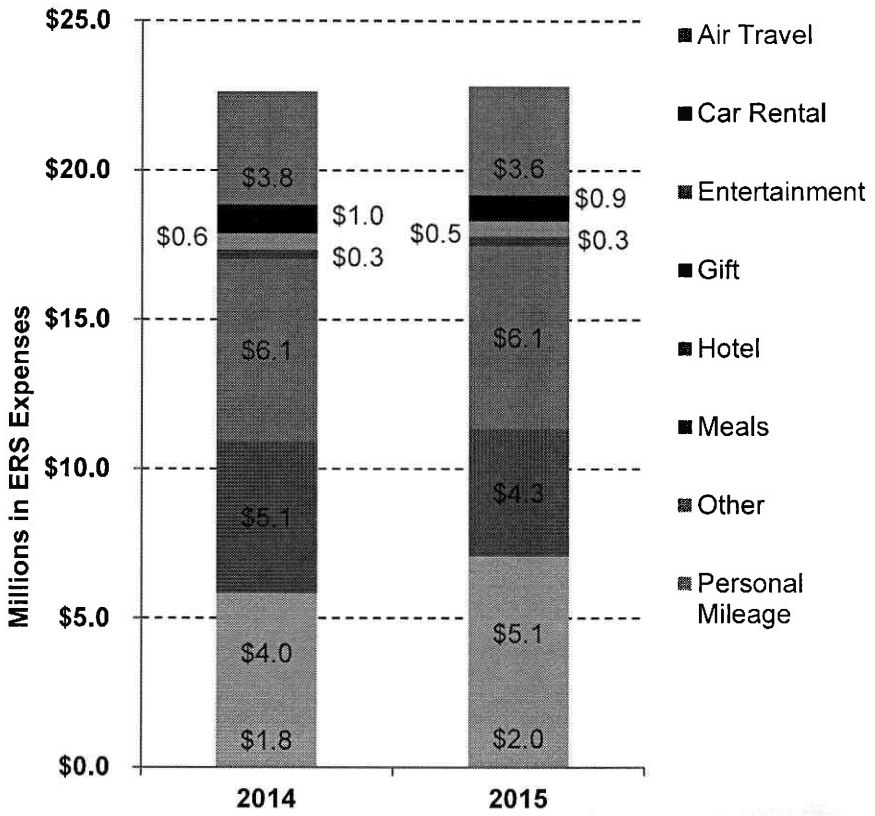


Observations:

Overall total ERS spending increased ~1% from 2014 to 2015. The total number of employees submitting expenses increased by ~5% during 2015 (3,852 to 4,032).

Analytic Observations

NiSource ERS Spend Categories
(2014 – 2015)



Observations:

Hotel, Meals, and Other accounted for 69% of the spend in 2015.

Other Expenses, Mileage, and Gifts accounted for the largest variance from 2014. Refer to Slides 15 – 17 for further analysis.

Spend Category	2014 ERS Spend	2015 ERS Spend	Variance	% Change Y/Y
Other	$3,989,677	$5,109,598	$1,119,921	28%
Personal Mileage	$1,836,705	$1,950,033	$113,328	6%
Gift	$301,003	$337,451	$36,448	12%
Hotel	$6,094,623	$6,107,590	$12,967	0%
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Air Travel	$3,777,637	$3,645,253	($132,384)	-4%
Meals	$5,095,165	$4,287,373	($807,792)	-16%
Total	**$22,624,899**	**$22,817,073**	**$192,174**	**1%**

Analytic Observations

Top 15 "Other" NiSource ERS Expenses Category Trending*

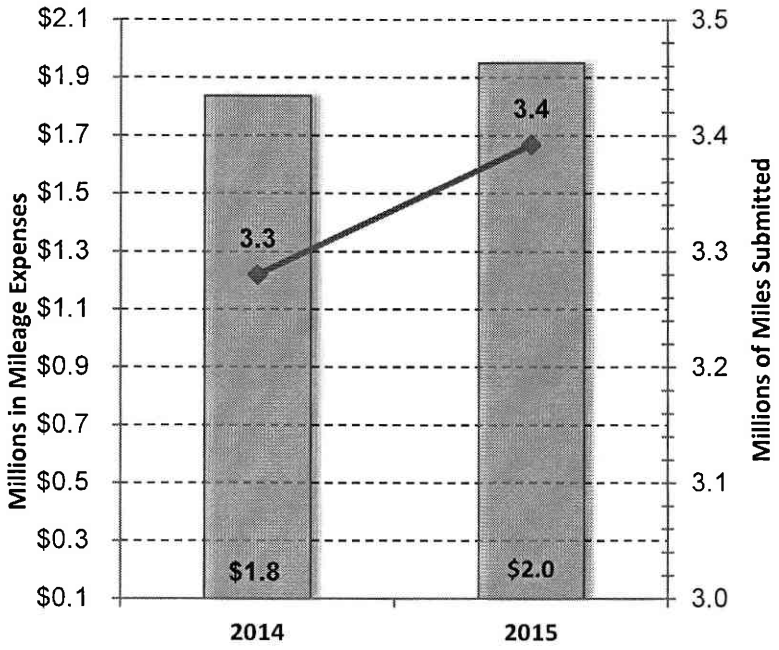
(2014 – 2015)

TOTAL ERS TOP 15 "OTHER" TRANACTION CATEGORIES			
Expense Description	2014 ERS Spend	2015 ERS Spend	% Change Y/Y
Business Lunch On-site	$ 13,665	$ 729,054	5235%
Fees [Seminar / Conference]	707,003	675,049	-5%
Training	541,401	548,358	1%
Parking/Valet	427,555	469,292	10%
Other / Miscellaneous	446,961	464,696	4%
Services & Supplies [Office]	324,408	298,249	-8%
Services & Supplies [Other]	216,325	242,011	12%
Professional Associations	265,176	203,099	-23%
Conference Room Rental	-	169,764	N/A
Business Breakfast On-site	1,105	160,145	14396%
Ground Transportation [Taxi / Limo]	145,344	147,739	2%
Fuel	214,225	141,324	-34%
Snacks/Refreshments On-site	-	129,732	N/A
Business Dinner On-site	-	118,734	N/A
Tolls	78,119	95,229	22%
TOTAL TOP 15 ERS OTHER TRANACTIONS	**$ 3,381,287**	**$ 4,592,475**	36%
TOP 15 % OF TOTAL "OTHER"	85%	90%	
TOTAL OTHER TRANSACTION	$ 608,390	$ 517,123	-15%
GRAND TOTAL OTHER	**$ 3,989,677**	**$ 5,109,598**	28%

**The chart above displays the spend for only the top 15 types of Expense Descriptions classified as "Other Expenses". A total of (48) Categories were identified as "Other" in 2015, including the addition of (7) new Categories, some of which are reflected above.*

Analytic Observations

Total NiSource Mileage Expenses
(2014 – 2015)



Observations:

Internal Audit noted that total Mileage Expenses increased 6% from 2014 to 2015.

- The number of employees submitting mileage expenses increased 4% from 1,756 to 1,828.
- The standard IRS reimbursement rate increased 3% from 56 cents per business mile driven in 2014 to 57.5 cents during 2015.

Internal Audit identified twenty-three (23) employees that had driven over *12,000* miles in 2015 and provided this information regarding the employees to Supply Chain for review.

- The 'NiSource Vehicle Policy' states the following:

> *"An employee is eligible to be assigned a passenger type Company vehicle if the position requires that the employee travel in excess of 12,000 business miles on an annual basis."*

Analytic Observations

Total "Gift" ERS Expenses Category Trending

(2014 – 2015)

TOTAL ERS GIFT TRANACTIONS			
Expense Description	2014 ERS Spend	2015 ERS Spend	% Change Y/Y
Award [Cash or Cash Equivalents (gift cards)]	$ 126,042	$ 153,698	22%
Award [Merchandise / Service]	20,988	20,709	-1%
Gift [Merchandise / Service]	52,818	54,182	3%
Gift [Retirement]	4,393	4,580	4%
Gifts [Employees]	43,506	62,138	43%
Gifts [Flowers]	10,816	11,458	6%
Gifts [Non-Employees]	11,741	16,180	38%
Safety Awards (Non Taxable)	7,401	8,233	11%
Safety Awards (Taxable)	$ 23,298	$ 6,273	-73%
TOTAL ERS GIFT TRANACTIONS	**$ 301,003**	**$ 337,451**	**12%**

NOTE: *The table above has been organized based upon significance of Gift spend in 2015. For a selection of transactions, Internal Audit verified that any taxable expenses have been included in employees' 2015 W-2. Internal Audit was unable to accurately determine the average amount of Gift transactions per employee as it was noted that data entered into ERS was incomplete in certain instances whereby recipient information was not included in the expense submission. As such, spend per employee are not reflected herein.*

NiSource Employee Expense Reimbursement Audit

Audit Objective

(Audit Period: January 1, 2015 through December 31, 2015)

AUDIT RESULTS

Background

- AMEX corporate credit cards are provided to exempt employees to pay for appropriate Company related expenses and to certain non-exempt employees who travel frequently on Company business.
  - *"Receipt Acknowledgments" are required to be signed by each employee, agreeing to the terms for using the AMEX card.*
- Expenses are captured, processed and approved in the Expense Reporting System (ERS) maintained by IBM.
  - *AMEX charges are auto-fed into the ERS system and then processed by individual employees.*
  - *Payments are remitted to AMEX by NiSource.*
- Employees who are not issued corporate credit cards may still incur legitimate reimbursable business expenses.
  - *Expenses are submitted and approved on an employee expense statement and sent to Accounts Payable for processing.*
  - *Cash advances are also available for approved expenses and are captured in the ERS system.*
- For the period of review, all transactions were processed in ERS; however, Internal Audit noted that the ERS system was replaced with a new system, Concur, in February 2016.

Audit Results

Audit Objective:

As a result of data analysis observations and through appropriate sampling methodology, determine that employee expenses are submitted timely and incurred and reimbursed in accordance with Company Policy and Internal Revenue Service guidelines; and examine historical spending patterns to detect significant variations over time.

- **Focus Area 1:**
  - Review selected employee expense transactions identified as part of our analytic procedures in Analytic Objective and evaluate their compliance with Corporate Policies and Internal Revenue Service guidelines;
- **Focus Area 2:**
  - Review the procedures performed by Accounts Payable to periodically audit employee expense transactions;
- **Focus Area 3:**
  - Ensure expenses are timely entered into ERS for review, approval, and payment; and
- **Focus Area 4:**
  - Verify that taxable travel has been identified and properly included in income as required by IRS reporting requirements for employees with unique working arrangements, including travel with the use of the Company-leased aircraft for compliance.

Audit Results

Audit Objective – Focus Area 1:

Review employee expense transactions identified as part of our analytic procedures in the Analytic Observations and evaluate their compliance with Corporate Policy and Internal Revenue Service guidelines; and examine historical spending patterns to detect significant variations over time.

Audit Results - Selection Identification Process:

Based on the data reviewed as part of our *Analytic Observations*, ***117*** transactions were selected for further testing using a risk based sampling approach.

- Internal Audit reviewed the selected expense statements within ERS for compliance with the following policies:
    - *Business Expense Reimbursement and Reporting*
    - *Corporate Credit Cards*
    - *Employee Gift and Award Accounting and Reporting*
    - *Passenger Vehicle Policy*
    - *Travel Policy*

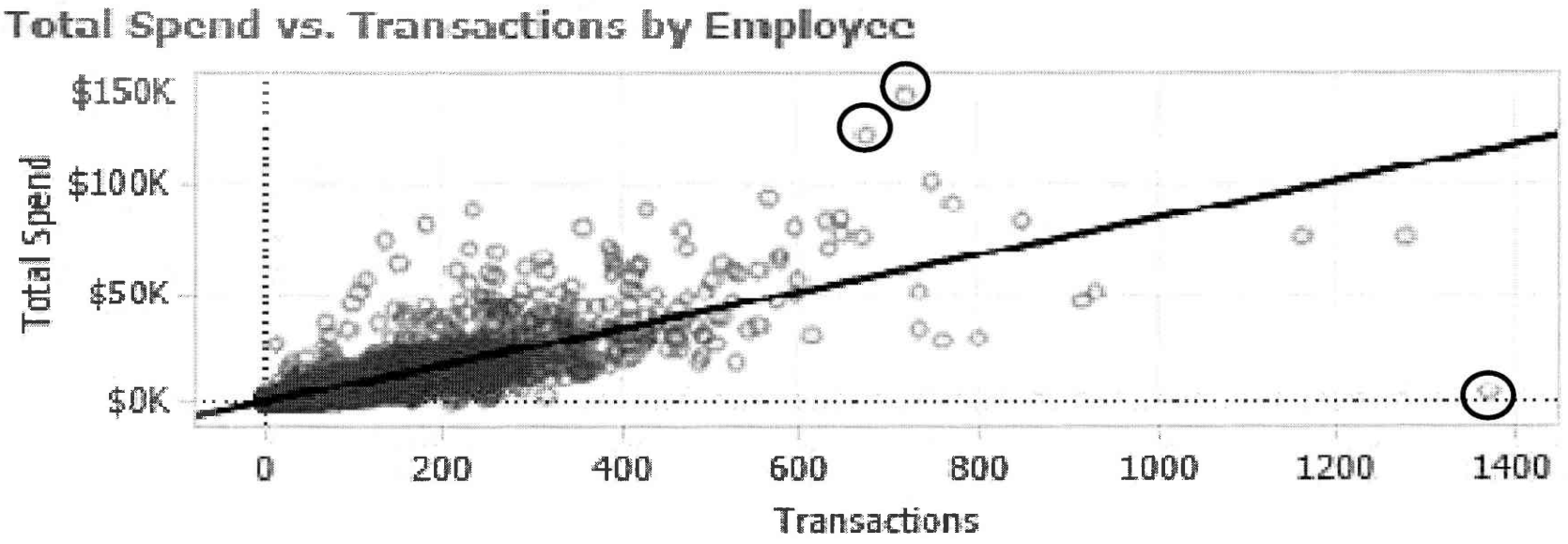
NOTE: *Current policy requires receipt documentation for a limited set of transactions (i.e. "Hotel" & "Cash" transactions over $25), therefore Internal Audit's assessment of selected expense items as a reasonable business expense in accordance with corporate policy was limited in some cases based on the information retained in ERS.*

Audit Results

Audit Objective – Focus Area 1 (Cont'd):

Audit Results - Selection Identification Process (Cont'd):

Internal Audit utilized the data analytics tool **Tableau** to assist in the determination of selections for testing. The scatter chart below is a diagram that shows each NiSource employee as a relationship between the number of transactions and total spend. The black line below is the best fit line derived using Tableau's regression analysis of the total population reviewed. Our sample selections largely focused on transactions incurred by "outlier" employees (as highlighted below in red circles), or those that deviated the most from the line.



Audit Results

Audit Objective – Focus Area 1 (Cont'd):

Audit Results - Selection Identification Process (Cont'd):

- Utilizing the analytical data, as outlined in the first section of this report, and through the use of scatter plot charts generated for each of the eight overall ERS spend categories, Internal Audit identified and tested "outlier" transactions.

- Testing selections excluded expenses submitted by Officers as they are subject to testing in the Officer Expense review performed annually.

- In addition to outlier transactions, we also focused our efforts on the following activities:
  - *Gift transactions for any cash or cash equivalent*
  - *Gift transactions for services or merchandise that result in a gift of over $100 to the recipient*
  - *Spouse or Partner transactions*
  - *Cash Transactions and Advance Requests*
  - *Potential fraud indicators (Highest spend for a given category, round dollars, unusual vendor…etc.)*
  - *Unusual flight destinations*

Audit Results

Audit Objective – Focus Area 1 (Cont'd):

Audit Results - Expense Selection Testing Results:

- While Internal Audit did not identify significant and/or recurring violations of policy based on the samples reviewed, we observed the following items that deviated from established policy requirements:
  - Two (2) Retirement Gift transactions totaling $1,010 for a single recipient were not properly included in the recipient's income;
  - Two (2) Gift transactions totaling $2,152 to non-employees did not meet the criteria of a negligible fringe benefit defined in Company policy as cash equivalents were provided to non-employees; and
  - Eleven (11) Gift transactions totaling $3,297 met the criteria of a charitable contribution and should have been processed through Accounts Payable to be properly deducted for tax purposes. Additionally, the Business Expense Reimbursement and Reporting Policy identifies charitable contributions as personal expenses that are not reimbursable.

Audit Results

Audit Objective – Focus Area 1 (Cont'd):

Audit Results - Expense Selection Testing Results (Cont'd):

- Multiple transactions did not include the business purpose and other descriptive details to support the expense reimbursements. For example, reimbursements for business dinners, lunch, and entertainment events should include an attendee list or name of the group being entertained.

- Multiple Reimbursements for personal mileage did not include trip details to ensure comparison of trip cost with the cost of a rental car for similar trip or explanation for the use of personal vehicle instead of a rental car as required by policy when the total reimbursement (using the current IRS per mile rate) for the use of a personal vehicle exceeds the rental rate.

Audit Results

Audit Objective – Focus Area 1 (Cont'd):

Internal Audit Recommendation(s):

- Management should enhance current processes to ensure all taxable gift transactions are properly identified and included in income for IRS reporting purposes.

- Management should continue to communicate the need to include the business purpose and other descriptive details for each transaction in accordance with the "Business Expense Reimbursement and Reporting Policy" before approving the reimbursement request.

- To ensure compliance with the vehicle policy requirement for rental vehicle, when the total reimbursement (using the current IRS per mile rate) for the use of a personal vehicle exceeds the rental rate, Management should request that personal mileage reimbursement requests to include the trip origin, destination, and number of miles for each trip segment. This would increase transparency and basis for measuring the personal mileage reimbursement amounts to the cost of a rental car for similar trip.

Audit Results

Audit Objective – Focus Area 2:

Review the procedures performed by Accounts Payable to periodically audit employee expense transactions and review the results of their audits for instances of non-compliance.

Audit Results:

- Internal Audit noted that Accounts Payable performs audits on employee expenses that fall into the following categories:
  - *A pre-audit of all expense reports exceeding $10,000; and*
  - *A pre-audit of specifically identified employees based on historical experience and/or position within the Company.*

- Internal Audit noted that Accounts Payable is limited in their assessment as receipts are not required for expenses other than "Room and Tax" and "Cash" transactions.
  - *Accounts Payable relies heavily on the supervisor's approval of the expense; and*
  - *Items that appear to be non-compliant with policy are investigated.*

Internal Audit Recommendation(s): None

Audit Results

Audit Objective – Focus Area 3:

Ensure expenses are timely entered into ERS for review, approval, and payment.

Audit Results:

- Per the Employee Expense policy, expenses must be submitted 10 days after an employee receives a monthly statement, but not to exceed 45 days from the date of the expense transaction.
  - Internal Audit noted that ~$0.5M in ERS expenses were submitted after 45 days from the date of the expense transaction during 2015, accounting for about 2% of total expenses submitted during 2015, which is consistent with the percentage of expenses submitted late in 2014.

Internal Audit Recommendation(s):

Management should continue to reinforce the expense policy and encourage employees to submit expenses timely.

Audit Results

Audit Objective – Focus Area 4:

Verify that taxable travel has been identified and properly included in income as required by IRS reporting requirements for employees with unique commuting arrangements and for employees with personal use of the Company-leased aircraft.

Audit Results:

- Employees whose personal residence is a location other than their principal place of employment may have business expenses reimbursed by NiSource that are taxable to the employee.
  - *Human Resources is responsible for identifying those employees with unique commuting arrangements.*
  - *The Director of Human Resources (HR) Operations Delivery reviews travel expenses from ERS for the identified employees and determines taxable expenses based upon guidelines established by Legal and HR.*
- Aviation Services also tracks costs incurred by all company employees, including those with unique commuting arrangements, related to the personal use of the Company-leased aircraft.
  - *In accordance with IRS requirements, taxable expenses should be calculated at the Standard Industry Fair Level ("SIFL") for income reporting purposes.*
- Payroll reporting deadlines require that taxable expenses related to employees with unique commuting arrangements and/or personal use of the Company-leased aircraft be reported for the period of November 2014 through October 2015 for the 2015 taxable reporting year.

Audit Results

Audit Objective – Focus Area 4 (Cont'd):

Audit Results – Unique Commuting Arrangements:

- Four (4) NiSource employees (non-officers) were identified as having unique commuting arrangements in 2015. Internal Audit traced the following ERS reimbursement amounts identified as taxable by Management to the "No Gross Taxable" line item of the December 31, 2015 pay for each employee identified, noting a difference for one employee, resulting in that employee's income being under reported by $266.

	Expenses Identified as Taxable	Correction to be Made (+/-)
Employee 1	$11,819	$0
Employee 2	$4,466	$0
Employee 3	$3,468	$266
Employee 4	$0	$0
Total	**$19,753**	**$266**

- Internal Audit notified Payroll of the difference identified and a correction will be made during 2016.

Audit Results

Audit Objective – Focus Area 4 (Cont'd):

Audit Results – Use of the Company-leased Aircraft:

- Through review of the flight log information maintained by Aviation Services, no NiSource employees (non-officers) were identified as having taken personal flights on the Company-leased aircraft.

Internal Audit Recommendation(s):

Management should continue to ensure that taxable expenses are properly identified, supported, and included in income for both employees utilizing the Company-leased aircraft and those who maintain unique commuting arrangements.

Report Distribution

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TO: Dan Cote, Vice President Pipeline Safety & Compliance

FROM: Jaclyn Callahan, Audit Manager
Al Sawaneh, Senior Auditor
Ryan Binkley, Audit Director

DATE: July 15, 2016

SUBJECT: Follow-up Audit - Excess Flow Valve Installation Review (Columbia Companies)

As a follow-up to audit work performed in 2015, Internal Audit completed a review of all Columbia Companies (Ohio, Pennsylvania, Virginia, Kentucky, Massachusetts, and Maryland) to determine whether data maintained within the Work Management System (WMS) and the Distributive Information System (DIS) supports the installation of Excess Flow Valves (EFVs) on new and replaced service lines in accordance with Company Gas Standard 3020.100 and related requirements of the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) during the period of May 1, 2007 to April 30, 2016. Additionally, Internal Audit aligned with Management as they investigated the potential exceptions identified in the 2015 audit and developed a strategy to remediate confirmed exceptions and improve data integrity.

Background

EFVs are used in natural gas distribution pipelines to restrict the flow of natural gas and related methane emissions if a line is broken or damaged, limiting the impact of a leak or explosion. Beginning in May 2007, Columbia Gas Standards* required the installation of EFVs on all new and replaced service lines serving single residential customers operating continuously throughout the year at 10 pounds per square inch gauge (PSIG) or greater. Those requirements were matched by the PHMSA Code of Federal Regulations (CFR) §192.381 effective February 12, 2010.

In January 2015, Columbia Gas Standard 3020.100 was updated to require EFV installations on service lines to multi-unit residential and non-residential customers in addition to the single residential customers. (For purposes of this review, the updated Gas Standard was not considered effective until May 31, 2015, allowing for sufficient time to provide the necessary operator qualification training to all individuals performing service line installations.)

The Company Standard as well as CFR §192.381 allow for exceptions to EFV installation requirements when at least one of the following conditions are met:

- The system does not operate continuously throughout the year at a pressure of 10 PSIG or greater;
- EFVs meeting the Department of Transportation's Pipeline and Hazardous Material Safety Administration (PHMSA) performance standards are not commercially available to the Company; or
- The Company has prior experience with contaminants in the gas stream that could interfere with the operation of an EFV, cause loss of service to a residence, or interfere with necessary operation or maintenance activities, such as blowing liquids from the line.

Internal Audit conducted a review in 2015 to determine whether the Columbia Companies consistently installed EFVs on new and replaced service lines in accordance with applicable company standards for the period May 1, 2007 through September 30, 2015. The review relied on data fields captured within WMS and DIS to determine compliance with Company Gas Standards and associated PHMSA CFR. As a result, Internal Audit identified a population of job orders requiring further investigation to conclude on the accuracy of the system data. The job orders identified as potential exceptions were provided to Management to investigate and determine whether they represented valid exceptions. Management initiated an investigation of a representative, statistically significant sample and committed to developing action plans as a result of the sample testing.

Conclusions

Management Review

Pipeline Safety & Compliance Management utilized a 95% confidence level within a statistical model to generate a sample of job orders from the total population of potential exceptions identified by Internal Audit resulting from the 2015 audit. As a result, Management selected **374** job orders for further review. As a result of their investigation, **49 (13%)** were determined to be valid exceptions to the requirements of the applicable gas standards.

See below for a breakdown of Management's investigation results:

- **207** of **374** potential exceptions did not meet the criteria for installing an EFV based on Management's review of manual records (including tap cards) and system data verification.
    - The following scenarios resulted in the selected job orders being ineligible for EFV installation:

        - ***Subsequent System Uprates*** - In this scenario, the main line may have been "uprated" subsequent to the completion of the selected job order to allow for additional pressure capacity. For example, if a main line operated at a low pressure in 2009 when the service line was installed but is uprated to medium pressure in 2011, the installed service lines are not required to be replaced. This scenario is not captured in the available data fields as the operating pressure displayed in the system will only show the current operating pressure, not the pressure at the time of install.

        - ***Customer Side Only Replacements*** – In this example, it was determined upon review of the job order comments and other job order documentation that the work performed represented a "partial replacement", meaning only the service line within the customers' property was replaced. As the service line is not disconnected from the tap at the main to perform this work, an EFV would not be required.

        - ***Manifold Settings Inaccurately Identified in the System*** – Prior to January 2015, EFVs were not required on service lines supplying manifold meter settings which supply multiple meters from a single service line. Instances were identified where job orders were executed to complete work on a manifold meter setting which was not properly identified in the system.

- ***Repair Work Inaccurately Captured on a Replacement Job Order*** – Upon review of the comments of the selected job orders, it was noted that the work performed related to repairs which was improperly coded as replacement work.

- ***Maximum Allowable Operating Pressure (MAOP) less than 15*** – Upon review of the MAOP in the system, certain main lines were coded as Medium Pressure but had a MAOP of 10 to 14 PSIG. Engineering and Construction personnel noted that main lines within this range of MAOP would not continuously operate at or above 10 PSIG throughout the year and would not be eligible for EFV installation.

- ***Administrative Job Orders*** – In some cases, a job order may be created for an administrative purpose to adjust or correct service records. For example, when an additional meter is added to an existing service line to allow a new customer to gain service, work is not performed on the service line but a new service line installation job order must be executed in the system. Scenarios like these can be identified within the job order description field if the field personnel references a "Paper Tap" or "Execute Only" within the Job Order Summary Description and Comments fields.

- ***Inaccurate System Pressure Information*** - In some cases, the customer service line operating pressure was coded incorrectly in the system, resulting in a pressure code which was inconsistent with the system pressure field. A limited number of field inspections were performed for this population when it was necessary to validate conflicting information between the manual records and the system data.

- The remaining population of **167** of the **374** required field inspections to determine compliance as review of additional system records and manual tap cards did not provide additional clarity:
  - **78** of the **167** potential exceptions had tags at the meter indicating that EFVs were installed on the associated service lines. After identifying the tags, Management concluded that an EFV was installed on the selected service line.

  - **89** of the **167** potential exceptions did **NOT** have an EFV tags at the meter sets. As a result, Management took additional measures to determine whether an EFV was installed at the job order location, including manipulating gas flow to trip the EFV if one existed or physically uncovering the service line to visually inspect.
    - **49** of the **89** job orders were confirmed as valid exceptions by Management.

In April 2016, Construction and Engineering Management initiated EFV Installation trainings for construction teams (i.e. contractors) across the NiSource companies to refresh field personnel on the requirements. Additional conversations were held with Operations leaders to reinforce EFV requirements. Internal Audit also noted that Management is developing a quality assurance (QA)/quality control (QC) reporting process to review completed job orders for compliance with EFV installation requirements. Refer to further discussion of Management's efforts in the ***Management Response*** section below.

Internal Audit Data Analysis Results

Internal Audit worked closely with Pipeline Safety & Compliance to incorporate the scenarios outlined above (when the necessary data fields were captured and available within systems of record) into our

follow-up data analysis in an attempt to eliminate any previously identified false positives within the potential exception population. As a result, a revised potential exception population is reported below which includes job orders originally reviewed during the 2015 audit (i.e. job orders completed from May 1, 2007 through September 30, 2015) as well as new job orders completed during the period of October 1, 2015 through April 30, 2016.

> ***NOTE:*** *As a result of additional data considerations provided to Internal Audit by Management, the previously reported potential exception population of 13,630 decreased by 2,581 to 11,049. Additionally, the total potential exceptions reported below of 11,856 includes additional potential exceptions of 807 related to new job orders completed during October 1, 2015 through April 30, 2016.*

Based on the analysis of the revised WMS and DIS data fields, Internal Audit identified a population of job orders requiring further investigation to determine compliance with Company Gas Standards and associated PHMSA CFR. The chart below classifies these job orders based on the job type and company:

Total Analysis from 5/1/2007 - 4/30/2016					
Job Type	Company	Total Records	EFV Eligible* Records	Potential Exceptions**	Potential Exceptions** %
565					
	COH	263,006	58,268	5,964	10%
	CPA	67,226	19,138	1,028	5%
	CMD	5,789	1,504	92	6%
	CKY	17,411	2,622	721	27%
	CGV	13,473	22,572	543	2%
	CMA	13,867	5,744	1,206	21%
	NGD	**380,772**	**109,848**	**9,554**	**9%**
563					
	COH	74,803	118,729	1,120	1%
	CPA	30,152	31,300	571	2%
	CMD	3,039	2,254	48	2%
	CKY	5,011	7,777	100	1%
	CGV	33,288	10,222	171	2%
	CMA	14,137	7,388	292	4%
	NGD	**160,430**	**177,670**	**2,302**	**1%**
TOTAL		**541,202**	**287,518**	**11,856**	4%

*Met criteria established within applicable Company Standards for EFV installation based upon system data fields.

**These potential exceptions are based upon a review of system data only.

See **Appendix A** for procedures performed to identify the population to be investigated. Additionally, refer to **Appendix B** for a breakdown of the potential exception population based on the party completing the work (i.e. company personnel versus contractors). Refer to **Appendix C** for breakout of the potential exceptions identified for the month of April 2016 to reflect the impact of the training provided by Management to contractors.

Data Limitations

Although Internal Audit was able to apply additional criteria to perform this review to provide a higher level of accuracy in identifying potential exceptions, Internal Audit acknowledges the following limitations related to company systems and manual data entry completed by field personnel which could potentially overstate the totals identified in the tables above.

- As mentioned above, service lines that are "partially" replaced on the customer side of the service line (i.e. from the property line to the meter) would not require EFVs to be installed. Internal Audit utilized a date captured within DIS (excluding CMA job orders) to identify customer side only installs; however, if the date maintained within DIS was not updated on the same day field personnel closed the WMS job order, Internal Audit's analysis would not identify the partial replacement and may result in an unknown number of potential exceptions.

- System controls do not exist to prevent a WMS user from selecting "No" within an EFV Indicator field while entering a code representing the installation of an EFV model into the Special Conditions fields, resulting in **691** records with inconsistent data fields.

- Job orders representing administrative adjustments may not include the appropriate commentary for identification. Internal Audit applied commonly used phrases in the Job Order Summary description field such as "Execute Only" and "Paper Tap" to eliminate the job orders that pertain to administrative adjustments to service records. However, these types of job orders would not be identified if the personnel in the field did not include any comments within the field or did not utilize the wording identified herein, resulting in an unknown number of false positives reported within the potential exceptions population.

- EFV installation requirements specific to premises with manifold meters vary based on the applicable Standard in place as of the date the job order was completed. In the event that a manifold meter is installed or a single meter is converted, the primary and secondary meters should be identified as such within the system. However, Internal Audit noted **101** instances where the proper identifier was not included within the appropriate field in WMS, resulting in the job order related to these meters being improperly included in the potential exception population above.

- Manual service line record forms (also known as tap cards) are completed in addition to entering job order data in WMS. Internal Audit noted instances where information on selected tap cards did not agree to the data within WMS. As with our prior review in 2015, a portion of the tap cards selected for review could not be located to validate system data accuracy.

Management will need to review the detailed job order information provided by Internal Audit to properly identify valid exceptions. Internal Audit will also be providing a memo to Management detailing examples of these data and system limitations and identifying instances where system data appears to be inconsistent or inaccurate to incorporate into their evaluation of the integrity of system data.

Overall Internal Audit Recommendation:

Internal Audit recommends that Management continue to communicate and reinforce the requirements outlined in Columbia Gas Standard 3020.100 across the organization and emphasize consistent adherence to the policy by providing refresher trainings on the requirements for installation of EFVs.

Management should take the necessary steps to validate whether the population of job orders identified above meets the requirements of EFV installation and all instances of non-compliance should be remediated in a timely manner. Internal Audit will work with Management to issue a formal **Management Action Plan (MAP)** to mitigate the compliance and safety risk associated with this process.

Additionally, given the general data integrity/accuracy concerns noted in the report, we would also recommend that Management consider doing field evaluations for a sample population of service line installations where Management has a high level of confidence that an EFV was properly installed (where system data and physical records currently show that an EFV exists). The purpose of such an additional review would allow Management to have a more complete and accurate perspective level on actual EFV installations and system data.

We have shared our results with Management and they have provided the following response/action plan(s) for addressing the recommendations from the 2015 audit and those of this follow-up review:

Management Response:

Management agrees with the recommendations of this audit and has initiated a corrective action plan to address this deficiency.

- **To ensure the proper installation of the Excess Flow Valve (EFV) going forward, management has implemented the following actions:**
    - Re-trained construction employees in April, 2016 in proper EFV procedures. To assess the effectiveness of the training, an additional post training audit was conducted. Potential exception rates for this workforce were reduced.
    - Developed confidence that the records notation of EFV installation is a reliable indicator of actual EFV installation. This was accomplished through;
        - A review of results of internal QA audits that involved test excavations of service lines. Over the past 18 months, there were 0 exceptions of EFV installation found out of 98 sample excavations. In all of these cases, records indicated the presence of an EFV.
    - Created an automated exception report, driven from records information and produced weekly, to flag indications of potential exceptions. Each exception will be investigated and remediated if necessary. This exception report is expected to be in place by August 1, 2016.

- **To investigate and remediate the potential exceptions identified in this audit, management has taken the following actions:**

  - Conducted a statistically significant records and field investigation (374 locations) of the initial group of potential exceptions. This sample field investigation revealed 49 of the 374 should have had an EFV installed and did not. These 49 have been remediated.

  - Management has moved forward in July, 2016 with a plan to investigate, and remediate as necessary, the remaining 11,586 potential exceptions. The investigation protocol utilizes a phase gate approach and proceeds through records investigation, field inspection for EFV identification tag, field testing for EFV presence, and lastly, remediation if necessary. Management expects to complete this investigation and remediation process by 12/31/2016.

- In addition to the steps noted above, management is evaluating the purchase of an integrated service tee/ EFV assembly to minimize potential for future installation error. This evaluation will be completed by August 31, 2016.

We appreciate the cooperation and assistance that was extended to us by IT Application Support, Pipeline Safety & Compliance, and Engineering/Construction Services during this review. Should you have any questions, please do not hesitate to contact Ryan Binkley at (614) 460-5985, Jaclyn Callahan at (614) 460-5493 or Al Sawaneh (614) 460-6864.

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APPENDIX A – Summary of Testing Procedures

Audit Objective 1: Verify that system records support the installation of EFVs as required by Company Gas Standards during the period of May 1, 2007 to April 30, 2016.

NOTE: Additional data fields obtained and procedures performed to eliminate causes of false positives are identified in blue text below.

- The completion of job orders is documented within WMS for all Columbia Companies. Field personnel also manually document work performed on service line order forms (also known as tap cards).
  - With the assistance of WMS Application Support, Internal Audit obtained WMS job order records for all new service line installations (Job Type 563) and service line replacements (Job Type 565) completed during the period of May 1, 2007 to April 30, 2016. The records included the following data fields:
    - Job Order Type – indicates the type of work performed.
    - Job Order Number – a unique identifier specific to work performed at a specific location.
    - Job Order Crew End Date – indicates the date when the physical work related to the job order was completed.
    - Job Order Summary – a free form text field which allows for field personnel to input a description of the work performed.
    - Work Location Number – a unique identifier indicating a specific work location.
    - Permanent Service Identification (PSID) – a numeric identifier unique to each service location.
    - System Number – a numeric identifier representing the set of distribution piping sharing common characteristics for maximum allowable operating pressures and method of delivery.
    - Company/Contract – Identifies whether the job order was completed by a NiSource Company crew or by a third party contractor.
    - Project ID – signifies whether the job order was related to a capital project.
- As information specific to the premise is necessary to determine whether an EFV must be installed, Internal Audit also obtained the following data fields from the Distributive Information System (DIS), the customer information system for all of the Columbia Companies with the exception of Massachusetts: (Note: Although Massachusetts utilizes a separate customer information system, certain tables specific to Massachusetts customers were available within DIS.)
  - Operating Pressure – indicates the level of gas pressure in the network system main pipeline and customer service line segment (e.g. low, intermediate, medium or high).
    - The initial review performed in 2015 utilized the Customer Service Line pressure to filter for job orders eligible for EFV installation; however after Management's investigation identified data inconsistencies within that field, Engineering & Construction Management instructed Internal Audit to utilize the Network System Pressure field as the values in this field cannot be modified by field personnel and are supported by analysis performed and reviewed by Engineering & Construction Management.

        - Additionally, Internal Audit obtained the Maximum Allowable Operating Pressure (MAOP) field, which represents the highest pressure at which a pipeline may be operated per regulations. See Step 2 below for how this field was incorporated into the follow-up analysis.
    - EFV Indicator – a required field that indicates "Yes" or "No" to signify EFV installation
        - This field is originally input into WMS and then interfaces with DIS. However, this field can be subsequently updated in DIS if additional repair work is performed. Therefore, this field was pulled from the DIS system.
    - Special Conditions – non-required fields which allow for field personnel to provide additional information about materials installed on a job order, including codes which represent the model of an EFV utilized.
    - Master Tap Code – indicates if service line services single or multiple customers.
    - Main Number – identifies the main supply line to which the service line is connected.
    - Revenue Class – indicates the rate class associated with the customer at a specific premise.
    - Install Date (Company Side/Customer Side) – represents the date the "company side" (i.e. the portion of the service line from the main to the property line) and "customer side" (i.e. the portion of the service line from the property line to the meter) was installed.
    - Repair Date (Company Side/Customer Side) – represents the date the "company side" (i.e. the portion of the service line from the main to the property line) and "customer side" (i.e. the portion of the service line from the property line to the meter) was repaired.

- Utilizing the data obtained, Internal Audit performed the following steps to identify instances where system data did not support the installation of a required EFV:
    - Step 1 – Identify Eligible Job Orders Per Gas Standard 3020.100
        - For service line installations and replacements completed from May 1, 2007 through May 31, 2015, EFV installation was required for service lines to single residential customers only. Internal Audit identified these locations by selecting job orders with a Revenue Class Code corresponding to a residential customer and a Master Tap Code corresponding to a single customer (i.e. field in the system is blank).
            - Note: Although an updated Standard was issued as of January 1, 2015, Internal Audit utilized the date of May 31, 2015 as it was noted by the Gas Standards Department that the updated Gas Standard would not have been considered effective until the necessary operator qualification training was provided to all individuals performing service line installations.
        - For job orders completed from May 31, 2015 through April 30, 2016, filters on Revenue Class Code and Master Tap Code were not necessary as EFV installation was required for all revenue types and service locations as long as the criteria set forth in the Standard was met.

    - Step 2 – Identify Sites with Eligible Operating Pressures
        - Below are the definitions and PSIG ranges for Operating Pressures of gas pipelines:
            - Low Pressure - Gas pressure in the main normally ranges from 7 to 14 inches of water column.
            - Intermediate Pressure - Gas pressure in the main normally ranges from 2 to 10 PSIG, but may drop to 1 PSIG during times of high demand.

- Medium Pressure - Gas pressure in the main normally ranges from 11 to 60 PSIG, but may drop to 2 PSIG during times of high demand.
- High Pressure - Gas pressure in the main or transmission line is normally greater than 60 PSIG.

- Using the Network System Pressure code field, Internal Audit identified job order sites (PSIDs) with an operating pressure of Medium or High as it was confirmed with the Engineering & Construction Management that only sites operating at Medium or High pressure could meet the criteria of operating continuously throughout the year at a pressure of 10 PSIG or above.
  - To further ensure that only job order sites with a continuous operating pressure of 10 PSIG or above are included in the EFV eligible job order population, Internal Audit eliminated sites that were coded as Medium Pressure but which had a MAOP of 10 to 14 PSIG as Engineering and Construction personnel noted that this population would not continuously operate at or above 10 PSIG throughout the year. This conclusion is based on the rationale that a main line's regulator station may set the operating pressure to be lower than the MAOP based on what the responsible engineers deem appropriate. Logically, as the gas flows further away from the regulator station, the pressure in the line drops below the pressure at which the station is set. Additionally, during periods of peak demand, the pressure would drop below 10 PSIG (due to high amount of draws and the diameter limitation of the pipe).

- Step 3 – Eliminate job orders created in the system to reflect administrative adjustments or placeholders for manifold settings from the eligible population.
  - Internal Audit applied commonly used wording and phrases in the job summary field such as "Execute Only" and "Paper" to eliminate the job orders that had been generated for the purpose of making administrative adjustment to service records such as closing job order for a secondary line or multiple meters on a manifold (when the EFV installation on the primary line is already completed). This process eliminates false positives from the EFV eligible job orders.
  - One EFV is required to be installed on a service line supplying the manifold setting, however, field personnel do not consistently indicate EFV installation on the job orders for each manifold meter. As such, it is common to find that the job order associated with the "master" meter indicates that an EFV was installed when the job order for the secondary meters may not. Internal Audit excluded secondary manifold job orders in our exception population to avoid double counting potential exceptions.

- Step 4 – Review the EFV Indicator Field
  - Utilizing the EFV Indicator Field, Internal Audit identified the job orders with records indicating that an EFV was not installed on the service line associated with the job order to determine the number of items requiring further investigation.

APPENDIX B – Job Orders by Company Vs Contractor
***Provided for Informational Purposes ONLY

Job Type 565 - Service Line Replacements				
Company	Party Performing Work	EFV Eligible Records	Potential Exceptions	Potential Exceptions %
COH				
	Employee	18,554	3,091	17%
	Contractor	117,603	2,872	2%
	Emp & Cont	4	1	25%
	ALL	136,161	5,964	4%
CPA				
	Employee	4,175	571	14%
	Contractor	29,754	457	2%
	Emp & Cont	5	0	0%
	ALL	33,934	1,028	3%
CMD				
	Employee	420	47	11%
	Contractor	1,974	45	2%
	ALL	2,394	92	4%
CKY				
	Employee	1,186	133	11%
	Contractor	7,010	585	8%
	Emp & Cont	3	3	100%
	ALL	8,199	721	9%
CGV				
	Employee	1,237	267	22%
	Contractor	6,745	276	4%
	ALL	7,982	543	7%
CMA				
	Employee	1,372	949	69%
	Contractor	4,366	256	6%
	Emp & Cont	6	1	17%
	ALL	5,744	1,206	21%
NGD		**194,414**	**9,554**	**5%**

Job Type 563 - New Service Line Installations				
Company	Party Performing Work	EFV Eligible Records	Potential Exceptions	Potential Exceptions %
COH				
	Employee	7,041	552	8%
	Contractor	33,795	568	2%
	ALL	40,836	1,120	3%
CPA				
	Employee	8,199	451	6%
	Contractor	7,857	118	2%
	Emp & Cont	448	2	0%
	ALL	16,504	571	3%
CMD				
	Employee	1,254	47	4%
	Contractor	86	1	1%
	Emp & Cont	24	0	0%
	ALL	1,364	48	4%
CKY				
	Employee	349	52	15%
	Contractor	1,851	48	3%
	ALL	2,200	100	5%
CGV				
	Employee	202	51	25%
	Contractor	24,610	120	0%
	ALL	24,812	171	1%
CMA				
	Employee	172	18	10%
	Contractor	6,661	268	4%
	Emp & Cont	555	6	1%
	ALL	7,388	292	4%
NGD		**93,104**	**2,302**	**2%**

APPENDIX C – April 2016 Job Orders by Company Vs Contractor
***Provided for Informational Purposes ONLY

Job Type 565 - Service Line Replacements - April 2016				
Company	Party Performing Work	EFV Eligible Records	Potential Exceptions	Potential Exceptions %
COH				
	Employee	172	16	9%
	Contractor	1978	12	1%
	ALL	**2150**	**28**	**1%**
CPA				
	Employee	33	4	12%
	Contractor	378	3	1%
	ALL	**411**	**7**	**2%**
CMD				
	Employee	4	0	0%
	Contractor	56	2	4%
	ALL	**60**	**2**	**3%**
CKY				
	Employee	9	1	11%
	Contractor	56	7	13%
	ALL	**65**	**8**	**12%**
CGV				
	Employee	4	1	25%
	Contractor	47	2	4%
	ALL	**51**	**3**	**6%**
CMA				
	Employee	50	31	62%
	Contractor	150	3	2%
	ALL	**200**	**34**	**17%**
NGD		**2937**	**82**	**3%**

Job Type 563 - New Service Line Installations - April 2016				
Company	Party Performing Work	EFV Eligible Records	Potential Exceptions	Potential Exceptions %
COH				
	Employee	35	3	9%
	Contractor	462	1	0%
	ALL	**497**	**4**	**1%**
CPA				
	Employee	75	1	1%
	Contractor	66	1	2%
	Emp & Cont	24	1	4%
	ALL	**165**	**3**	**2%**
CMD				
	Employee	13	0	0%
	Contractor	3	0	0%
	ALL	**16**	**0**	**0%**
CKY				
	Employee	7	0	0%
	Contractor	49	3	6%
	ALL	**56**	**3**	**5%**
CGV				
	Employee	0	0	0%
	Contractor	269	1	100%
	ALL	**269**	**1**	**0%**
CMA				
	Employee	0	0	0%
	Contractor	85	3	4%
	Emp & Cont	28	0	0%
	ALL	**113**	**3**	**3%**
NGD		**1116**	**14**	**1%**

TO: Jeff Gore, Controller, NiSource Corporate Services Company

FROM: Shelley Duling, Senior Auditor Shelley Duling
Jaclyn Callahan, Audit Manager Jaclyn Callahan
Ryan Binkley, Audit Director

DATE: June 24, 2016

SUBJECT: NiSource Corporate Services Company Cost Allocation Audit

We have completed a review of the accounting systems, source documents, allocation methods, and billing procedures used by NiSource Corporate Services Company (NCSC) to allocate costs/expenses to the various subsidiary companies ("affiliates"), including the holding company, for the period January 1, 2015 through December 31, 2015.

Background

In February 2006, the Public Utility Holding Company Act (PUHCA) was repealed and replaced with the PUHCA of 2005. Prior to this date, NCSC was required to obtain approval from the Securities and Exchange Commission on new allocation methods used to allocate costs and expenses. The PUHCA of 2005 is primarily a "books and records" statute and provides the Federal Energy Regulatory Commission (FERC) with the authority over the books and records, the ability to prescribe standards, and gives access to the books and records of the holding company to the public utility commissions, but only to the extent relevant to the costs of the subsidiaries.

NCSC uses various allocation methods to assign expenses to affiliates (including the holding company), or groups of affiliates, to classify and disclose expenses in the financial statements. Such allocation methods are defined in the service agreements ("agreements") between NCSC and the affiliates. Affiliates are billed by NCSC via contract and convenience billings. Contract billings represent costs incurred by NCSC to render services defined in the service agreements with affiliates. Convenience billings are accommodation payments that are rendered when NCSC makes a payment to a vendor for goods or services that are for the benefit of more than one or all affiliates, and can be made for an affiliate who may not have the means to wire money to outside vendors. Each affiliate is billed monthly for their proportional share of the payments made in that respective month.

Annually, Internal Audit conducts a review of the cost allocation methods and billing procedures used by NCSC and makes recommendations related to cost allocation and billing processes.

The primary business risks associated with these activities are:

- Allocation factors may not be updated properly to reflect current statistical data to ensure that NCSC charges are billed relative to current operations;
- Contract and convenience billings may not be properly billed to affiliates;
- Holding company costs incurred may not be properly segregated and paid by the holding company;

- Executive time allocation may not accurately reflect the affiliates benefiting from their services;
- Costs charged by department may not be in accordance with the NCSC cost allocation guidelines;
- All indirect costs may not be appropriately allocated to affiliates on a monthly basis; and
- Contract billings and accommodation payments may not be accurately reported in the annual FERC Form 60 Financial Report.

Conclusion

Based on our audit results, the methods and procedures used to allocate costs/expenses and bill subsidiary companies, including the holding company, are reasonable. However, there is an inherent risk related to the proper application of these methods as allocation of costs is subject to employee judgment. Amounts reported as convenience and contract billing payments in the FERC Form 60 appear appropriate.

Summary of Business Objectives, Scope and Results

Audit Objective 1: Costs are fairly and equitably allocated to all subsidiary companies including the holding company.

Scope:

- Determine if allocation factors are updated regularly to reflect current statistical data to ensure that NCSC charges are billed relative to current operations.
- Verify contract and convenience billings are properly billed to affiliates.
- Verify holding company costs incurred are properly segregated and paid by the holding company.
- Verify executive time allocation accurately reflects the affiliates benefiting from their services.
- Verify costs charged by department are in accordance with the NCSC cost allocation guidelines.

Results:

- Allocation factors are updated semiannually using various data sources (i.e. survey data) and reflect allocation bases as defined in the agreements between NCSC and the affiliates. Survey data is compiled as of December and June of each year, with effective dates of February 1st and August 1st, respectively. A sample of allocation factors were recalculated using source data, noting no exceptions. However, Internal Audit did identify the following:

- For the June 2015 survey data, there was a manual adjustment to Company 58 (NiSource Holding Company) related to the allocation factor TA. Support for the adjustment was not retained by NCSC Accounting. The adjustment resulted in an inconsequential decrease (0.4%) for Company 58 and an inconsequential increase to the remaining companies by their proportionate share (of the 0.4%). The factor TA allocates costs to all NiSource companies. The percentage variance is considered inconsequential by NCSC Accounting as they use a 1% threshold in determining whether events are significant to require an adjustment to an allocation factor.

Due to the NiSource/Columbia Pipeline Group (CPG) transition effective July 1, 2015, an additional update was required for the month of July due to the timing of the semiannual updates. This update revised all allocation factors that were impacted by CPG as the CPG data had to be eliminated. Internal Audit verified that the July factors represented the December 2014 survey data, excluding CPG companies.

In addition, Internal Audit also determined that a selection of factors from the June and July survey data files were accurately updated in PeopleSoft, general ledger system, noting no exceptions.

- A sample of affiliate contract billings[1] showed that direct charges are being properly billed to affiliates based on actual costs and current allocation percentages for respective bases per the agreements between NCSC and affiliates except for the following selection:

  - Internal Audit identified one item for $1,712 that was billed to Columbia Gas of Pennsylvania (CPA); however, the invoice related to project work for CPA and Columbia Gas of Maryland (CMD). Internal Audit reviewed a report within TeamConnect, a case management application for legal matters, which summarized invoice data for the project, noting that $10,909 was potentially improperly charged 100% to CPA during 2015 (the project only occurred during 2015). While there is not an approved allocation factor to use for transactions involving only CPA and CMD, it is the invoice approver's responsibility to ensure that invoices are appropriately allocated to those companies benefiting from the transaction.

  A sample of accommodation payments made by NCSC was reviewed and charges to affiliates for accommodation billings were accurately billed to the affiliates, noting no exceptions.

- Holding company costs are required to be segregated and paid by the holding company. Examples of holding company costs include, but are not limited to:

  - Board of directors fees

  - Consulting, legal and all other costs related to mergers, acquisitions and corporate restructuring

[1] Sample coverage for accommodation payment and contract billing testing included Columbia Companies, Columbia Gulf Transmission (CGT), Columbia Gas Transmission (TCO), and NIPSCO. CGT and TCO testing was performed for the period prior to the NiSource/CPG transition.

A sample of costs charged to the holding company was tested and indicated that costs being charged to the holding company appeared proper, including those costs associated with the NiSource/CPG transition.

- From the date of the transition, July 1, 2015, through December 31, 2015, approximately ***$2.3 million*** of post-transition costs were recorded to Company 58. Internal Audit reviewed a sample of these transactions noting that they appeared to be properly recorded to Company 58 as they were incremental costs related to post transition activities. In accordance with NiSource policy, these costs have been approved as an adjustment to the GAAP financial statements in determining Net Operating Earnings.

- Executives are required to report time based on the affiliates receiving benefit from their services. A sample of executive timesheets indicated charges for executive labor appeared to be accurately allocated to the affiliates benefiting from their services. Executives selections covered the periods January 1, 2015 through June 30, 2015 (pre-NiSource/CPG transition) and July 1, 2015 through December 31, 2015 (post NiSource/CPG transition).

- NCSC employees are required to report time based on the affiliates receiving benefit from their services and in accordance with the NiSource Cost Allocation Manual. A sample of NCSC employee timesheets was selected covering the periods January 1, 2015 through June 30, 2015 (pre-NiSource/CPG transition) and July 1, 2015 through December 31, 2015 (post-NiSource/CPG transition). Internal Audit performed the following for each selected period:

  - ***Pre-NiSource/CPG Transition***
    For each selection, Internal Audit verified that the time allocation was charged in accordance with the guidelines established in the Cost Allocation Manual. Several charge codes were not included in the Cost Allocation Manual because they are related to Special Projects, IT initiatives, NiFiT, and other special requests. These codes are communicated out to only the specific people involved with the listed activities and could be utilized by employees in numerous departments.

  - ***Post-NiSource/CPG Transition***
    Due to the frequency and significance of the organizational changes that occurred subsequent to the NiSource/CPG transition, the NiSource Cost Allocation Manual was not entirely reflective of the organization as of the date of testing for the period subsequent to the NiSource/CPG transition. As such, Internal Audit could only assess that the time allocation was reasonable based on Internal Audit's knowledge from historical audits and confirmation with NCS Accounting when necessary. Employee time allocation for the sample selections was deemed reasonable.

    NCS Management did meet with each department to review the time allocation methods being utilized to ensure that personnel were charging time appropriately post-transition. A revised Cost Allocation Manual was issued by NCS Accounting with an effective date of March 2016.

Recommendation:

Management should document and retain support for any adjustments made to the survey data used to calculate the allocation factors.

Audit Objective 2: Processes and procedures are in place to verify monthly that all costs have been allocated and accurately reflected in the FERC Form 60 Financial Report.

Scope:

- All costs are appropriately allocated to affiliates.
- Verify contract billings and accommodation payments are accurately reported in the FERC Form 60 Financial Report.

Results:

- Summaries detailing costs to be billed to affiliates for contract and convenience billings are prepared monthly to ensure that all costs are allocated out to the affiliates. A sample of contract and convenience billings was reviewed, and all costs were properly allocated to affiliates based on the allocator used except as noted at Audit Objective 1.

- FERC Form 60 is an annual regulatory support requirement for centralized service companies, designed to collect financial information from centralized service companies subject to the jurisdiction of the FERC. Within the Form 60, amounts related to contract and accommodation payments are disclosed. Internal Audit reviewed the most recent filing of the Form 60 (2015) and tested a sample of transactions included in the amounts disclosed for contract and accommodation payments. Amounts included in the filing for contract and convenience payments appeared proper and reconciled to amounts billed to affiliates by NCSC.

    - NCS Management confirmed that reported contract billing amounts should only include Operating and Maintenance (O&M) expenditures; however, prior to the implementation of NiFIT (April 1, 2015), the Capital/O&M split for the contract bills was not available to NCS Management for compilation of the FERC Form 60. Thus, amounts reported prior to April 1, 2015, included both Capital and O&M expenditures which the FERC approved per NCS Management. Amounts reported subsequent to April 1, 2015, include O&M expenditures only as reported on the contract bills.

Recommendations: None

We appreciate the cooperation and assistance that your staff provided to the audit team during this review. Should you have any questions or require additional information, please do not hesitate to contact Ryan Binkley at (614) 460-5985, Jaclyn Callahan (614) 460-5493, or Shelley Duling at (614) 460-6062.

cc:

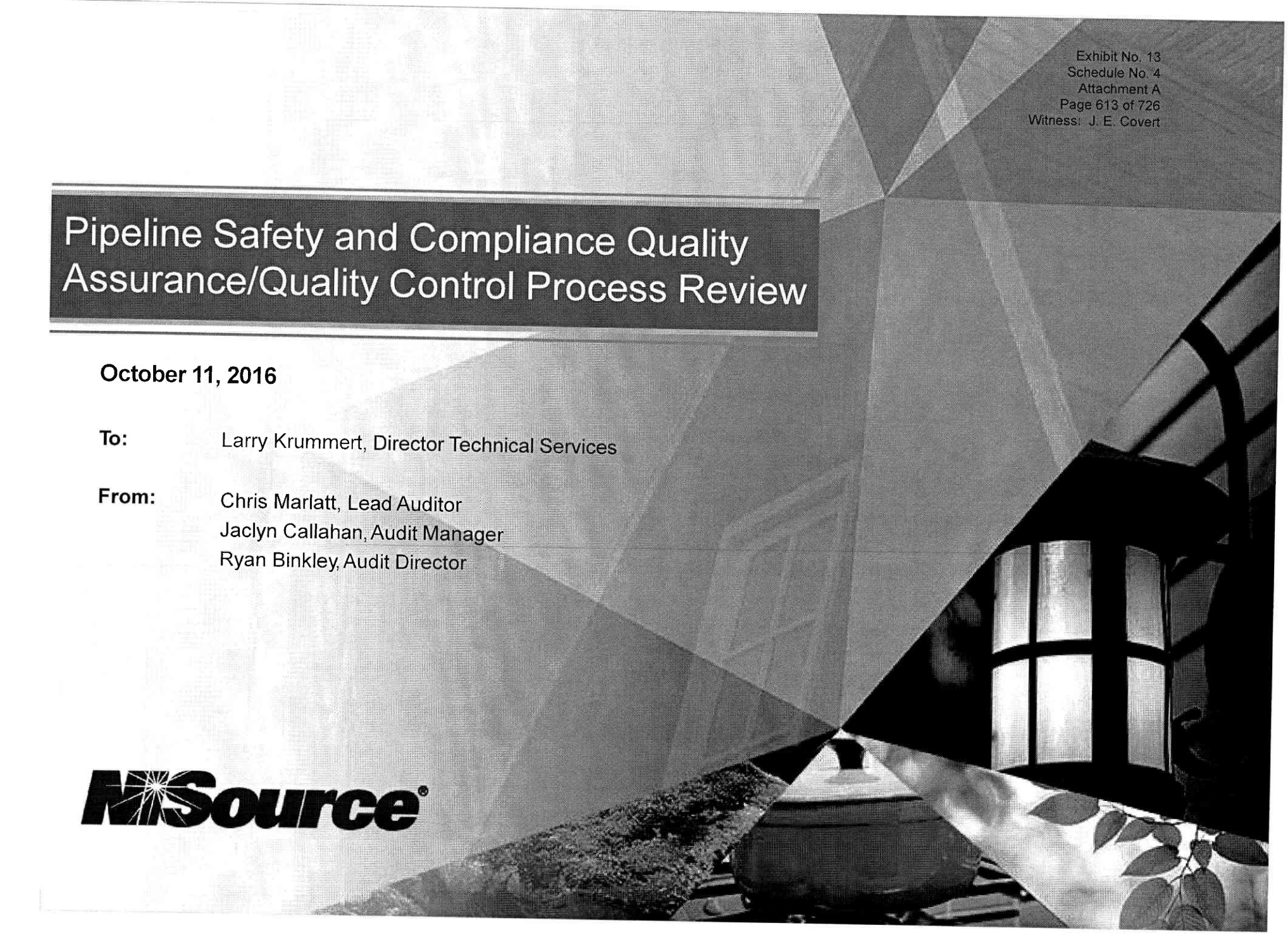
J. Hamrock
D.E. Brown
J.W. Mulpas
C. J. Hightman
S. Surface
S.M. Taylor
D.A. Creekmur
M. Kempic
H.A. Miller
C.W. Levander
P.A. Vegas
V. Sistovaris
J. Stanley
B.K. Archer
S.H. Bryant
T.L. Tucker
Deloitte & Touche, LLC

Pipeline Safety and Compliance Quality Assurance/Quality Control Process Review

October 11, 2016

To: Larry Krummert, Director Technical Services

From: Chris Marlatt, Lead Auditor
Jaclyn Callahan, Audit Manager
Ryan Binkley, Audit Director



NiSource®

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Pipeline Safety and Compliance Quality Assurance/Quality Control Process Review

The PS&C Technical Support Department performs field audits for certain activities within Construction and Field Operations. These audits compare work performed in the field against federal, state, and company requirements in an effort to reduce the risk of non-compliance and associated safety implications.

- Audits can either be QC, which are performed when the work is being executed, or QA, which are performed after the work is completed
- Two **(2)** teams execute audits across the NiSource organization - Construction QA/QC and Field Operations QA/QC
  - ❖ **The Construction QA/QC Team performs the following type of audits:**

Type	Description
Contractor Construction Audits	QA and QC audits performed over the work of contractors
Tie-In Audits	QC work over connection of new pipe from existing installation
Post Operation Digs	QA work that requires newly installed pipe to be uncovered to determine whether work complied with applicable requirements
Post Project Walks	QA work that requires the auditor to walk a completed project including review of all associated meters, services, and regulators
Emergency Response Audits	QC work over the actions of first responders to an emergency

  - ❖ **Field Operations perform the following type of audits:**

Type	Description
Leakage Audits	QA/QC work over tasks completed during leakage inspections
Corrosion Audits	QA/QC work over tasks completed during atmospheric corrosion inspections
Measurement and Regulation (M&R) Audits	QA/QC work covering tasks completed at M&R stations
Other	Service related activities, including emergency response

Pipeline Safety and Compliance Quality Assurance/Quality Control Process Review

- A formal audit plan is created annually by PS&C Technical Support Management which incorporates identified risks from the previous years' audits and other identified risks discussed with Operations Management.
    - The current year audit plan provides coverage of activities executed in all companies with the exception NIPSCO Gas, which is subject to review only through the participation of PS&C Technical Support Department resources in audits owned by the Distribution Integrity Department.
- Audits are completed utilizing iAuditor which is an application that employees can access utilizing iPads or iPhones
    - The iAuditor application allows custom templates (depending on type of audit) to be downloaded on the employees' Apple device through which they are able to document results of the audit;
    - The application allows for the ability to take and edit pictures to document support for best practices or instances when a finding occurs; and
    - The application also streamlines the reporting process by creating the audit report based on the completion of the audit questionnaire template which is then integrated with Lotus Notes and emailed directly to auditees and other members of Management.

Pipeline Safety and Compliance Quality Assurance/Quality Control Process Review

Review Results

Objective 1: Review the processes and procedures followed by the PS&C Technical Support Department to execute, document, and communicate QA and QC audits.

- Internal Audit performed walkthroughs with Management, including observing PS&C Technical Support auditors in the field, and obtained supporting documentation to understand the processes and procedures followed by the PS&C Technical Support Department. Internal Audit noted the following:

  - **Planning:** The PS&C Technical Support Department has established a formal Audit Planning/Risk Assessment process.

    - Audit plans are developed on an annual basis, incorporating input from the following sources:

      - *The opinions of Operations Management (e.g. System Operations Managers, Construction Managers) on risks associated with the business are incorporated into the development of the audit plan;*

      - *Findings from prior year audits; and*

      - *Identification of new and emerging risks.*
        - *(For example, 2 weeks were allocated to the 2016 audit plan to perform emergency response audits as it was identified as a key audit area.)*

    - PS&C Management also provides individual auditors their plan for the year outlining audit areas, expectations and goals and communicates the complete audit plan by state to the appropriate members of Operations Management.

Review Results Cont.

Objective 1 (Cont'd):

- **Training:** PS&C Technical Support Management noted that department employees are trained upon hire and on a continuous basis. Internal Audit noted the following:
  - *New staff are given the opportunity to shadow experienced staff;*
  - *Prior to conducting an audit, staff must obtain their Operator Qualification for each type of QA/QC review they perform and keep the Qualification current;*
  - *PS&C Management complete "ride-alongs" with staff to provide immediate feedback; informal feedback is provided through the review of completed audit reports;*
  - *Mid-year and Year end reviews are performed; and*
  - *Team meetings discussing safety topics and current issues.*
- **Reporting:** Internal Audit noted that the reporting process is completed as follows:
  - *Audit reports are effectively and timely communicated through the use of the iAuditor application which creates the reports from the template questionnaire and then distributes the audit report immediately after audit work is complete; and*
  - *Management compiles custom reports or views utilizing the iAuditor Reporting tool for Operations Management and Contractor Management on an ad hoc basis.*
- **Communication:** Internal Audit noted that the results of audits are communicated to their auditees. Examples of communication include:
  - *Results of the audit are discussed with the auditee before the report is released;*
  - *Distribution lists on reports are structured based on the type of audit performed and include various levels of Operations Management, Contractor resources (when applicable) and PS&C Technical Support Management; and*
  - *PS&C Technical Support Management summarizes audit findings periodically to notify Management of common or repeat findings. Summaries were implemented in 2016.*

Review Results Cont.

Objective 1 (Cont'd):

- **Monitoring:** Internal Audit noted that PS&C Technical Support Management monitors audit execution. Examples of monitoring include;
  - *Team Managers review reports on an individual basis; and*
  - *PS&C Technical Support Management use the iAuditor Reporting Tool, which allows for the review of audit results in summary or by other criteria.*

Objective 1 – Overall Conclusion(s):
The PS&C Technical Support Department has established processes and procedures to effectively execute, document, and communicate QA and QC audits. However, during the course of the review, Internal Audit noted the following one item which should be addressed to ensure that risk is being consistently addressed across the NiSource footprint – see the Management Action Plan (MAP) below.

Management Action Plan (MAP)

- The NGD PS&C Technical Support Department should ensure audit coverage of NIPSCO Gas Construction and Field Operations. NiSource Gas Operations Management should assess whether this can be accomplished through a change in the allocation of current staffing resources or through the addition of new staff members.
  - *During walkthroughs with Management, it was noted that both the Construction and Field Operations QA/QC Teams are staffed and operate in Columbia Gas of Ohio (COH), Columbia Gas of Kentucky (CKY), Columbia Gas of Pennsylvania (CPA), Columbia Gas of Maryland (CMD), Columbia Gas of Massachusetts (CMA), and Columbia Gas of Virginia (CGV). NIPSCO Gas is currently the only company where the Department has no staffing and no routine audits are performed. It is noted that NIPSCO Gas is subject to audits carried out by the Distribution Integrity Department; however, these audits only select seven **(7)** operating centers a year across NiSource, which creates the possibility of certain locations going over a year without an audit.*

Review Results Cont.

Objective 1 - Conclusion (Cont'd):

In addition to the recommendation noted on the **previous slide**, Internal Audit also identified the following process improvement opportunities for Management's consideration:

Potential Business Improvement Opportunities

- PS&C Technical Support Management should consider creating a formal process to track and monitor findings deemed high risk to ensure resolution by Operations Management;
    - Internal Audit noted that findings identified during the QA/QC audits are reported to Operations Management. Currently the PS&C Technical Support Department does not have a formal follow up process in place to ensure that findings are adequately addressed by Operations Management.
    - Management noted that Operations Management may communicate to the PS&C Technical Support Department that they have taken actions to resolve a finding, however this is an informal process that is not required and supporting documentation is not maintained.
    - Due to the volume of findings and corresponding PS&C Technical Support Department resources, monitoring the resolution of every finding is not feasible, creating the risk that no action may be taken to address findings identified.
    - Internal Audit recommends that the PS&C Technical Support Department identify those findings which they deemed to be of high risk to the organization and established a formal process to follow up with Operations Management to ensure that higher risk findings are addressed.

Review Results Cont.

Objective 1 - Conclusion (Cont'd):

Potential Business Improvement Opportunities (Cont'd):

- PS&C Technical Support Management should consider the cost/benefit of developing QA/QC procedures over certain activities executed by NiSource field employees to incorporate into the annual audit plan, as contractors executing these same activities are currently subject to review;
    - *Currently the Construction QA/QC team reviews Contract Construction Crews on a consistent basis, while the O&M QA/QC team reviews Company field crews performing construction work less regularly. NiSource field employees primary responsibilities are typically system maintenance and leak repair, but in the course of that work they sometimes replace services, and/or main lines. Management should consider subjecting this population of employees to the same level of QA/QC procedures when performing construction work, similar to contractors.*
- PS&C Technical Support Management should consider staffing additional resources in Columbia Gas of Virginia to allow for consistent audit coverage, as all contract construction crews in the other states are currently reviewed by the PS&C Technical Support Department at least once a year as part of the annual audit plan.
    - *Internal Audit noted a staffing structure for Construction QA/QC as three **(3)** employees for Ohio, one **(1)** for Kentucky, three **(3)** for Pennsylvania, two **(2)** for Massachusetts, one **(1)** for Virginia. This allows the Construction QA/QC team to review every contract construction crew in Ohio, Kentucky, Pennsylvania, Maryland, and Massachusetts. Per discussion with PS&C Technical Support Management, the one **(1)** construction employee in Virginia in unable to review every contract construction crew in their state due to volume.*

Review Results Cont.

Objective 2: Analyze QA and QC audit data related to relevant safety risks.

- The iAuditor Reporting Database contains information and results of all audits performed utilizing the iAuditor application. Internal Audit obtained a data file from the iAuditor Reporting Database containing all audits conducted from May 9, 2014 (the date the iAuditor application was implemented) to June 30, 2016 (the testing cutoff date). Internal Audit noted the following:
    - The iAuditor Reporting Database has two **(2)** separate populations:
        - *Audit Population: Provides detail on the audits performed (i.e. who, what, where, why); and*
        - *Findings Detail: Provides detail on individual findings (i.e. template questions, comments).*
    - The iAuditor application is utilized by employees in other departments (e.g. Field Operations Leaders)
        - *Internal Audit filtered both data populations to identify only those Audit and Findings completed by the PS&C Technical Service Department, resulting in an Audit population of 3,188 and Findings population of 5,077 as of 6/30/2016*

- Please see **slides 17-28** for results of analytic observations

Review Results Cont.

Objective 2 - Analytic Observations:

Observations:

- Internal Audit noted that **61%** of the audits conducted by the PS&C Technical Support Department resulted in a finding.
- A finding is an action or observation noted during the QA/QC process that does not satisfy the criteria addressed by the audit template.



Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):

Observations:

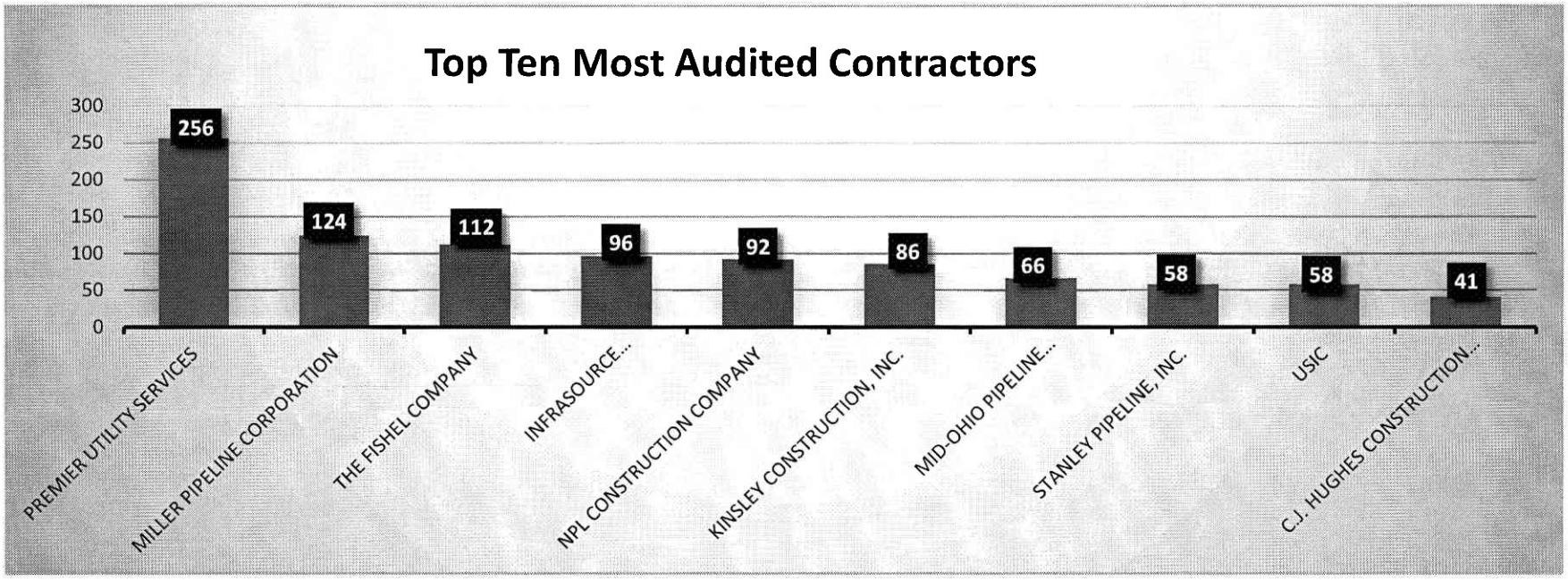
- Internal Audit identified the top ten **(10)** template questions that resulted in a finding.
- Internal Audit noted that there were **598** different questions that created a finding.
- Additionally, Internal Audit noted that template questions reference applicable Gas Standards, Federal or State requirement, or Best Practice, as exampled in the text in parenthesis shown in the table herein.

Template Question	# of Findings
Regulator Inventory Card (GS 1750.810, GS 1750.010)	124
Fire Extinguisher Inspected Monthly (HSE 4000.082)	110
Atmospheric Monitoring (CGI) (HSE 4100.010)	101
Work Zone Established Follow (MUTCD) Guidelines (HSE 4100.020) State Specific (PA,MA,VA)	99
Meter Setting Painted (DOT 192.479) (GS 1450.010)	88
Leaks/AOC's Not Documented During Survey (GS 1650.020 VA, GS 1708.020)	85
Fire Extinguisher Tag Current (Annual) (HSE 4000.082)	79
Oxygen Monitor Calibrated and Used when Necessary (HSE 4100.010)	73
Containers and Secondary Containers Are Properly Labeled (HSE 4000.040)	65
Checked Meter Set for Stray Voltage (GS 6500.100)	62

Acronym		Acronym	
GS	Gas Standard	MUTCD	Manual on Uniform Traffic Control Devices
HSE	Health Safety & Environment	DOT	Department of Transportation
CGI	Combustible Gas Indicator		

Review Results Cont.

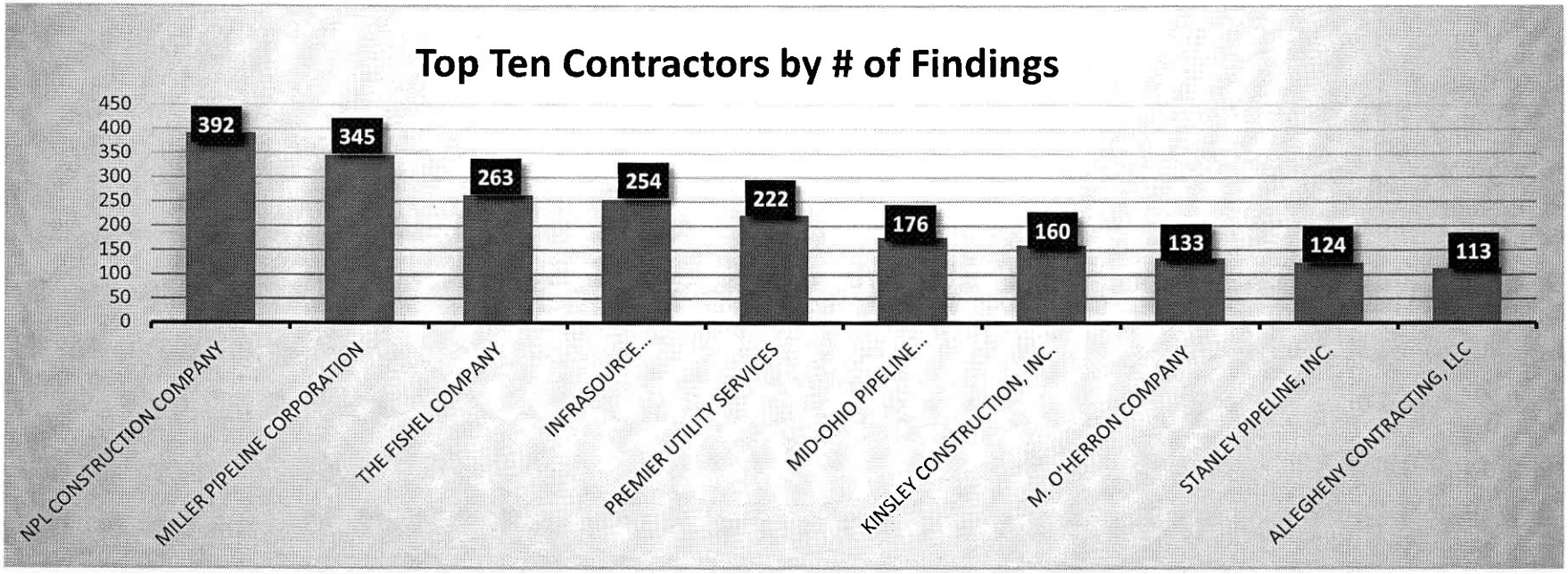
Objective 2 - Analytic Observations (Cont'd):



Observations:
The chart above reflects the top ten **(10)** contractors based on number of audits completed. Internal Audit noted that the top ten **(10)** population accounts for **76%** of the total **1,306** Contractor Audits performed.

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):

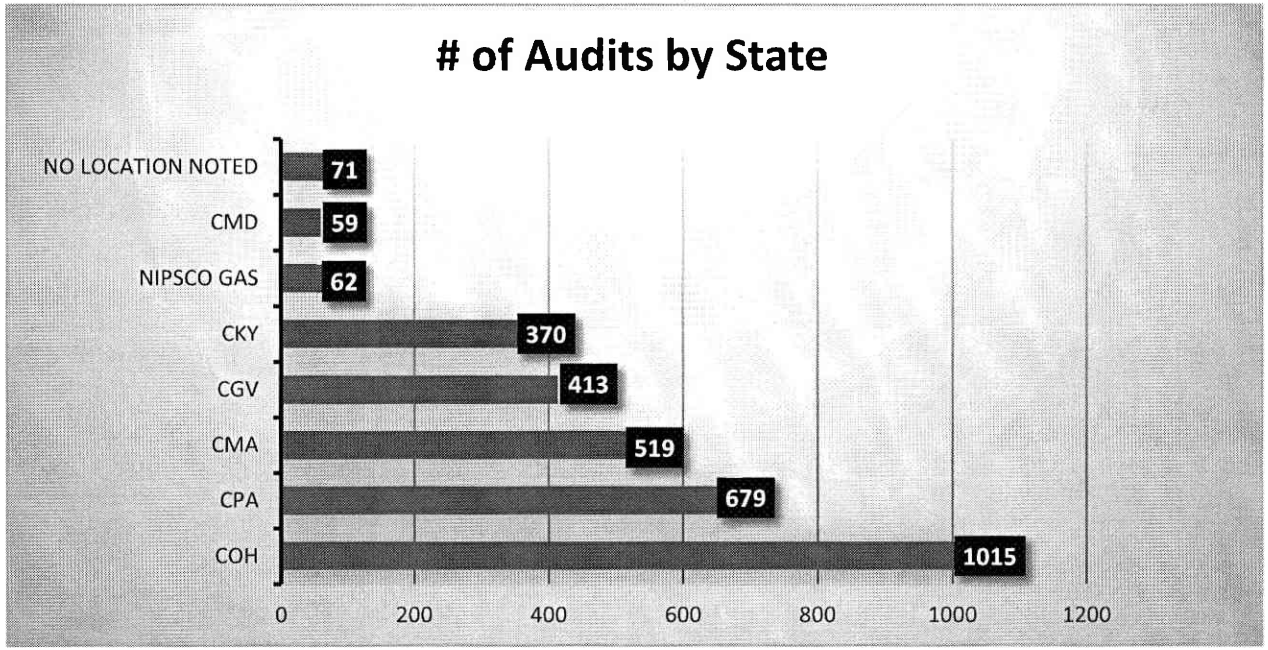


Observations:

The chart above reflects the top ten **(10)** contractors based on number of findings. Internal Audit noted that the top ten **(10)** population accounts for **77%** of the **2,844** Contractor Findings noted, which is consistent with the **previous slides 76%** for top ten audits. In addition, Internal Audit noted that the top eight **(8)** Contractors with the most audits performed (see the **previous slide**) appear in the top ten **(10)** herein.

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):



State	# of Audits	Percentage
COH	1,015	32%
CPA	679	21%
CMA	519	16%
CGV	413	13%
CKY	370	12%
NIPSCO Gas	62	2%
CMD	59	2%
No Location	71	2%
Total	**3,188**	**100%**

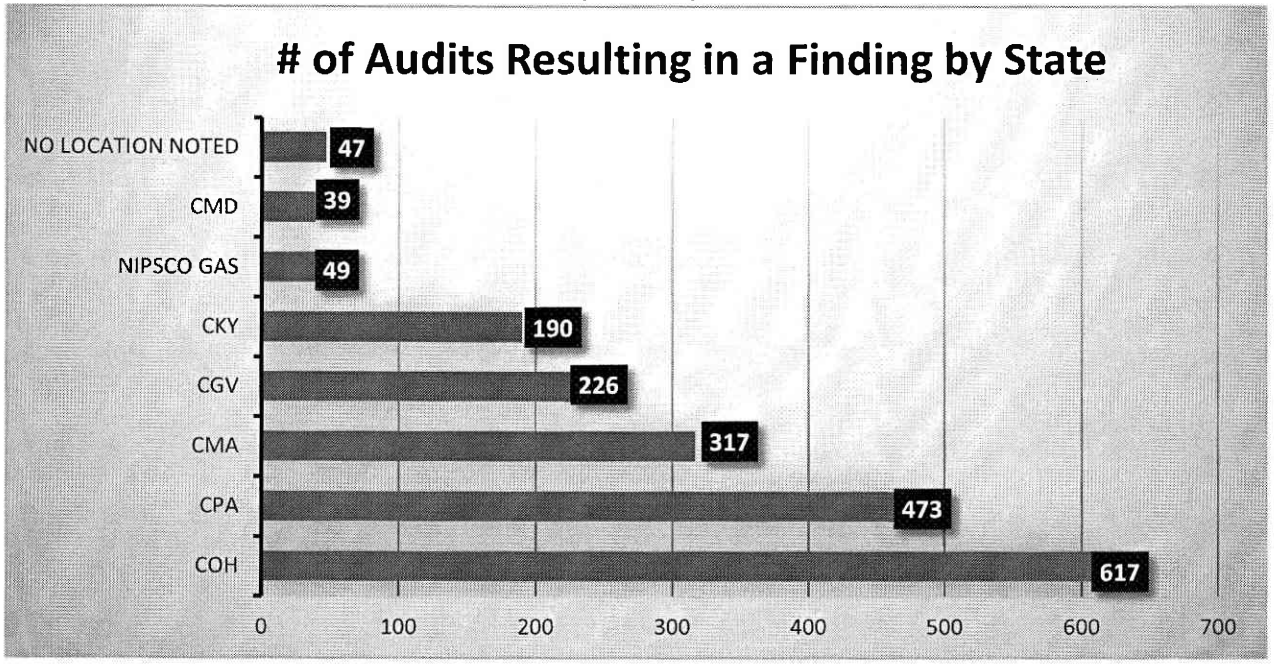
Observations:

The above chart reflects the number of audits completed by state. Internal Audit also included a percentage breakdown for each category to the right of the chart.

Internal Audit noted that the audits conducted within NIPSCO Gas represent audits executed under the direction of the Distribution Integrity Department but use PS&C staff to complete the actual audit work. In addition, the population indicated as 'No Location Noted' herein and on the ***following slides*** *is composed of miscellaneous audits and audits from June 2014 (beginning use of iAuditor). Population deemed insignificant for data analysis purposes.*

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):



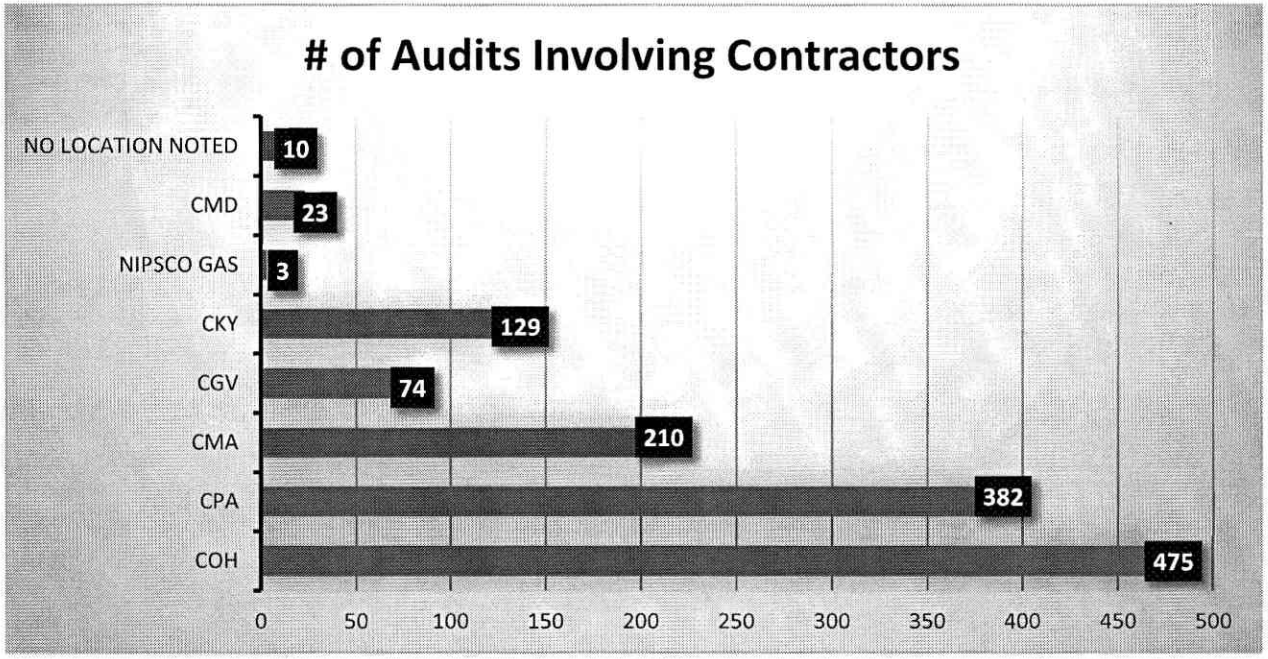
State	# of Audits	Percentage
COH	617	32%
CPA	473	24%
CMA	317	16%
CGV	226	12%
CKY	190	10%
NIPSCO Gas	49	3%
CMD	39	1%
No Location	47	2%
Total	**1,958**	**100%**

Observations:

The above chart reflects the number of audits that resulted in a finding by State. Internal Audit also included a percentage breakdown for each category to the right of the chart. Compared to the **previous slide** the percentage of audits and percentage of audits that resulted in a finding are consistent by state (**+/- 3%** difference).

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):



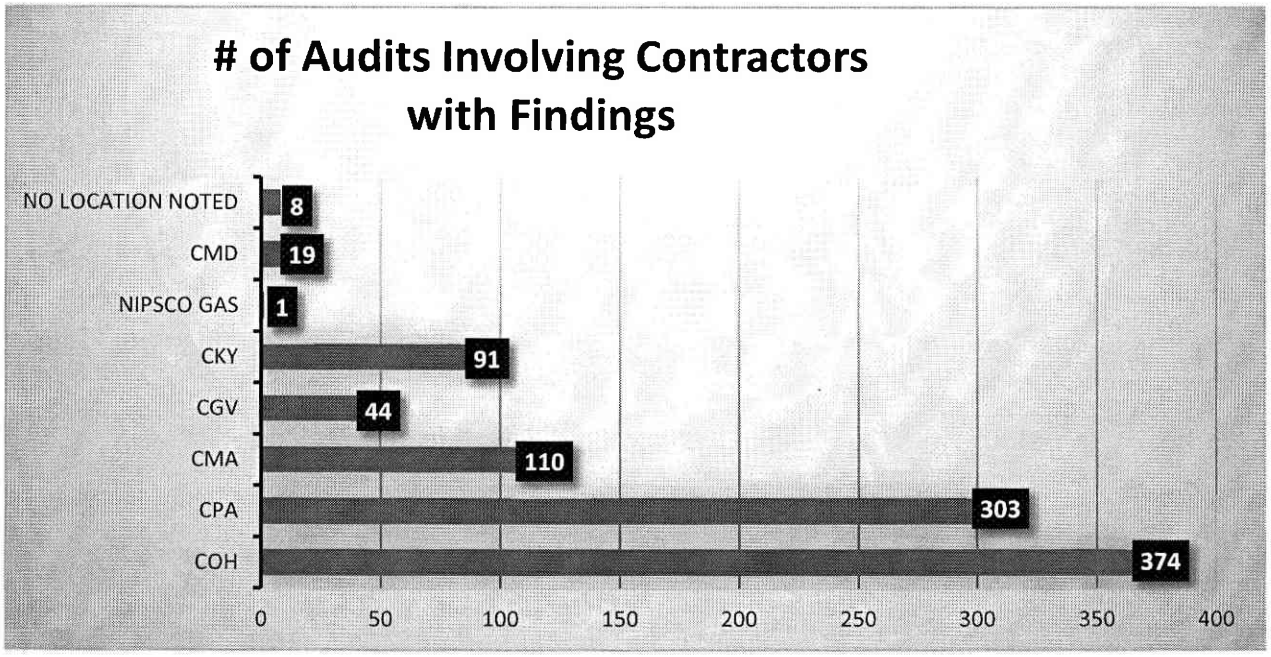
State	# of Audits	Percentage
COH	475	36%
CPA	382	29%
CMA	210	16%
CGV	74	6%
CKY	129	10%
NIPSCO Gas	3	1%
CMD	23	1%
No Location	10	1%
Total	**1,306**	**100%**

Observations:

The above chart reflects the number of audits that included a Contractor completed by State. In addition, Internal Audit also included a percentage breakdown for each category to the right of the chart.

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):

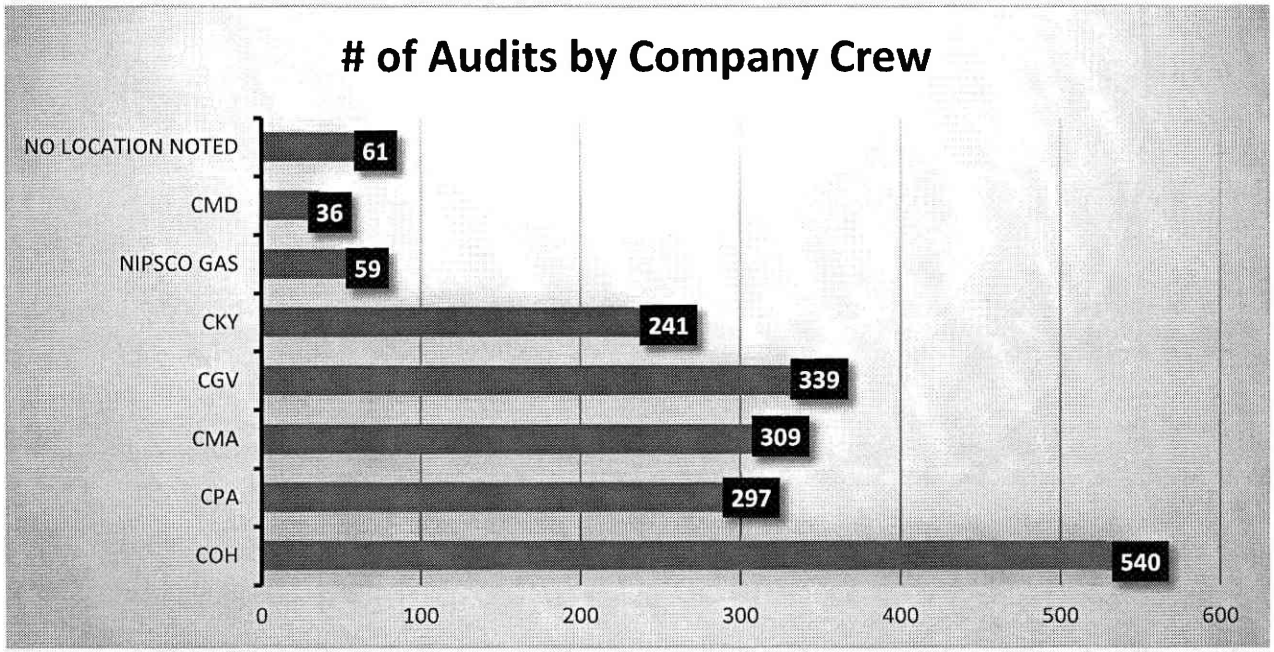


State	# of Audits	Percentage
COH	374	39%
CPA	303	32%
CMA	110	12%
CGV	44	4%
CKY	91	10%
NIPSCO Gas	1	1%
CMD	19	1%
No Location	8	1%
Total	**950**	**100%**

Observations:
The above chart reflects the number of audits over work performed by Contractors that resulted in a finding by State. Internal Audit also included a percentage breakdown for each category to the right of the chart. Compared to the **previous slide** the percentage of audits and percentage of audits that resulted in a finding are consistent by state (**+/- 4%** difference).

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):



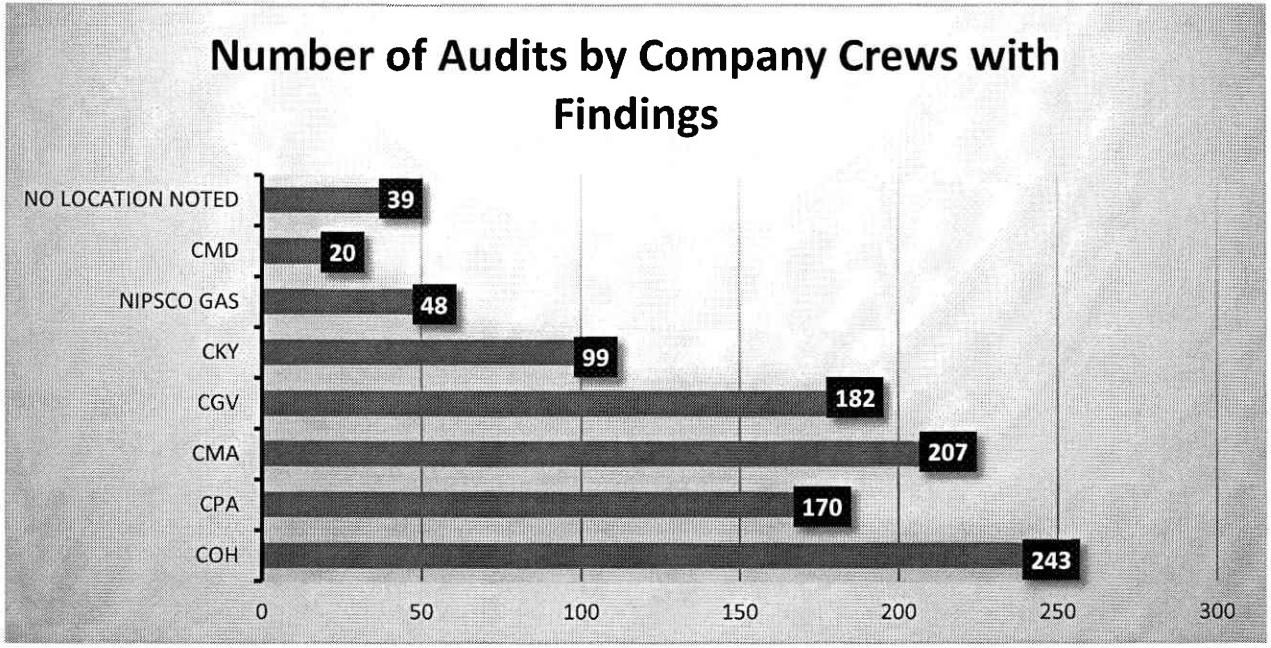
State	# of Audits	Percentage
COH	540	29%
CPA	297	16%
CMA	309	16%
CGV	339	18%
CKY	241	13%
NIPSCO Gas	59	3%
CMD	36	2%
No Location	61	3%
Total	**1,882**	**100%**

Observations:

The above chart reflects the number of audits over work performed by a Company Crew completed by State. In addition, Internal Audit also included a percentage breakdown for each category to the right of the chart.

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):



State	# of Audits	Percentage
COH	243	24%
CPA	170	17%
CMA	207	21%
CGV	182	18%
CKY	99	10%
NIPSCO Gas	48	5%
CMD	20	1%
No Location	39	4%
Total	**1,008**	**100%**

Observations:
The above chart reflects the number of audits that resulted in a finding (Company Crew) by State. Internal Audit also included a percentage breakdown for each category to the right of the chart. Compared to the **previous slide** the percentage of audits and percentage of audits that resulted in a finding are consistent by state (**+/- 5%** difference).

Review Results Cont.

Objective 2 - Analytic Observations (Cont'd):

Conclusion:
Internal Audit did not notice any unusual trends in the audit data reviewed, however it appears that the number of findings identified is directly correlated to the number of audits conducted across states. Internal Audit noted an opportunity in future periods to perform trending analysis on the iAuditor data to provide further insights.

Potential Business Improvement Opportunities:

- PS&C Technical Support Management should consider working with Information Technology to create custom data sets within the iAuditor Reporting Tool to reflect only Audits and Findings completed by employees within the PS&C Technical Service Department to allow for more efficient monitoring of auditor findings and performance
    - Internal Audit noticed that the data from the iAuditor Reporting Tool requires the filtering of the other department's completing audits while utilizing iAuditor to identify only those audits completed by the PS&C Technical Support Department. Creating a separate excel sheet that reports on the results of only the PS&C Technical Service Department would decrease the time required by Management to summarize and analyze QA/QC audit data.

Pipeline Safety and Compliance Quality Assurance/Quality Control Process Review

cc:

J. Hamrock
C.W. Levander
C. J. Hightman
J. Stanley
D. E. Brown
S. K. Surface
V. Sistovaris
P. A. Vegas
D. A. Eckstein
D. G. Cote
M. J. Finissi
T. A. Dehring
R. V. Mooney
D. A. Monte
K. H. Cole
M. J. Davidson
W. F. Davis
P. D. Wilson
A. A. Stone
J. L. Winterstein
S. W. Sylvester
T. L. Tucker
Deloitte & Touche, LLP

COH Inside and Inaccessible Meter and Pipeline Inspection Follow-Up Review

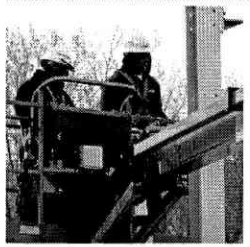
June 19, 2017

To: Dan Williamson, Director Operations Integration Center
Steve Sylvester, COH Vice President and General Manager

From: Shelley Duling, Senior Internal Auditor
Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit

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Executive Summary

Business District	Non-Business District
Once each calendar year (not to exceed 15 months)	Once every 3 years (not to exceed 39 months)

Executive Summary (Cont'd)

Company	# of Non-Compliant Accounts	# of Accounts Requiring Inspection	% of Non-Compliant Accounts
Columbia Gas of Pennsylvania (CPA)	3,228	72,571	4.45%
Columbia Gas of Kentucky (CKY)	1,554	12,189	12.75%
Columbia Gas of Virginia (CGV)	893	5,469	16.33%
Columbia Gas of Maryland (CMD)	496	7,031	7.05%

Executive Summary (Cont'd)

Audit Scope and Approach

Objective 1: Verify that inspections are performed timely for all inside and inaccessible meters and pipelines.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Verify that inspections are performed timely for all inside and inaccessible meters and pipelines at COH.	Finding #1
2	Verify that inspections are performed timely for all inside and inaccessible meters and pipelines at the remaining Columbia Companies that utilize DIS (CKY, CMD, CPA and CGV)*.	Finding #2

Findings

Procedure #1: Verify that inspections are performed timely for all inside and inaccessible meters and pipelines at COH.	**Risk Rating**
Finding #1: As of April 17, 2017, there were 8,217 COH inside and inaccessible meters and pipelines that were non-compliant with inspection cycle timeframes outlined by DOT regulation.	**High**

Process Owner(s): Integration Center, Operations

Executive Council Member Responsible: Pablo Vegas, EVP Gas Segment and Chief Customer Officer

Observation

Criteria: Inside meters and pipelines are inspected in accordance with timeframes outlined by DOT regulation.

Condition: As of April 17, 2017, there were ***8,217*** COH inside and inaccessible meters and pipelines that were non-compliant with DOT inspection cycle timeframes. This represents ***~3.7%*** of the ***223,425*** inside and inaccessible locations requiring an inspection.

Refer to **Appendix B** for further breakdown of the non-compliant locations by Premise Status Description.

Risk/Impact: Non-compliance with leakage/atmospheric corrosion inspections of inside and inaccessible meters and pipelines poses a safety risk.

Recommendation

Integration Center Management in collaboration with Operations should develop a plan and process to address the non-compliant locations and ensure ongoing compliance of all inside and inaccessible meters and pipelines.

Management Response

Management has developed a plan to resolve the non-compliant accounts within COH by **December 31, 2017**. The Integration Center Service Order Inside/Inaccessible Inspection team monitors ongoing compliance through a weekly review of a compliance report generated from Cognos.

Findings

Procedure #2: Verify that inspections are performed timely for all inside and inaccessible meters and pipelines at the remaining Columbia Companies that utilize DIS (CKY, CMD, CPA, CGV).	**Risk Rating**
Finding #2: As of April 20, 2017, Internal Audit noted that not all inside and inaccessible meter and pipeline inspections were in compliance with DOT regulation at the other Columbia Companies utilizing DIS.	**High**

Process Owner(s): Integration Center, Operations

Executive Council Member Responsible: Pablo Vegas, EVP Gas Segment and Chief Customer Officer

Observation

Criteria: Inside and inaccessible meters and pipelines are inspected in accordance with timeframes outlined by DOT regulation.

Condition:

As of April 20, 2017, Internal Audit noted the following non-compliant locations for the Columbia Companies utilizing DIS.
Refer to **Appendix B** for further breakdown of the non-compliant locations by Premise Status Description.

Company	# of Non-Compliant Accounts	# of Accounts Requiring Inspection	% of Non-Compliant Accounts
CPA	3,228	72,571	4.45%
CKY	1,554	12,189	12.75%
CGV	893	5,469	16.33%
CMD	496	7,031	7.05%

Risk/Impact: Non-compliance with leakage/atmospheric corrosion inspections of inside and inaccessible meters and pipelines poses a safety risk.

Recommendation

Integration Center Management in collaboration with Operations should develop a plan and process to address the non-compliant locations and ensure ongoing compliance of all inside and inaccessible meters and pipelines.

Management Response

Management will develop a process to resolve non-compliant accounts within CKY, CPA, CGV, and CMD with a defined timeline for resolution for each state. The process will include procedures to monitor on-going compliance. Management will implement the plan and procedures by **December 31, 2017.**

Report Distribution:

Cc:

J. Hamrock	D.G. Cote
C.W. Levander	M.J. Davidson
C.J. Hightman	J.S. Pino
D.E. Brown	P.D. Wilson
S. Surface	K.H. Cole
V. Sistovaris	T.L. Tucker
M. Kempic	S. Anderson
P.A. Vegas	D.A. Eckstein
M.J. Finissi	Deloitte & Touche, LLP
M.D. Ramsey	

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

COH

Premise Status	Premise Status Description	# of Non-Compliant Accounts	% of Total Non-Compliant Accounts
ACTIVE, CUSTOMER AT PREMISE	Gas is on at the meter	364	4.43%
IDLE ACCOUNT	Gas is off and meter has been removed from the premise	5,368	65.33%
INACTIVE, NO SERVICE AT PREMISE	Gas is off and meter remains on the premise	1,708	20.79%
OFF FOR LEAK	Gas is off at the meter due to leak on customer's line	17	0.21%
PRE-NS, SERVICE LINE INSTALLED	New customer's service line is installed, but the meter has not been installed	760	9.25%
Totals		**8,217**	**100%**

CKY

Premise Status	Premise Status Description	# of Non-Compliant Accounts	% of Total Non-Compliant Accounts
ACTIVE, CUSTOMER AT PREMISE	Gas is on at the meter	46	2.96%
IDLE ACCOUNT	Gas is off and meter has been removed from the premise	1,371	88.22%
INACTIVE, NO SERVICE AT PREMISE	Gas is off and meter remains on the premise	117	7.53%
OFF FOR LEAK	Gas is off at the meter due to leak on customer's line	2	0.13%
PRE-NS, SERVICE LINE INSTALLED	New customer's service line is installed, but the meter has not been installed	18	1.16%
Totals		**1,554**	**100%**

Appendix B (Cont'd)

CMD

Premise Status	Premise Status Description	# of Non-Compliant Accounts	% of Total Non-Compliant Accounts
ACTIVE, CUSTOMER AT PREMISE	Gas is on at the meter	23	4.64%
IDLE ACCOUNT	Gas is off and meter has been removed from the premise	327	65.93%
INACTIVE, NO SERVICE AT PREMISE	Gas is off and meter remains on the premise	127	25.60%
PRE-NS, SERVICE LINE INSTALLED	New customer's service line is installed, but the meter has not been installed	19	3.83%
Totals		**496**	**100%**

CPA

Premise Status	Premise Status Description	# of Non-Compliant Accounts	% of Total Non-Compliant Accounts
ACTIVE, CUSTOMER AT PREMISE	Gas is on at the meter	287	8.89%
IDLE ACCOUNT	Gas is off and meter has been removed from the premise	1,929	59.76%
INACTIVE, NO SERVICE AT PREMISE	Gas is off and meter remains on the premise	913	28.28%
OFF FOR LEAK	Gas is off at the meter due to leak on customer's line	2	0.06%
PRE-NS, SERVICE LINE INSTALLED	New customer's service line is installed, but the meter has not been installed	97	3.00%
Totals		**3,228**	**100%**

Appendix B (Cont'd)

Premise Status	Premise Status Description	# of Non-Compliant Accounts	% of Total Non-Compliant Accounts
ACTIVE, CUSTOMER AT PREMISE	Gas is on at the meter	863	96.64%
IDLE ACCOUNT	Gas is off and meter has been removed from the premise	4	0.45%
INACTIVE, NO SERVICE AT PREMISE	Gas is off and the meter remains on the premise	23	2.58%
PRE-NS, SERVICE LINE INSTALLED	New customer's service line is installed, but the meter has not been installed	3	0.34%
Totals		**893**	**100%**

NiSource Corporate Services Company
Cost Allocation Audit

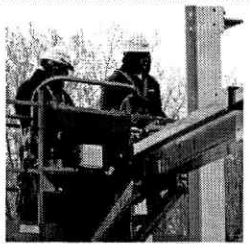
May 18, 2017

To: J. Gore, Controller, Corporate Accounting

From: S.T. Duling, Senior Internal Auditor
J.M. Callahan, Manager Internal Audit
R.W. Binkley, Director Internal Audit

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Executive Summary

Internal Audit performs an annual review of the accounting systems, source documents, allocation methods, and billing procedures used by NiSource Corporate Services Company (NCSC) to allocate costs/expenses to the various subsidiary companies ("affiliates"), including the holding company.

The focus of the audit includes the following procedures:

- Determine that costs are fairly and equitably allocated to all subsidiary companies, including the holding company; and
- Verify procedures are in place to ensure that all costs have been allocated monthly and are accurately reflected in the annual FERC Form 60 Financial Report.

Summary Conclusions:

As with many processes, the accuracy of cost allocation is dependent upon the responsible employee properly identifying the company which benefited from the expense. Based on our audit procedures and selection testing, we noted the following:

- The methods and procedures used to allocate costs/expenses and bill subsidiary companies (including the holding company) are reasonable; and
- Amounts reported as convenience and contract billing payments in the FERC Form 60 appear appropriate.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided. Internal Audit would like to thank NCSC staff and management for their cooperation and time in support of this audit.

Background

In February 2006, the Public Utility Holding Company Act (PUHCA) was repealed and replaced with the PUHCA of 2005. Prior to this date, NiSource Corporate Services Company (NCSC) was required to obtain prior approval from the Securities and Exchange Commission on new allocation methods used to allocate costs and expenses. The PUHCA of 2005 is primarily a "books and records" statute and provides the Federal Energy Regulatory Commission (FERC) with the authority over the books and records, the ability to prescribe standards, and gives access to the books and records of the holding company to the public utility commissions, but only to the extent relevant to the costs of the subsidiaries.

NCSC uses various allocation methods to assign expenses to companies (including the holding company), or groups of companies, to classify and disclose expenses in the financial statements. Such allocation methods are defined in the service agreements ("agreements") between NCSC and the affiliates. Affiliates are billed by NCSC via contract and convenience billings. Contract billings represent labor and expenses billed to an affiliate. The allocation between affiliates is based on a billing pool which is a four digit code that identifies the company or company's benefiting from the charge. Convenience billings are accommodation payments that are rendered when NCSC makes a payment to a vendor for goods or services that are for the benefit of more than one or all affiliates, and can be made for an affiliate who may not have the means to wire money to outside vendors. Each affiliate is billed monthly for their proportional share of the payments made in that respective month.

Audit Scope and Approach

Internal Audit has completed a review of the accounting systems, source documents, allocation methods, and billing procedures used by NCSC to allocate costs/expenses to the various subsidiary companies, including the holding company, for the period January 1, 2016 through December 31, 2016.

Objective 1: Costs are fairly and equitably allocated to all subsidiary companies, including the holding company.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Determine if allocation factors are updated regularly to reflect current statistical data to ensure that NCSC charges are billed relative to current operations.	**No Findings Noted.**
2	Verify contract and convenience billings are properly billed to affiliates.	**No Findings Noted.**
3	Verify holding company costs incurred are properly segregated and paid by the holding company.	**No Findings Noted.**
4	Verify executive time allocation accurately reflects the companies benefiting from their services.	**No Findings Noted.**
5	Verify costs charged by employees are in accordance with the NCSC cost allocation guidelines.	**No Findings Noted.**

Objective 2: Processes and procedures are in place to ensure that all costs have been allocated monthly and are accurately reflected in the annual FERC Form 60 Financial Report.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Determine that all costs are appropriately allocated to affiliates.	**No Findings Noted.**
2	Verify that contract billings and accommodation payments are accurately reported in the FERC Form 60 Financial Report.	**No Findings Noted.**

Report Distribution:

Cc:

J. Hamrock
C.W. Levander
C.J. Hightman
J. Stanley
D.E. Brown
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V. Sistovaris
P.A. Vegas
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M.A. Huwar
H.A. Miller
S.H. Bryant
T.L. Tucker
S. Anderson
Deloitte & Touche, LLP

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

2017 Critical Valve Inspection Audit

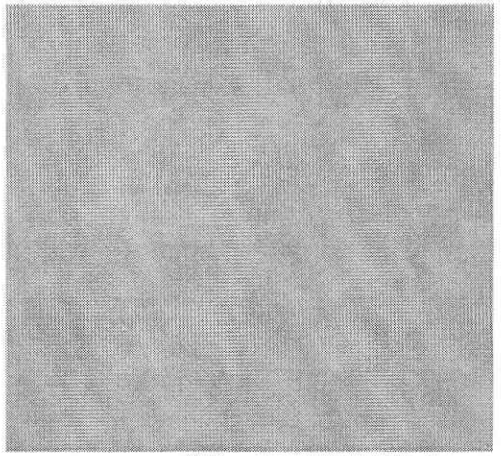
September 12, 2017

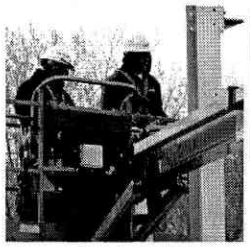
To: Don Eckstein, Senior VP Gas Operations
Rob Mooney, VP Engineering

From: Chris Marlatt, Lead Internal Auditor
Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit

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Executive Summary

Internal Audit conducted an audit of the controls and processes associated with critical valve classification and inspection for the Columbia Gas Companies*. The purpose of this audit was to assess whether processes followed are in accordance with the United States Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) requirements, which are aligned with the following Gas Standards:

- Gas Standard 1760.010 (Critical Valve Inspection and Maintenance); and
- Gas Standard 2400.010 (Critical Valve Design Guidelines).

The focus of the audit included the following procedures:

- Determine whether processes and controls support compliance with the inspection and maintenance requirements for facilities identified as critical valves; and
- Determine whether processes and controls to ensure critical valve classification and reclassification are completed consistently across the Columbia Companies.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided. Internal Audit would like to thank Gas Operations and Engineering staff and management for their cooperation and time in support of this audit.

Summary Conclusions:

As a result of our procedures, Internal Audit identified some critical valve exceptions and inconsistencies in critical valve populations, policies, and procedures and have made the following recommendation:

- Management should create and implement the following processes and controls:
  - Review WMS critical valve facilities on a consistent basis and determine whether all facilities identified as critical have a related repetitive task (RT) created to ensure timely inspection;
  - Document the process for status changes on critical valves and put controls in place to ensure it is executed consistently across all Companies; and
  - Reconcile the critical valve populations within different systems of records on a consistent basis.

Management Response:

Management will assemble a team to understand the processes and departments that impact the creation, update or retirement of WMS critical valve facility. The team will recommend process changes and controls that can be implemented to mitigate compliance risk.

* Internal Audit will consider performing a separate review in the future to assess processes and controls for NIPSCO Gas as it will require the review of separate systems and Gas Standards.

Background

Critical valve facilities must be inspected per DOT 49 CFR 192.747 Valve maintenance: Distribution Systems which states:

"Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year".

When a valve is deemed critical, it is either entered (for new valves) or updated (for existing valves) into the Columbia Gas Companies' Work Management System (WMS). In addition, a Repetitive Task (RT) must be manually created within WMS, which will automatically create the inspection job order on an annual basis to ensure compliance with DOT 192.747.

Audit Scope and Approach

Internal Audit performed a review of the processes and controls associated with Critical Valve classification and inspection for the Columbia Gas Companies. The review performed aligned with the following objectives:

Objective 1: Determine whether processes and controls support compliance with the inspection and maintenance requirements for facilities identified as critical valves.

#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Analyze critical valve data to determine if inspections are performed within DOT 192.747 requirements.	**Finding #1 – See Page 5**

Objective 2: Determine whether processes and controls ensure critical valve classification and reclassification are completed consistently across the Columbia Companies.

#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Review policies, procedures, and processes that support consistently identifying critical valve classification and reclassification.	**Finding #2 – See Page 6**

Findings

Objective #1, Procedure #1: Analyze critical valve data to determine if inspections are performed within DOT 192.747 requirements.	**Risk Rating**
Finding #1: Instances were identified where critical valves were incorrectly classified or did not have an associated RT assigned.	**Moderate**
Process Owner(s): Donald Eckstein, Senior VP Gas Operations **Executive Council Member Responsible:** Pablo Vegas, EVP Gas Business Segment	**Target Remediation Date:** **Q2 2018**

Observation

Criteria: Valve facilities within WMS labeled critical are properly classified as an active critical valve and have a related RT to ensure compliance with DOT 192.747.
Condition: By analyzing a population of **~25K** valve facilities classified as critical and active within WMS, Internal Audit identified a total of **40** instances where the critical valve facility did not have an associated RT assigned, creating the risk of not completing an inspection required by DOT Regulations.
Internal Audit reviewed all **40** instances and noted the following:

- **(14)** of the selections represented valid critical valve facilities and required a RT to be created. Four **(4)** of these instances had not been inspected within the timeframes outlined by DOT 192.747.
- **(20)** of the selections were incorrectly classified as critical and required a status change to non-critical or retired.
- **(6)** of the selections represented critical valve facilities that were assigned an RT subsequent to Internal Audit's data request. As the RT creation process is manual and can occur after the valve's classification is updated in the WMS system, treatment appears reasonable.

As of the date of this report, Internal Audit noted Gas Operations Management had already made the required corrections within WMS to remediate the exceptions identified above.

Risk/Impact: Critical valves were incorrectly classified or did not have a RT assigned resulting in four (4) critical valve facilities out of compliance with DOT 192.747.

Recommendation

Management should implement/create controls or processes for the review of WMS critical valve facilities on a consistent basis to ensure all critical valve facilities have a repetitive task (RT). Creation of a detective control mitigates the risk associated with the manual process required to create/update critical valves in WMS and related RTs.

Management Response

Management will assemble a team to understand the processes and departments that impact the creation, update or retirement of WMS critical valve facility. The team will recommend process changes and controls that can be implemented to mitigate compliance risk.

Action Plan Owner: Rick Poe, Director, IC System Operations

Target Remediation: December 31, 2017

Findings (cont'd)

Objective 2, Procedure #1: Review policies, procedures, and processes that support consistently identifying critical valve classification and reclassification.	**Risk Rating**
Finding #2: Internal Audit identified process inconsistencies that increase the risk of improper classification of critical valves within systems of record.	**Low**

Process Owner(s): Gas Operations and Engineering Management

Observation

Criteria: Policies and procedures are consistently followed across all NiSource Gas Companies.

Condition: Internal Audit noted that there are no company-wide, documented policies and procedures related to the classification of critical valves, scheduling of inspections, or changes in classification (i.e. non-critical to critical). Certain operating centers have created procedures to use as guidelines.

Internal Audit also noted that the critical valve population is documented in different systems of record (i.e. WMS, GIS, manual critical valve books). Internal Audit noted the populations do not reconcile and there is no control currently in place to reconcile the populations. Company gas standards and federal regulations do not include guidance or specific standards that require reconciliation, however differences in population further increases the risk of data integrity issues.

Risk/Impact: Inconsistent processes increase the risk of critical valve data integrity issues.

Recommendation

As the critical valve classification and inspection process can impact a number of departments (i.e. Engineering, Operations, Integration Center, GIS Records) documented and consistent procedures would help clearly define ownership and responsibility and help reduce data integrity issues (i.e. reduce instances where WMS indicates valve is critical but it has been retired or valve's status was changed to critical but an RT was not created, both examples found in testing of objective 1).

- Management should consider implementing controls or processes to document the process for status changes on critical valves and ensure it is executed consistently across all Companies; and
- Management should consider implementing a control that would reconcile the critical valve populations on a consistent basis.

Management Response

Not Required for Low Risk Findings

Report Distribution

CC:	J. Hamrock	R. D. Poe
	D.E. Brown	S.W. Sylvester
	C.J. Hightman	J.S. Pino
	M. Kempic	M.J. Davidson
	C.W. Levander	W.F. Davis
	V. Sistovaris	P.D. Wilson
	P.A. Vegas	A. Donnini
	S.K. Surface	T.A. Dehring
	M. Finissi	T.L. Tucker
	R. Kitchell	K.L. Humrichouse
	D.G. Cote	Deloitte & Touche, LLP

Appendix A

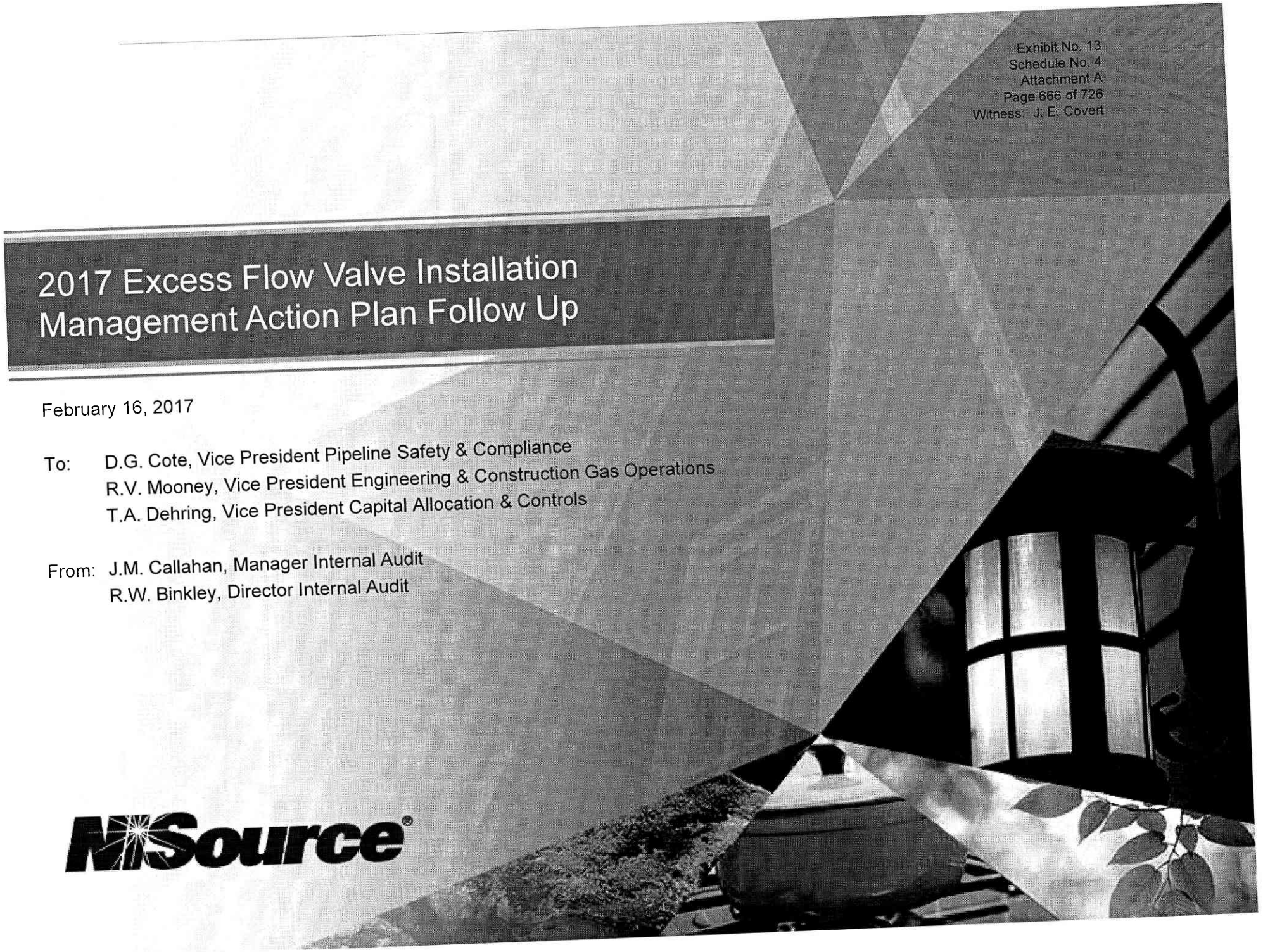
Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

2017 Excess Flow Valve Installation Management Action Plan Follow Up

February 16, 2017

To: D.G. Cote, Vice President Pipeline Safety & Compliance
R.V. Mooney, Vice President Engineering & Construction Gas Operations
T.A. Dehring, Vice President Capital Allocation & Controls

From: J.M. Callahan, Manager Internal Audit
R.W. Binkley, Director Internal Audit



NiSource®

Excess Flow Valves (EFVs) are used in natural gas distribution pipelines to restrict the flow of natural gas and related methane emissions if a line is broken or damaged, limiting the impact of a leak or explosion. As part of a review performed in 2016 over the Columbia Gas Companies (Ohio, Pennsylvania, Virginia, Kentucky, Maryland and Massachusetts), Internal Audit reviewed all service line installations and replacements executed during the period of May 1, 2007 through April 30, 2016 for compliance with EFV installation requirements, identifying **11.8K** potential exceptions from a population of **288K** service line installations that met the criteria for EFV installation.

As a result of the audit, the Pipeline Safety & Compliance (PS&C) Team developed a Management Action Plan to investigate the population identified by Internal Audit, concluding that EFVs needed to be installed at **2,191** locations.

- As of the date of this report, **2,167** out of the **2,191** have been remediated and an EFV has been installed. The **24** remaining locations are slated to be remediated by June 1, 2017.
- Management has corrected the majority of the inconsistencies in system data identified as part of the review performed by Internal Audit and is working to address the remaining records to ensure that the Company's systems of record support compliance with EFV installation requirements and provide accurate information on the Company's pipeline system.

In addition to investigating the population identified by Internal Audit, the Business Improvement Team created an automated weekly exception report which analyzes job orders executed during the preceding week to identify potential EFV installation exceptions. Management has established a process to investigate these potential exceptions and, if necessary, remediation efforts are coordinated with field operations.

- **492** potential exceptions were identified by Management for all job orders executed from May 1, 2016 through December 31, 2016, resulting in the identification of **27** locations which needed an EFV installed.

Management has provided refresher trainings on EFV installation requirements to company personnel, and the PS&C Team is also collaborating with the Technical Training Team to develop training materials for all field personnel which would address installation requirements as well as "lessons learned" specific to job order execution within the systems of record and completion of supporting documentation.

Beginning in May 2007, Columbia Gas Standards required the installation of EFVs on all new and entirely replaced service lines serving single residential customers operating continuously throughout the year at 10 pounds per square inch gauge (PSIG) or greater. Those requirements were matched by the Department of Transportation's Pipeline and Hazardous Material Safety Administration (PHMSA) Code of Federal Regulations (CFR) §192.381 effective February 12, 2010.

In January 2015 (effective for field operations as of May 31, 2015), Columbia Gas Standards were updated to require EFV installations on service lines to multi-unit residential and non-residential customers in addition to the single residential customers.

EFV installation requirements allow for exceptions when at least one of the following conditions are met:

- The system does not operate continuously throughout the year at a pressure of 10 PSIG or greater;
- EFVs meeting PHMSA performance standards are not commercially available to the Company; or
- The Company has prior experience with contaminants in the gas stream that could interfere with the operation of an EFV, cause loss of service to a residence, or interfere with necessary operation or maintenance activities, such as blowing liquids from the line.

As a result of a 2016 audit, the PS&C Team developed a Management Action Plan to investigate a population of job orders executed during the period of May 1, 2007 to April 30, 2016 within the Columbia Gas Companies which were identified by Internal Audit as potential exceptions to the requirements associated with the installation of EFVs.

Internal Audit performed the procedures below to verify that all commitments outlined as part of the Management Action Plan issued in 2016 have been completed by Management:

Objective 1: Verify that all commitments outlined as part of the Management Action Plan issued in 2016 have been completed by Management.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Select a statistical sample (**60**) of job orders from the potential exception population (**11.8K**) and verify that Management's investigation of compliance with EFV installation requirements was adequately supported and valid exceptions were remediated.	**No Findings Noted.**
2	Review the processes established to correct inaccuracies identified in systems of record as a result of Management's investigation of potential exceptions.	**Finding #1 – See Page 5**
3	Review the monitoring processes established by Management to routinely analyze job order data for adherence to EFV installation requirements and to improve data integrity in company systems of record.	**No Findings Noted.**

Procedure #2: Review the processes established to correct inaccuracies identified in systems of record as a result of Management's investigation of potential exceptions.	**Risk Rating**
Finding #1: Inaccuracies in key fields exist within systems of record.	**Low**

Process Owner(s): Pipeline Safety & Compliance

Observation

Criteria: Systems of record properly reflect the activities performed in the field and accurately detail the Company's pipeline system.

Condition: Internal Audit noted instances where key data fields related to job order execution or Company pipelines were not accurately input into the system, creating a false positive for EFV exceptions. Management has corrected the majority of the inconsistencies identified as part of the review performed by Internal Audit and is working to address the remaining records.

Risk/Impact: Systems of record had inaccurate data inputs that did not support compliance with EFV installation requirements and did not provide accurate information related to the Company's pipeline system.

Recommendation

Where inaccuracies within system data have been identified or are identified in the future as the result of ongoing monitoring efforts, Management should continue to ensure that corrections are made to support compliance with EFV installation requirements and provide accurate information on the Company's pipeline system.

Management Response

Not Required for Low Risk Findings

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Cc:

J. Hamrock	J.S. Pino
S.K. Surface	W.F. Davis
D.E. Brown	K.H. Cole
P.A. Vegas	J.S. Roberts
C.J. Hightman	M.J. Finissi
C.W. Levander	L.M. Krummert
V. Sistovaris	C.J. Anstead
J. Stanley	J.L. Curtis
M. Kempic	M.J. Law
D.A. Eckstein	J.R. Hastings
P.D. Wilson	S. Anderson
S.W. Sylvester	T.L. Tucker
A.A. Stone	Deloitte & Touche
M.J. Davidson	

NiSource Employee Expense Reimbursement Audit

March 1, 2017

To: J. Gore, Controller, Corporate Accounting
T.L. Langhurst, Director HR Operations Delivery

From: L.E. Black, Senior Internal Auditor
J.M. Callahan, Manager Internal Audit
R.W. Binkley, Director Internal Audit



Internal Audit began performing regular audits of all NiSource employee expense reimbursements in 2009 to analyze trends in employee spending and aid in identifying instances of non-compliance.

The focus of the audit includes the following procedures:

- Analyze expense reimbursement data to identify any unusual items and/or trends in spend and timely submission; and
- Determine whether employee expenses are processed in accordance with Corporate Policy and Internal Revenue Service guidelines.

The table below presents comparative analytical results for all* NiSource employee expenses submitted through the expense reporting system** during the two-year period of January 1, 2015 through December 31, 2016. (Refer to **Appendix B** for additional analytical views.)

Spend Category	2015 ERS Spend	2016 ERS & MySpend	Variance	% Change Y/Y
HOTEL	$ 6,224,608	$ 5,982,873	$ (241,736)	(4%)
MEALS	5,550,083	5,277,824	(272,259)	(5%)
AIR TRANSPORTATION	3,729,036	2,717,164	(1,011,872)	(27%)
MILEAGE***	1,971,961	1,831,629	(140,332)	(7%)
GROUND TRANSPORTATION	1,834,720	1,724,348	(110,372)	(6%)
TRAINING	1,240,129	1,269,713	29,584	2%
OTHER	1,000,043	683,787	(316,256)	(32%)
OFFICE SUPPLIES	546,246	527,828	(18,418)	(3%)
ENTERTAINMENT	529,361	417,925	(111,437)	(21%)
GIFT & AWARDS	409,230	330,090	(79,140)	(19%)
CONFERENCE ROOM RENTAL	177,929	166,855	(11,074)	(6%)
Total	**$ 23,213,346**	**$ 20,930,035**	**($2,283,311)**	**(10%)**

* While the totals in the table above include expenses incurred by Executive Council members (Officers), Internal Audit tests those specific transactions as part of a separate Officer Expense audit.

** Employees may have other methods of incurring expenses on behalf of the Company, including Procurement Cards (P-Cards), or Fleet/Fuel Cards (see appendix B, Slide 13). As follow up to this review, Internal Audit will perform a review of P-Card and Fleet/Fuel Card expenses during 2017.

***Please refer to Slide 14 for further analysis of NiSource employees who submitted mileage in 2016.

Note: *As the NiSource/Columbia Pipeline Group (CPG) Transition was effective on July 1, 2015, Internal Audit excluded all spend for any employees associated with the CPG organization for the entire year to reflect only spend associated with the NiSource organization; however, a small number of employees associated with the NiSource Corporate Service Company who transitioned to CPG are reflected in the analysis presented herein, since the inclusion of those expenses included during the period were incurred for the benefit if NiSource business operations.*

Summary Conclusions:

As a result of our procedures, Internal Audit identified some minor exceptions to established employee expense policies and procedures and have made the following recommendations:

- Accounts Payable Management should continue to communicate the need to include the business purpose and other descriptive details for each transaction in accordance with the "Business Expense Reimbursement and Reporting Policy" before approving the reimbursement request; and (see page 6)

- NiSource Management should also consider enhancing and/or consolidating employee expense related policies (including those owned by Accounts Payable and the "Corporate Credit Card Policy" which is owned by Supply Chain and covers the proper use of Company issued P-Cards, Fleet Cards, Fuel Cards or Corporate Employee Expense Cards) to support the recommendations above and make the policies easier for employees to find and follow. (see page 6)

- Accounts Payable, HR Operations Delivery, and Tax Management should enhance current processes to ensure gift transactions are in accordance with Company Policy and that all taxable gift transactions are properly identified and included in income for IRS reporting purposes; (see page 7)

- NiSource Management should consider requiring training for all AMEX cardholders and approvers related to entering and approving expenses in accordance with Company Policy; (see page 7)

American Express (AMEX) corporate credit cards are provided to exempt employees to pay for appropriate Company related expenses and to certain non-exempt employees who travel frequently on Company business. "Receipt Acknowledgements" are required to be signed by each employee, agreeing to the terms for using the AMEX card.

AMEX charges are auto-fed into the NiSource expense reporting system and then processed by individual employees. For the period under audit, the following expense reporting systems were utilized by the Company:

- ERS, an IBM supported application, was utilized for expenses processed from January 1, 2015 – January 25, 2016.
- Concur Expense Solutions, also known as "MySpend", was used during the remainder of 2016.

Employees who are not issued corporate credit cards or who incur out of pocket expenses may still incur legitimate reimbursable business expenses. These expenses are submitted within the expense reporting system and approved on an employee expense statement.

Accounts Payable performs pre-payment audits on expense reports meeting programmed criteria within the expense reporting system. Additionally, MySpend allows for "Hard Stops" which will generate an automatic web response if a transaction does not meet specific required criteria and will not allow the expense report to be processed until all required criteria have been entered.

Once expense reports are processed within the reporting system, payments are remitted to AMEX by NiSource.

Internal Audit will perform an audit of the administration of the Employee Expense Reimbursement Programs within NiSource. The purpose of the audit is to assess overall compliance with the requirements of the Corporate Credit Card policy and the applicable Business Expense Reimbursement and Reporting policies for the period January 1, 2016 through December 31, 2016.

Objective 1: Analyze employee expense reimbursement data to identify any unusual items and/or trends in spend and timely submission.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Analyze employee expense reimbursements and examine historical spending patterns to detect significant variations over time.	**No Findings Noted.**
2	Analyze employee expense reimbursements and calculate time between incurring the expense and submission for review, noting any significant violations of policy.	**No Findings Noted.**

Objective 2: Determine that employee expenses are processed in accordance with corporate policy and Internal Revenue Service guidelines.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Review the procedures performed by Accounts Payable to periodically audit employee expense transactions.	**No Findings Noted.**
2	Review selected employee expense transactions (25) identified as part of our analytic procedures in the Analytic Objective above and evaluate their compliance with Corporate Policies.	**Finding #1 – See Page 6**
3	Analyze a sample of gift & award transactions (29) and assess appropriate support and proper tax treatment.	**Finding #2 – See Page 7**
4	Review procedures to identify expenses incurred on behalf of the Employee's spouse; and ensure proper treatment for tax purposes.	**No Findings Noted.**
5	Perform an independent review of the use of the Company-leased aircraft by Employees for compliance with IRS reporting requirements.	**No Findings Noted.**
6	Verify that taxable travel has been identified and properly included in income as required by IRS reporting requirements for employees with unique working arrangements, including travel with the use of the Company-leased aircraft.	**No Findings Noted.**

Procedure #2: Review selected employee expense transactions identified as part of our analytic procedures in the Analytic Objective and evaluate their compliance with Corporate Policies.	**Risk Rating**
Finding #1: Expense transactions were identified that deviated from established policy requirements.	Low

Process Owner(s): Accounts Payable

Observations:

Criteria: Employee expenses are incurred for a valid business purpose, are adequately supported and reviewed, and are in compliance with corporate policies and Internal Revenue Service guidelines.

Condition: Excluding gift transactions tested as part of Procedure #3, Internal Audit sampled (25) expense transactions from the remaining categories using a risk-based sampling approach. Through review of the selected transactions, the following was noted:

(2) "Other" transactions totaling $4,520 should have been made with a P-Card instead of an AMEX (Refer to Slide 13 of the Appendix for more Information).

(6) of the (25) selections did not include sufficient detail to determine the business purpose and/or other descriptive details (recipients, attendees and/or receipts) to support the expense reimbursements.

(2) of the (25) selections identified instances where the approver was the beneficiary of the expense and therefore should have personally submitted the expense to ensure appropriate approval per policy

Of the (9) transactions which required the submission of a receipt, Internal Audit noted that the approver viewed the provided receipt for only (1) of the (9) transactions prior to approving the expense for reimbursement. Additionally, the submitted receipt did not match the amount of the expense submitted for reimbursement in (1) instance.

Risk/Impact: Employees may not use the appropriate means to incur expense (P-Card vs AMEX) and/or expenses may not be incurred in accordance with Company Policy.

Recommendation(s):

Accounts Payable Management should continue to communicate the need to include the business purpose and other descriptive details for each transaction in accordance with the "Business Expense Reimbursement and Reporting Policy" before approving the reimbursement request; and

NiSource Management should also consider enhancing and/or consolidating employee expense related policies (including those owned by Accounts Payable and the "Corporate Credit Card Policy" which is owned by Supply Chain and covers the proper use of Company issued P-Cards, Fleet Cards, Fuel Cards or Corporate Employee Expense Cards) to support the recommendations above and make the policies easier for employees to find and follow.

Management Response: Not Required for Low Risk Findings

(cont'd)

Procedure #3: Analyze a sample of gift & award transactions and assess appropriate support and proper tax treatment.	**Risk Rating**
Finding #2: Gift transactions were identified that deviated from established policy requirements.	**Moderate**

Process Owner(s): Accounts Payable, HR Operations Delivery & Income Tax

Observations:

Criteria: Employee expenses classified as gifts/awards are incurred for a valid business purpose, are adequately supported, and are in compliance with corporate policies and Internal Revenue Service guidelines.

Condition: Internal Audit sampled a total of (29) expense transactions using a risk-based sampling approach. Through review of the selected transactions, the following was noted:

(5) transactions were improperly excluded from the recipients taxable income; and

(8) transactions were in excess of the maximum cost of a gift or award to a single recipient ($250) as defined by the "Employee Gift and Award Accounting and Reporting" policy and the employees submitting the transactions did not obtain approval from Human Resources for the exception to policy.

Risk/Impact: Employees may receive reimbursement for gift expenses which were not incurred on behalf of the Company, may not be in accordance with policies, or may not have the appropriate tax treatment.

Recommendation(s):

Accounts Payable, HR Operations Delivery, and Tax Management should enhance current processes to ensure gift transactions are in accordance with Company Policy and that all taxable gift transactions are properly identified and included in income for IRS reporting purposes;

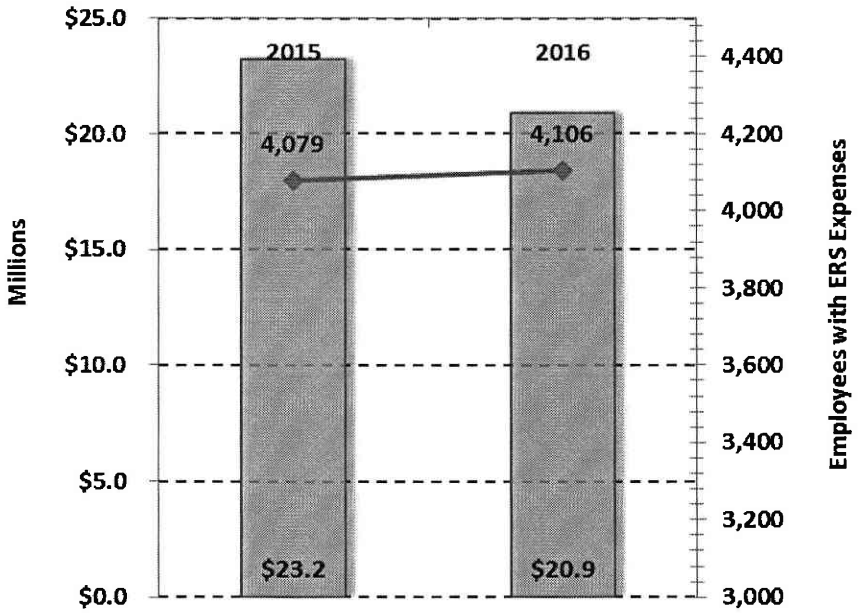
NiSource Management should consider requiring training for all AMEX cardholders and approvers related to entering and approving expenses in accordance with Company Policy.

Management Response: Accounts Payable, HR Operations Delivery, and Income Tax will collaborate to develop a process to accurately identify all taxable gift transactions and ensure that all identified transactions are captured and reported properly in recipients' income.

Cc:	J. Hamrock	J.W. Mulpas
	C.W. Levander	J.C. Wozniak
	C.J. Hightman	L.M. Bolin
	J. Stanley	C.A. Mannix
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	P.A. Vegas	R.C. Rosenbrock
	T.J. Tokish	E.E. Kendall
	S.J. Kelly	Deloitte & Touche, LLP

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
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Total NiSource ERS / MySpend Expenses 2015-2016

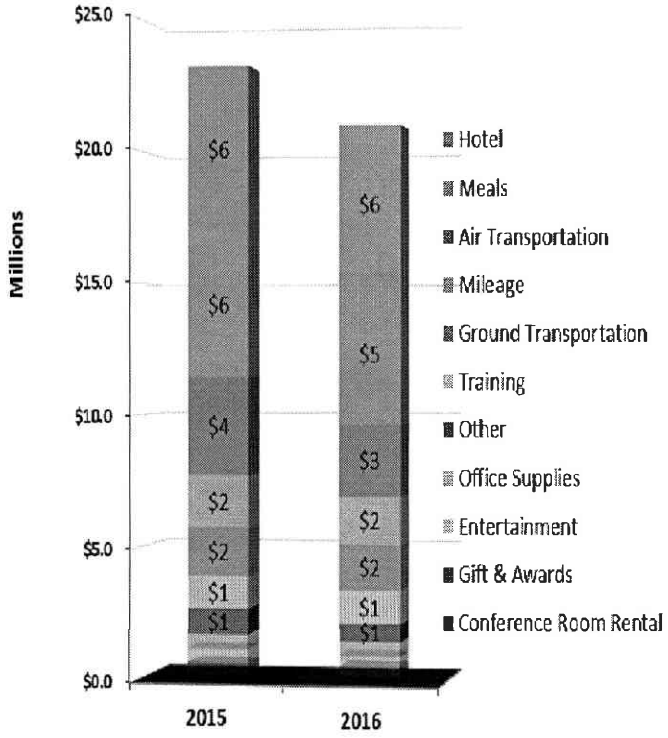


Overall total ERS & MySpend spending decreased ~10% from 2015 to 2016. The total number of employees submitting expenses increased by less than ~ 1% during 2016 (4,079 – 4,106).

NiSource ERS/MySpend Categories

Hotels, Meals and Air Transportation accounted for 67% of the spend in 2016.

Air Transportation, Other and Meals accounted for the largest variance from 2015.



Spend Category	2015 ERS Spend	2016 ERS & MySpend	Variance	% Change Y/Y
HOTEL	$ 6,224,608	$ 5,982,873	$ (241,736)	(4%)
MEALS	5,550,083	5,277,824	(272,259)	(5%)
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CONFERENCE ROOM RENTAL	177,929	166,855	(11,074)	(6%)
Total	**$ 23,213,346**	**$ 20,930,035**	**($2,283,311)**	**(10%)**

*The top three expense types within the Other category were as follows: "Safety Gear", "Contributions/Donations", and "Fees and Licenses".

Total "Gift" ERS/MySpend Expenses Category Trending 2015-2016

TOTAL ERS / MySpend GIFT TRANSACTIONS			
Expense Description	2015 ERS Spend	2016 ERS/My Spend	% Change Y/Y
Bereavement - Flowers/Food *	$ -	$ 19,115	N/A
Employee - Flowers	11,526	13,926	21%
Employee - Gift Card/Certificate	219,178	88,432	(60%)
Employee - Merchandise	143,159	140,827	(2%)
Employee - Retirement	4,580	7,613	66%
Non Employees	16,280	26,869	65%
Safety Awards - Taxable	6,273	17,146	173%
Safety Awards Non Taxable	8,233	16,163	96%
TOTAL ERS / MySpend GIFT TRANSACTIONS	**$ 409,230**	**$ 330,090**	**(19%)**

NOTE: The table above has been organized based upon significance of Gift spend in 2016. For a selection of transactions, Internal Audit verified that any taxable expenses have been included in employees' 2016 W-2.

* The expense description "Bereavement – Flowers/Food, was not a expense description within the prior ERS system; it was included as an expense category in My Spend.

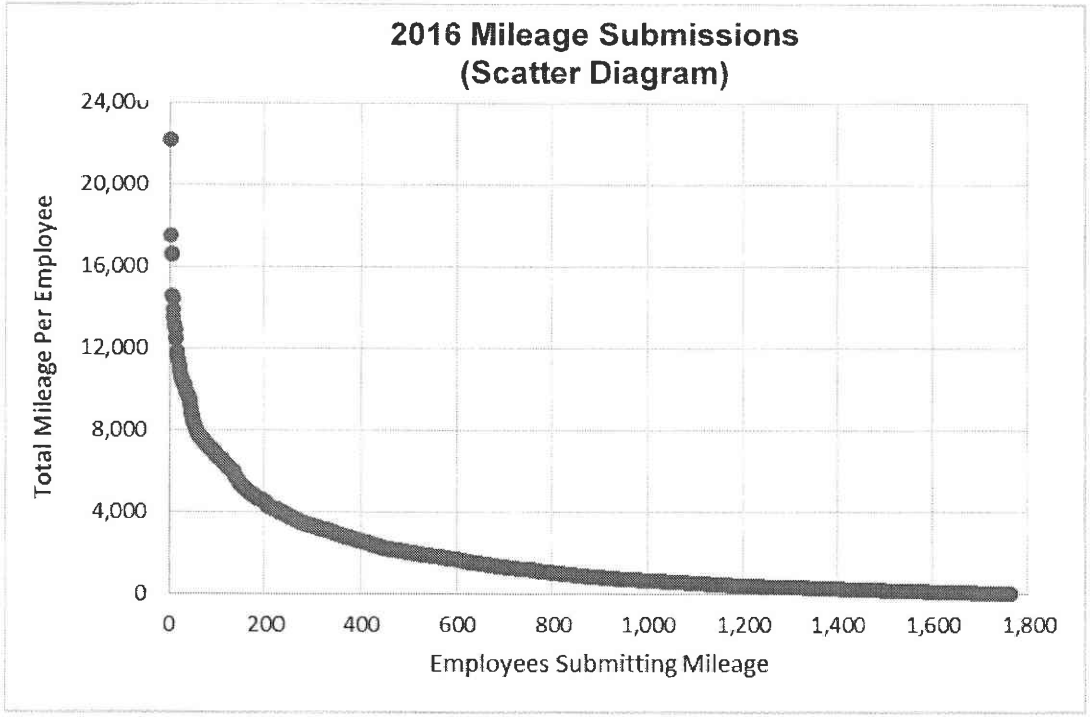
Note: The chart noted to the left can be found on MySource within the Supply Chain page (Credit Card & PCard Resources section) under the hyperlink ***"When to use corporate credit card?"***

NiSource

Corporate Credit Cards	Pcard	Fleet Card	Fuel Card	Expense Card	Don't use Credit Card
Card is Currently Issued by	*Citibank*	*ARI*	*WEX*	*AMEX*	
Business Meals - Offsite					
Business Meals - Onsite	X			X	
Catering for meetings				X	
Charitable Contributions					X
Dues & Memberships[2]				X	
Employee Gifts, Recognition[1]				X	
Entertainment - Reimbursable Buisness-related[2]				X	
Environmental Services					X
Fuel - Fleet Car			X		
Fuel - Rental Car				X	
Incidental Fleet Purchases - Low Dollar		X			
Incidental Fleet Purchases - Car Wash				X	
Materials - Inventory					X
Materials - Non inventory	X				
Meeting room deposits or rentals				X	
Meeting room equipment				X	
Services	X				
Special Memberships[2]					X
Supplies	X				
Training Supplies or books				X	
Travel - Airfare[2]				X	
Travel - Hotel Room/Tax[2]				X	
Travel - Rental Car				X	
Travel - Meals[2]				X	
Office Furniture					X

Notes:
[1] Defined in Employee Gift and Award and Reporting Accounting Policy
[2] Defined in Business Expense Reimbursement and Reporting Policy

2016 Mileage Submissions



Miles	Number of Employees
1 - 100	152
101 - 500	486
501 - 1,000	309
1,001 - 5,000	651
5,001 - 12,000	151
> 12,000 *	13
Total number of Employees Submitting Mileage	**1,762**

2017 Purchasing Card Audit

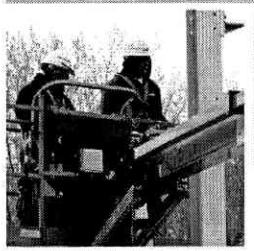
September 25, 2017

To: Karima Hasan Bey, Director Supply Chain
Jamie Ricci, Director Supply Chain

From: Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit

MSource®











Executive Summary

Internal Audit conducted a review of the controls and processes associated with Purchasing Cards (P-Cards) utilized across NiSource. The purpose of the review is to assess overall compliance with the conditions specific to P-Cards stated in the NiSource Corporate Credit Cards Policy and other training or communication materials for the period of January 1, 2016 through December 31, 2016.

The focus of the audit included the following procedures:

- Review the processes and controls associated with the overall use of P-Cards;
- Perform data analysis on P-Card transactions to identify any unusual items and/or trends; and
- For a selection of transactions, determine whether transactions incurred through a P-Card are consistent with company policies and Internal Revenue Service guidelines.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided to Management. Internal Audit would like to thank Supply Chain staff and management for their cooperation and time in support of this audit.

Summary Conclusions:

As a result of our procedures, Internal Audit identified two (2) **Moderate risk** audit findings related to process improvement opportunities. Please see the following recommendations based on the related condition/risk:

- Internal Audit identified multiple risk items within the P-Card submission and review process, primarily resulting from the lack of automated controls and established monitoring processes. Additionally, Internal Audit reviewed P-Card expenditure packets noting some packets had insufficient documentation as required by policy or were related to expenditures that did not adhere to Company policy.

    - Management should update the requirements outlined in the "Corporate Credit Card Policy" to clarify proper use of Company issued P-Cards. Management should also reinforce supervisor responsibilities related to approving expenses to ensure that adequate review occurs prior to approval. Finally, as Management is currently evaluating enhancements to the P-card process, Management should develop and implement controls that will automate the P-Card submission and review process, reducing the risk of instances of non-compliance as noted by Internal Audit through our sample testing approach.

Management Response:

As noted by Internal Audit, Management will be updating current policies to clarify the appropriate usage of P-Cards. Management will also have a change management plan focused on the communication and education to ensure users and supervisors are fully aware of their responsibilities as users and approvers of P-card activity as well as emphasizing appropriate and inappropriate uses of the card. This will be executed by June 30, 2018.

Additionally, Management is currently seeking approval of a business plan to implement a Credit Card Platform as part of the P2P solution. Implementation of this solution will add more automated controls and provide a greater governance platform that will reduce the risk of exceptions to policy and create enhancement to drive compliance. The Project team will stay aligned with Internal Audit throughout the planning and implementation process. The current target date for implementation of the total P2P solution is by December 31, 2019.

Background

The NiSource Corporate Credit Card Policy applies to all employees and representatives of the Company that are issued the following credit cards (Refer to **Appendix B** for a chart outlining the conditions for when to use each card):

Card Type	Administrator	Total 2016 Spend
Purchasing Cards	Citibank	$ 24,785,020
Fleet Cards*	ARI	$ 59,405
Fuel Cards*	WEX	$ 12,251,130
Employee Expense Cards	American Express	$ 20,930,035
TOTAL 2016 Corporate Credit Card Spend		$ 58,025,590

P-Cards are used as a payment method for small purchases (usually less than $1,000 per transaction) of materials, supplies, and certain project-related services. In order to obtain a P-Card, an employee must complete an application (which outlines the intended use of the card) and obtain approval from their supervisor. Starting in 2016, all cardholders are required to complete an LMS training which outlines the information referenced in **Appendix B**.

Once expenses are incurred, cardholders are responsible for providing a monthly packet (including matching receipts) to their supervisors for approval (evidenced via manual signature).

Approved packets are then sent to a third party vendor, 3SG, who reviews the packet for the following required components:

- Packet cover with approver signatures that match employee's supervisor (as identified on the NiSource Human Resources file provided. to 3SG)
- Statement for month in question.
- Receipts to match all transactions on statement.

Once 3SG determines that the submitted packet includes all the required components, it is uploaded into OnBase, a software which stores images of the packet pages for 7 years.

If 3SG finds the cardholder failed to submit all the required components, 3SG will notify Supply Chain who is responsible for following up with the employee.

* Fleet and Fuel card spend (cardholder spend only) was provided by the Fleet Administration Department and was not verified by Internal Audit or subject to audit procedures. Fleet and Fuel card spend, processes, and controls will be considered for future review.

Audit Scope and Approach

Internal Audit performed an audit of the processes and controls associated with the use of P-Cards within NiSource. The audit performed aligned with the following objectives:

Objective 1: Review the process and controls associated with the overall use of P-Cards.		
#	**Procedures**	**Findings Summary (Refer to Appendix A)**
1	Review the Corporate Credit Card policy, related training materials, and established processes and procedures performed to monitor P-Card spend and identify improvement opportunities.	**Finding #1 – See Page 5**

Objective 2: Perform data analysis on P-Card transactions to identify any unusual items and/or trends.		
#	**Procedures**	**Findings Summary (Refer to Appendix A)**
1	Provide analytical data for the current audit period's P-Card transactions and examine historical spending patterns to detect significant variations over time.	**Refer to Appendix C**

Objective 3: For a selection of transactions, determine whether transactions incurred through a P-Card are consistent with company policies and Internal Revenue Service guidelines.		
#	**Procedures**	**Findings Summary (Refer to Appendix A)**
1	Using a risk based sampling approach based on the analysis performed at Objective 2, select no less than 50 transactions from the period January 1, 2016 through December 31, 2016 and review the selections for adherence to the Corporate Credit Card policy and any associated tax implications.	**Finding #2 – See Pages 6-7**
2	For the selected transactions noted above, determine whether the supervisor performed the review as evidenced by signature signoff of the P-card packet.	

Findings

Objective #1, Procedure #1: Review the Corporate Credit Card policy and established processes and procedures performed to monitor P-Card spend and identify improvement opportunities.	**Risk Rating**
Finding #1: The processes and controls over P-Card expenses are manually intensive.	**Moderate**

Process Owner(s): Supply Chain Services

Executive Council Member Responsible: Michael Finissi, EVP Safety Capital Execution and Technical Services

Observation

Criteria: A company policy exists and procedures are in place to detect deviations from policy.

Condition: As a result of reviewing the Corporate Credit Card policy and processes and procedures established by Supply Chain to administer and monitor P-card spend, Internal Audit identified risks within the following processes:

- Cardholder Liability
- Supervisor Approval
- Supporting Documentation
- Accounting
- Quality Assurance/Quality Control

Please refer to **Appendix D** for a detailed description of the each process identified above, how that processes is executed for AMEX Employee Expense Cards compared to Citibank P-Cards, and what the overall risk is to the P-Card process.

As part of our review, Internal Audit has aligned with the Project team working on enhancing the "Procure to Pay" (P-to-P) process, noting that as part of their work, they have identified some of the same conditions, as noted above. The P-to-P team is currently working on developing enhancements to the P-card processes. Internal Audit will stay aligned with the Project team to fully understand any new controls and processes that will be developed through their ongoing work. Internal Audit also noted that the Project team is currently working to update/enhance the P-card policy and training for planned implementation in late 2017/early 2018 – these changes are currently being reviewed by Management for approval.

Risk/Impact: Lack of automated controls, quality assurance/quality control, and supporting documentation increases the risk of purchases which deviate from Company policy.

Recommendation/Management Response

Please refer to Slide 7 as Internal Audit has combined our recommendations and the related Management Responses due to the nature of our findings.

Findings (cont'd)

Objective #3, Procedure #1/#2: Select no less than 50 transactions from the period January 1, 2016 through December 31, 2016 and review the selections for adherence to the Corporate Credit Card policy and any associated tax implications.	**Risk Rating**
Finding #2: Expense transactions were identified that deviated from established policy requirements.	**Moderate**

Process Owner(s): Scott Kelly, VP Supply Chain

Executive Council Member Responsible: Michael Finissi, EVP Safety Capital Execution and Technical Services

Observation

Criteria: Expenses incurred using a P-Card are for a valid business purpose, are adequately supported and reviewed, and are in compliance with the Corporate Credit Card Policy.

Condition: As a result of the review of **50** transactions, Internal Audit identified **20** deviated from the established requirements of the Corporate Credit Card Policy:

- **15/20** of the selected transactions related to instances where the employee used the incorrect corporate credit card. (Refer to **Appendix B** for a table outlining when each type of card should be utilized.)
    - The majority of the transactions identified represented employee expenses, which should have been expensed using the employee's AMEX card and submitted through the MySpend application for approval.
- **4/20** of the transactions appeared to be Charitable Contributions based on the credit card transaction detail and related expense packet information.
- **1/20** of the selected transactions was classified as a Personal Transaction.

Internal Audit was unable to conclude on whether **16/50** transactions were in accordance with the policy due to the following:

- **10/50** did not have an clear business purpose.
- **3/50** of the selected transactions did not have an expense packet submitted.
- **3/50** of the selected transactions did not have matching receipts within the submitted packets.

14/50 of the selected transactions appeared to be in compliance with the Corporate Credit Card Policy as all required receipt documentation and sufficient information to determine the business purpose was provided within the Expense Packet. Internal Audit noted that the supervisor's signature was provided for all expense packets obtained.

Risk/Impact: Insufficient documentation, improper review, and/or employees lack of Company policy knowledge increases the risk of expenditures being out of company policy compliance.

Findings (cont'd)

Objective #3, Procedure #1/#2 (Cont'd): Select no less than 50 transactions from the period January 1, 2016 through December 31, 2016 and review the selections for adherence to the Corporate Credit Card policy and any associated tax implications.	**Risk Rating**
Finding #2: Expense transactions were identified that deviated from established policy requirements.	**Moderate**
Process Owner(s): Scott Kelly, VP Supply Chain **Executive Council Member Responsible: Michael Finissi, EVP Safety Capital Execution and Technical Services**	

Recommendation: Due to the conditions noted by Internal Audit for Objective 1 and 3, Internal Audit recommends that Management update the requirements outlined in the "Corporate Credit Card Policy" to clarify proper use of Company issued P-Cards. Management should also reinforce supervisor responsibilities related to approving expenses to ensure that adequate review occurs prior to approval. Finally, as Management is currently evaluating enhancements to the P-card process, Management should develop and implement controls that will automate the P-Card submission and review process, reducing the risk of instances of non-compliance as noted by Internal Audit through our sample testing approach.

Management Response

As noted by Internal Audit, Management will be updating current policies to clarify the appropriate usage of P-Cards. Management will also have a change management plan focused on the communication and education to ensure users and supervisors are fully aware of their responsibilities as users and approvers of P-card activity as well as emphasizing appropriate and inappropriate uses of the card. This will be executed by June 30, 2018. Additionally, Management is currently seeking approval of a business plan to implement a Credit Card Platform as part of the P2P solution.

Implementation of this solution will add more automated controls and provide a greater governance platform that will reduce the risk of exceptions to policy and create enhancement to drive compliance. The Project team will stay aligned with Internal Audit throughout the planning and implementation process. The current target date for implementation of the total P2P solution is by December 31, 2019.

Action Plan Owner: Jamie Ricci, Director Supply Chain

Target Remediation Date: June 30, 2019

Report Distribution

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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

NiSource

Corporate Credit Cards	Pcard	Fleet Card	Fuel Card	Expense Card	Don't use Credit Card
Card is Currently Issued by	*Citibank*	*ARI*	*WEX*	*AMEX*	
Business Meals - Offsite					
Business Meals - Onsite	X			X	
Catering for meetings				X	
Charitable Contributions					X
Dues & Memberships[2]				X	
Employee Gifts, Recognition[1]				X	
Entertainment - Reimbursable Buisness-related[2]				X	
Environmental Services					X
Fuel - Fleet Car			X		
Fuel - Rental Car				X	
Incidental Fleet Purchases - Low Dollar		X			
Incidental Fleet Purchases Car Wash				X	
Materials - Inventory					X
Materials - Non inventory	X				
Meeting room deposits or rentals				X	
Meeting room equipment				X	
Services	X				
Special Memberships[2]					X
Supplies	X				
Training Supplies or books				X	
Travel - Airfare[2]				X	
Travel - Hotel Room/Tax[2]				X	
Travel - Rental Car				X	
Travel - Meals[2]				X	
Office Furniture					X

Notes:

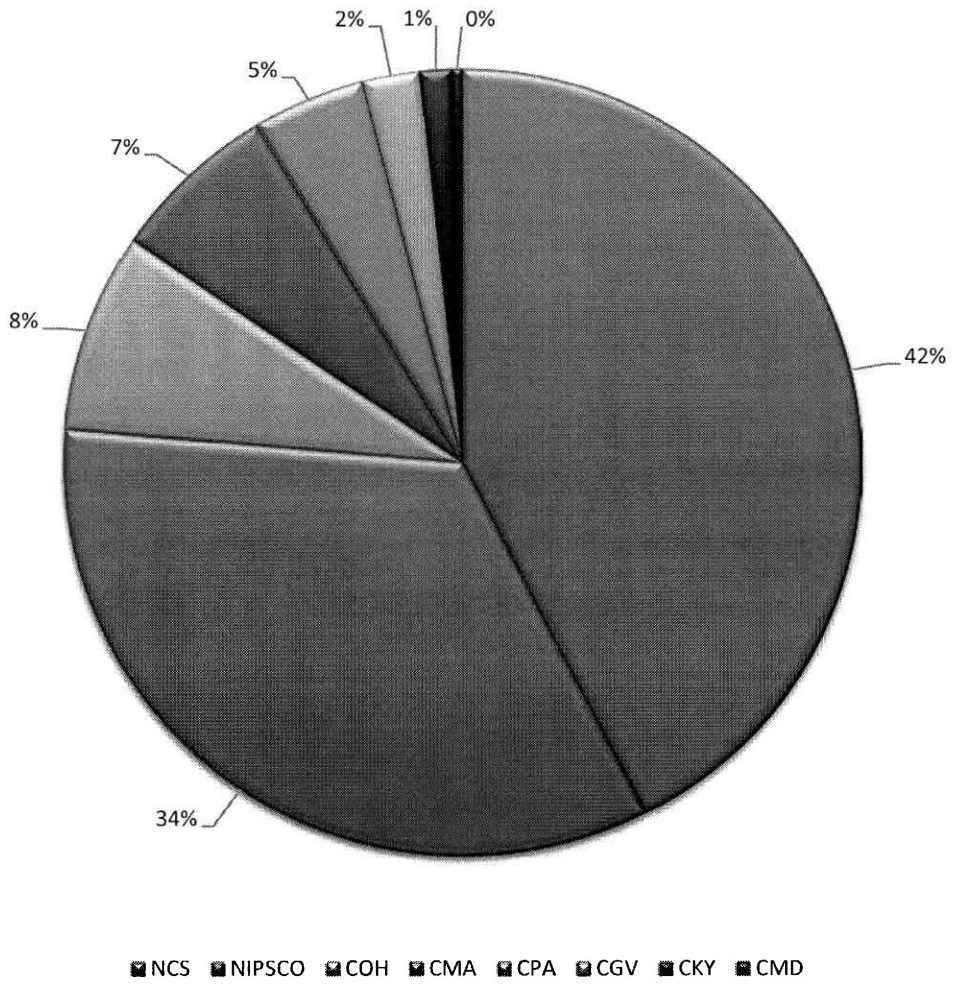
[1] Defined in Employee Gift and Award and Reporting Accounting Policy

[2] Defined in Business Expense Reimbursement and Reporting Policy

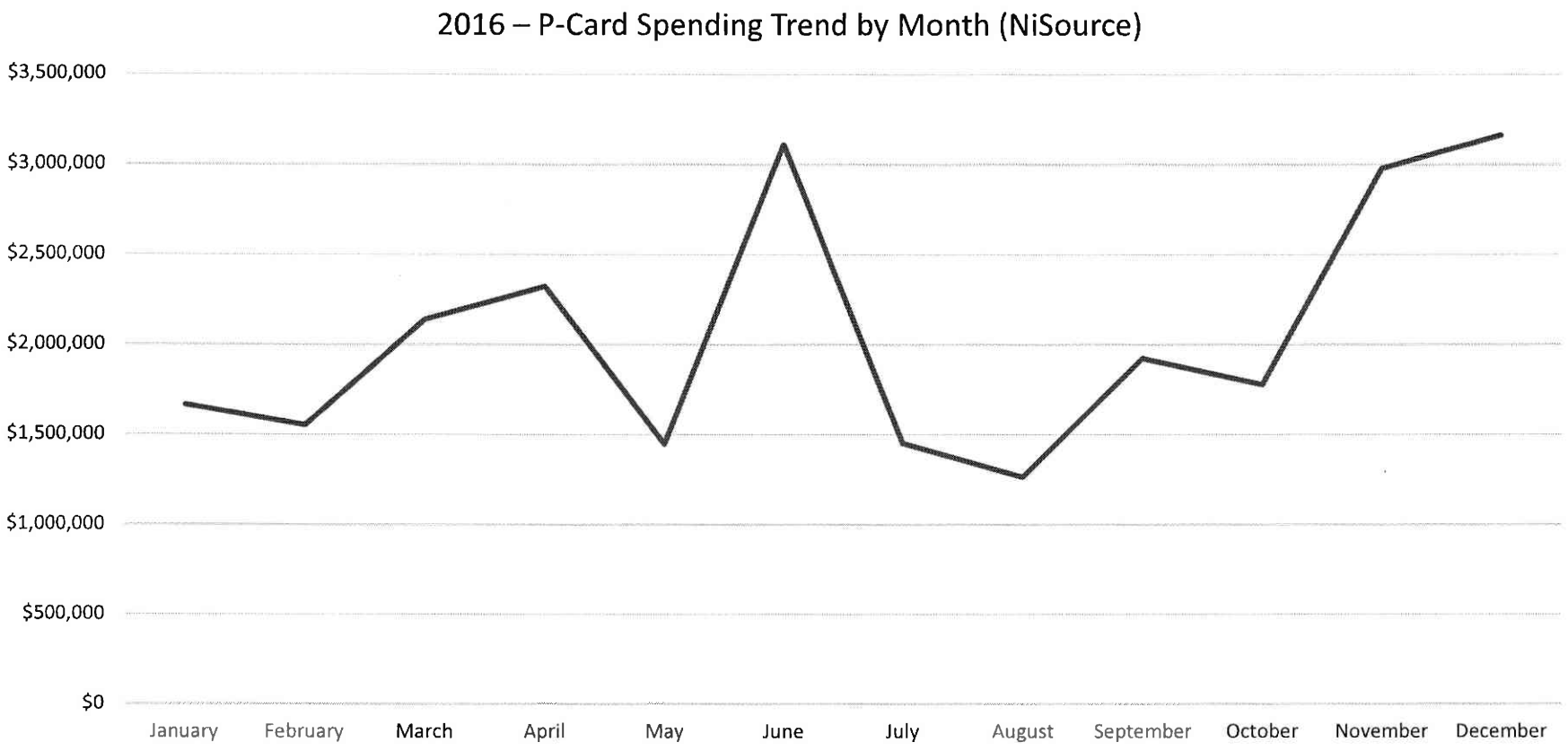
Appendix C

2016 Total P-Card Spend by Company	
Company	*Spend*
NCS	$10,521,857
NIPSCO	$8,405,348
COH	$2,030,762
CMA	$1,696,400
CPA	$1,124,250
CGV	$581,751
CKY	$323,239
CMD	$101,413
Total	$24,785,020

Percent of Total P-Card Spend by Company for 2016



Appendix C (cont'd)



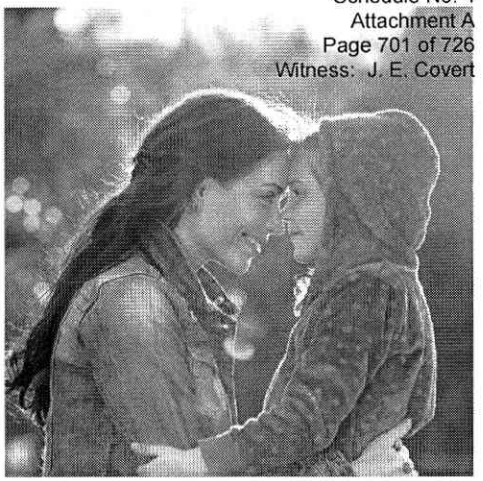
Appendix C (cont'd)

2016 P-Card Spend – "Top 10" Spend

Top 10 P-Card Spend Categories	Amount	Top Vendor Per P-Card Spend Category	Amount	% of Category
Direct Marketing - Catalog Merchants	$4,599,491	CDW DIRECT LLC	$4,462,507	**97%**
Direct Marketing - Other Direct Marketers	$4,409,226	LENOVO GROUP	$4,370,198	**99%**
Industrial Supplies - Not Elsewhere Classified	$2,391,847	ORR SAFETY	$555,656	**23%**
Mens, Womens, and Childrens Uniforms and Commercial Clothi	$1,476,253	ARROW UNIFORM	$919,843	**62%**
Direct Marketing - Combination Catalog and Retail Merchants	$1,115,754	OFFICE DEPOT	$1,096,772	**98%**
Home Supply Warehouse Stores	$758,728	LOWES	$290,944	**38%**
Commercial Equipment - Not Elsewhere Classified	$732,219	TEREX SERVICES	$271,585	**37%**
Eating Places, Restaurants	$694,357	MILOS DELI & CAFE - BR	$187,530	**27%**
Automotive Parts and Accessories Stores	$645,250	NAPA	$200,797	**31%**
Quick Copy, Reproduction, and Blueprinting Services	$470,016	DUPLI ENVELOPE & GRAPH	$440,288	**94%**
Top 10 Total	**$17,293,141**	**Top 10 Vendor Total**	**$12,796,121**	**74%**
Top 10 as a % of Entire 2016 P-Card Spend ($24.8M)	**70%**	**Top 10 Vendor as a % of P-Card Spend**	**52%**	

Appendix D

Supervisor Approval	1.Supervisors are notified electronically that expenses are pending their approval. 2.Approvals of expenses are electronically documented within the MySource application. 3.Identification of the proper supervisor to review is automated through the MySpend application which is tied to Peoplesoft HR tables and the dollar thresholds identified in the Nisource Requisition and Disbursement policy. MySpend will automatically route expense approval to the cardholder's 2nd level supervisor in the event of supervisor's absence or lack of approval. A cardholder can direct an an expense to another approver, however, the direct supervisor will be notified electronically.	1. Cardholders must present manual documents for supervisors to review. 2. A cardholder's supervisor is supports their review via manual signature. 3. In the event that the cardholder's supervisor is on vacation or on leave, the cardholder is responsible for identifying the proper alternate.	As the selection of the appropriate reviewer is manual for P-card purchases, the risk of inadequate supervisor review may be higher.
Supporting Documentation	1. Company policy outlines which types of expenses require receipts as supporting documentation, and MySpend is programmed to hold payment until all required documentation is included. 2. MySpend requires the completion of the business purpose field for each expense.	1. Receipts are required to be submitted in expense packets for all expenses incurred regardless of dollar value or expense category; however receipts are not required if the pcard is locked for purchase from one vendor only.	As the compilation of the P-card expense packets is manual, the level of detail provided may be inconsistent for cardholder to cardholder (e.g. some cardholders provide itemized receipts and include a business purpose while others do not).
Accounting	Carholders can change or modify the account string billing pool and department for each indiviaul expense and all accounting code selections are visible to supervisor for review. MySpend validates all accounting code entries to ensure that valid entries are submitted.	Policy notes that correct accounting is the responsibility of the cardholder and supervisor. Each card is assigned a cost accounting code upon initial approval of the card application and purchases will be automatically charged to that code. The code can be changed by anyone who has access; however, there are some users (designated as "super users") who are approved as part of the application process to have the ability to log in to Citibank to review transactions and update accounting strings for the current billing cycle. If the default account is changed, a new accounting code only affects future charges and the visibility of these changes to the supervisor may be limited based on the level of review performed.	The supervisor's visibility of accounting code selections may be limited at the time of review based on the level of review performed. Additionally, monitoring controls are not currently in place to review whether the accounting codes assigned to indivudal cards should be updated when an employee changes roles or departments. Monthly HCC reports are created for budget owners. If their budget is getting erroneous charges, a change can be requested. It is, however a manual update.
Quality Assurance/Quality Control	The MySpend application is programed to identify transactions meeting certain criteria (based on risk). Accounts Payable performs "pre-audits" of these identified transactions and the expense will not be paid until the audit is performed and resolved.	Supply Chain monitors cardholders who have not submitted expense packets to 3SG; however transactions are not reviewed at the individual level for compliance with policy.	As P-card expenses are not subject to an additional level of monitoring like those processed in MySpend, deviations from Company Policy may not be detected if supervisor does not perform an adequate review.



2017 Regulatory Order Implementation Review

December 19, 2017

To: Mark Balmert, Director Regulatory
James Racher, Director Regulatory
Paula Strauss, Director Regulatory

From: Linda Black, Senior Internal Auditor
Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit



Executive Summary

Internal Audit conducted a review of the processes and controls associated with the implementation of rate case orders issued by state commissions ("Commission Orders") to all NiSource Gas companies for the audit period of January 1, 2016 through December 31, 2016.*

Note: NIPSCO Gas and Columbia Gas of Ohio did not have Rate Case Orders during the period noted above.

The purpose of this audit is to assess overall compliance with the requirements outlined in Commission Order(s), with a focus on those requirements which impact customer rates or field operations. This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided to NiSource Management. Internal Audit would like to thank Regulatory Strategy & Support and the State Regulatory for their cooperation and time in support of this audit.

Summary Conclusions:

Internal Audit reviewed each Commission Order to identify the requirements of the related NiSource company and selected **18** requirements for further testing. The table below represents the breakdown of selections by each Company:

Selections	
CKY	4
CMD	4
CPA	5
CVA	2
CMA	3
TOTAL	**18**

Internal Audit worked with the State Regulatory teams to identify the owners for each of the 18 selections and obtained the necessary support to validate that all 18 of the requirements were implemented in accordance with the language in the related State Commission Order. (See **Appendix B** for language from the Commission Order requirements selected.)

*Columbia Gas of Massachusetts (CMA) rate case order (DPU15-50) was issued on October 7, 2015. As a result of the DPU15-50 Order, the "Step Adjustment" was "stamped approved" on October 31, 2016, from the Department of Public Utilities. As such, the "Step Adjustment" was included in Internal Audit's selection population.

Background

A rate case is a legal proceeding by which a utility sets rates to recover its cost of delivering gas to the customer. It is also the main vehicle a utility has available to propose changes to its tariffs that set the terms of service. The rate case process is lengthy resulting in either a settlement agreement by the intervening parties or through litigation to produce a hearing examiner's report and a final order by the state public utility commission.

1. **Filing:** (File) - A term commonly used to describe both the process of submitting a document to a court, and sometimes the term is a reference to the document itself.
2. **Testimony:** Evidence of a witness; evidence given by a witness, under oath or affirmation; as distinguished from evidence derived from writings, and other sources.
3. **Rebuttal Testimony:** Testimony that attempts to show the evidence that was presented by an opposing party is not accurate or true.
4. **Stipulation:** An agreement between the parties in a legal action. Some stipulations are oral, but the courts and administrative agencies often require that stipulations be put in writing, signed and filed with the tribunal.
5. **Settlement:** Another word for Stipulation.
6. **Order: (Internal Audit made the selections from the Order)** In civil proceedings, every direction or mandate of a judge or a court which is not a judgment or legal opinion (although both may include an order) directing that something be done or that there is prohibition against some act. In administrative proceedings an order is usually the final opinion of the agency.
7. **Compliance Filing:** The docketing or filing of a document in order to satisfy a mandate from a court or administrative agency.

Audit Scope and Approach

Internal Audit will perform a review of the processes and controls associated with the implementation of regulatory rate case orders issued by state commissions ("Commission Orders") to all NiSource Gas companies for the audit period of January 1, 2016 through December 31, 2016.

Note: NIPSCO Gas and Columbia Gas of Ohio did not have Rate Case Orders during the period noted above.

Objective 1: Determine whether requirements have been implemented in accordance with Commission Orders.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Select a sample (**18**) of requirements included within Orders issued during the audit period of January 1, 2016 through December 31, 2016, including a focus on those which impact customer rates or operational execution, and determine whether selected requirements have been implemented in accordance with Commission Orders.	**No Findings Noted.**

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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

Co.	Rate Case Order(s)
CKY	An increase to base rates in the amount of $13,086,000 reflecting adjustments to customer charges associated with Columbia Gas of Kentucky's various rate schedules as well as to volumetric rates.
CKY	AMRP recovery is now included in base rates rather than a separate surcharge until subsequent AMRP filings. Per the tariff, an annual balancing adjustment (BA) filing to true-up for actual 2016 expenditures will be made by March 31, 2017 to be effective on May 31, 2017 (Unit 1 June). An annual AMRP filing to recover projected expenditures for calendar year 2018 will be made by October 15, 2017 to be effective on January 2, 2018 (Unit 1 January). A BA true-up filing for 2017 expenditures is not anticipated since AMRP costs for 2017 are being recovered through base rates. For purpose of AMRP, Columbia Gas of Kentucky specified ROE will be 9.5%. A WACC of 7.62% will be used to calculate AMRP rates further grossed up for federal and state taxes.
CKY	Effective in January 2017 business, Columbia Gas of Kentucky will change depreciation rates developed in the rate case by an outside consultant which reflect the ASL (Average Service Life) methodology. (Refer to Attachment A for depreciation rates effective January 1, 2017 and prior rates.)
CKY	The uncollectible charge-off factor will change from 0.00568963 to 0.00923329.
CMD	This rate case filing included an additional $194,985 of costs related to remediation of the Hagerstown Service Center site to be amortized over a ten (10) year period. The case requested return on (Rate Base treatment) and return of (amortization) of these costs in a similar manner as approved in the last three Columbia Gas of Maryland Rate Case and Make Whole filings (Case No. 9316, 9354 and 9390).
CMD	Columbia Gas of Maryland will implement a program to reimburse developers of residential buildings with four or more individually-metered units for the cost of installing house piping up to the positive net present value of the new load.

Appendix B (cont'd)

Co.	Rate Case Order(s)
CMD	Columbia Gas of Maryland will implement rates effective October 27, 2016.
CMD	Effective November 2016, CMD will begin to implement main and service line extension programs to provide 100 feet of main line and 150 feet of service line to new heating customers.
CPA	The Merchant Function Charge (MFC) shall be 1.52% for the residential customers and 0.37% for non-residential customers. These are the charges as filed by Columbia Gas of Pennsylvania . The revised MFC rates shall be reflected in the Purchase of Receivables (POR) discount rates.
CPA	Columbia Gas of Pennsylvania will implement rates effective December 19, 2016.
CPA	Customers will not be charged separate processing fees for bill payments using third party debit card, credit card, Automated Clearinghouse (ACH) or walk-in locations. All processing fees will be considered "above -the-line" for ratemaking purposes. Parties reserve their rights to challenge in a future base rate proceeding the recovery of processing fees through rates, and Columbia reserves the right in response to cease payment of such third-party costs.
CPA	Columbia Gas of Pennsylvania agrees to extend its Third Party Notification Program to include all Customer Assistance Program (CAP) reminder notices, including notices of Potential CAP removal such as income verification requests. Additionally, Columbia agrees to make Third Party Notification forms available at local Community Based Organizations (CBO), and will encourage CBOs to include Third Party Notification forms in processing other assistance. Customers should be informed that completion of a Third Party Notification form is completely voluntary.
CPA	Columbia's Large Customer Incentive (LCI) proposal is approved with the following modification: customers participating in the program will be required to pay 30% of the uneconomic portion upfront or have a repayment period that does not exceed ten (10) years. Columbia agrees to provide the following information related to Columbia's LCI proposal, as applicable: (a) Main and service investment per project; (b) Net Present Value (NPV) model results for each project, inclusive of the main and service allowances; (c) Required LCI deposit by project; (d) Number of customers connected by each project and number of subsequent connections; (e) Annual non-gas revenues received by project separated into base rate and LCI repayment revenues (principal and interest stated separately); (f) Annual usage by project; (g) Average investment cost per customer by project; and (h) Number of new service requests for projects in which the NPV model is run, but the project does not proceed to construction.

Appendix B (cont'd)

Co.	Rate Case Order(s)
CVA	The Company will refund, with interest and pursuant to such terms and conditions as specified by the Commission, the revenues collected under the interim rates implemented effective for the first billing unit of October 2016 that are in excess of the level agreed to herein. The refund must be made within 90 days of the issuance of the final order. Interest upon the ordered refunds shall be computed from the date payments of monthly bills were due to the date each refund is made at the average prime rate for each calendar quarter, compounded quarterly, using the average prime rate values published in the Federal Reserve Bulletin or in the Federal Reserve's Selected Interest Rates (Statistical Release H. 15) for the 3 months of the preceding calendar quarter. The refunds ordered herein may be credited to the current customers' accounts. Refunds to former customers shall be mailed by check to the last known address of such customers when the refund amount is $1 or more. CVA may offset the credit or refund to the extent of any undisputed outstanding balance for the current or former customer. No offset shall be permitted against any disputed portion of an outstanding balance. CVA may retain refunds to former customers when such refund is less than $1; however, such refunds shall be promptly made upon request. All unclaimed refunds shall be subject to 55-210.6:2 of the Code. Within 60 days of completing the ordered refunds, CVA shall deliver to the Commission's Divisions of Energy Regulation and Utility Accounting and Finance a report showing that all refunds have been made pursuant to the Final Order and detailing the costs incurred in effecting such refunds and the accounts charged. CVA must bear all costs incurred in making the refunds.
CVA	The increase in the Company's jurisdictional non-gas base revenue requirement will be $28.5 million.
CMA	Bay State Gas Company d/b/a Columbia Gas of Massachusetts shall provide capacity-eligible transportation customers with their proportionate share of the pipeline refund it received pursuant to the Federal Energy Regulatory Commission's decision in Portland Natural Gas Transmission System, Docket No. RP10-729-001 , Opinion No. 524-A (2015); and it is FUTHER ORDERED: That Bay State Gas Company d/b/a Columbia Gas of Massachusetts shall file with the Department of Public Utilities within thirty (30) days of the date of this Order its proposed refund method to transportation customers, along with the incremental costs associated with the return of the refund; and it is FUTHER ORDERED: That Bay State Gas Company d/b/a Columbia Gas of Massachusetts shall comply with all other directives contained in this Order. (D.P.U. 15-171).
CMA	Columbia Gas of Massachusetts to implement new rates effective November 1, 2016.
CMA	The November 1, 2016 "Step Adjustment" is an element of the rate settlement entered into by the Company, the Attorney General of Massachusetts ("AGO") and the Low-Income Weatherization and Fuel Assistance Program Network (the "Network") (together, the "Settling Parties", as approved by the Department of Public Utilities (the "Department") in Columbia Gas of Massachusetts, D.P.U. 15-50 (2015) (the "Settlement")). Section 1.3 of the Settlement provided for an additional increase to base revenues of $3.6 million, over and above the level of base revenues allowed effective November 1, 2015.

2017 Service Line Record (TAP Card) Completeness and Quality Review

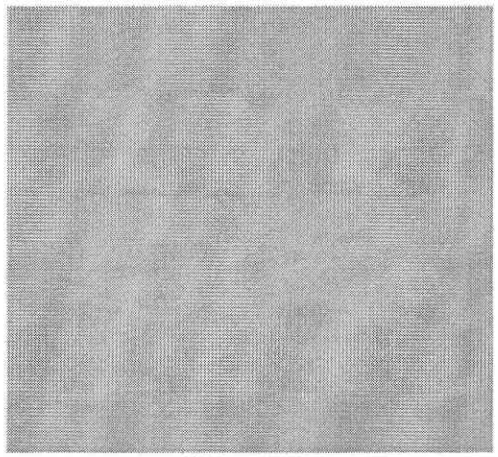
September 21, 2017

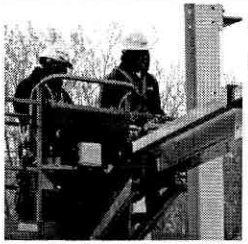
To: Don Eckstein, Sr. VP Gas Operations
Rob Mooney, VP Engineering & Construction Gas

From: Linda Black, Senior Internal Auditor
Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit

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Executive Summary

- GS 3020.012 defines certain fields as "always required" depending on the activity being performed in the field; however, it also notes that "any other field required to describe the information being added or changed in Company systems shall also be completed, including the sketch"
    - Certain fields on the SLR are duplicative of information housed in other systems of record (i.e. WMS/DIS); however, the SLR is the only record which captures other key fields;
        - All of the fields which are only captured on the SLR are not defined as "always required"
- GS 3020.012 includes a section which outlines requirements for when and how SLRs are required to be reviewed depending on whether the work was completed by Construction Services or by Field Operations; however, when defining how to complete the "Reviewed By" field, it notes that the field only has to be completed "if" the operations center has a review process in place.
- GS 3020.012 does not currently include the most current SLR template or reference where updates are maintained.
- GS 3020.012 does not currently outline documentation requirements for manifold settings.

*** NIPSCO Gas was not included in this review as it follows separate processes and Gas Standards.**
****Service Line Records (SLR) can be/are also referred to as TAP Cards.**

Step 2: For a selection of 85 job orders executed during the period of October 1, 2016 through March 31, 2017, ensure the required fields on SLRs have been completed in accordance with Gas Standard 3020.012.

- Through review of a selection of **85** job orders, Internal Audit noted the following:
    - **39** of the **85** SLRs showed fields left blank or incomplete which were specified by the standard as "always required"
        - Of the required fields, only the "*By*" field, or the field which captures the individual performing the pressure test, is not retained in another system of record
    - **68** of the **85** SLRs contained other fields which were left blank and/or were incomplete, which while not specifically identified as "always required" would be key to understanding the changes made to the gas pipeline
        - 4 of these fields/categories are only captured on the SLR and are not currently captured within any other system of record. (See **Slide 6** for definitions of these fields.)

Step 3: Provide a subsample of 20 job orders from the population above to the Pipeline Safety & Compliance (PS&C) Technical Support Team to complete a review for accuracy and completeness.

- As many determinations on which fields are necessary requires a certain level of technical expertise, Internal Audit requested the PS&C team to perform a detailed review of 20 SLR selections. In addition to confirming the missing fields identified by Internal audit, the following is a summary of the results of PS&C's review:
    - Information populated on SLR was inaccurate or did not agree to corresponding systems of records.
    - Information deemed by PS&C as "key to understanding the changes made to the gas system" was missing from SLR.

Summary Conclusions and Management Response:

As a result of our procedures, Internal Audit has provided the following moderate risk findings to Management:

- NiSource Management should consider revising Gas Standard 3020.012 to clarify what fields are required (taking into consideration information that is available within systems of record) and assessing the associated risk.
    - Management noted that GS 3020.012 is currently under revision by the Gas Standards Team and audit recommendations will be considered as updates are made.
- NiSource Management should establish a formal and consistent quality assurance and quality control process to ensure data accuracy.
    - Management is developing and implementing a formal quality assurance and control process to ensure accuracy of the data included on the Service Line Records. As recommended in the Audit finding, Automation of the SLR via MDT is currently being evaluated. The estimated timeline for completion will be December 31, 2018.

Audit Scope and Approach

Internal Audit performed a review of the processes and controls associated with completing and retaining required fields on Service Line Records (SLR) in accordance with Gas Standard 3020.012.

Note: GS 3020.012 applies to all NiSource companies excluding NIPSCO and the Brockton Operating Center within Massachusetts.

Objective 1: Determine whether the required fields on SLRs (TAP Card) have been accurately completed in accordance with Gas Standard 3020.012.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Review Gas Standard 3020.012 to ensure that documentation requirements are clearly outlined and are aligned with operational practices.	**Finding #1 – See Page 5**
2	For a selection of 85 job orders executed during the period of October 1, 2016 through March 31, 2017, ensure the required fields on SLRs have been completed in accordance with Gas Standard 3020.012.	**Finding #2 – See Pages 6-7**
3	Provide a subsample of 20 job orders from the population above to the PS&C Technical Support Team to complete a review for accuracy and completeness.	

Findings

Objective 1, Procedure #1: Review GS 3020.012 to ensure that documentation requirements are clearly outlined and are aligned with operational practices.	**Risk Rating**
Finding #1: GS 3020.012 includes language which is unclear or conflicting, potentially resulting in the inability to consistently capture required information.	**Moderate**

Process Owner(s): Don Eckstein, Sr VP Gas Operations; Rob Mooney, VP Engineering & Construction

Executive Council Member Responsibility: Pablo Vegas, Executive VP & President Columbia Gas Group & Mike Finissi, Executive VP Safety Capital Exec Technical Services

Observation

Criteria: GS 3020.012 provides clearly outlined documentation requirements which are aligned with operational practices.

Condition: Internal Audit reviewed GS 3020.012 and noted the following:

- GS 3020.012 defines certain fields as "always required" depending on the activity being performed in the field; however, it also notes that "any other field required to describe the information being added or changed in Company systems shall also be completed; including the sketch"
    - Certain fields on the SLR are duplicative of information housed in other systems of record (i.e. WMS/DIS); however,
        - All of the fields which are only captured on the SLR are not defined as "always required"
- GS 3020.012 includes a section which outlines requirements for when and how SLRs are required to be reviewed depending on whether the work was completed by Construction Services or by Field Operations; however, when defining how to complete the "Reviewed By" field, it notes that the field only has to be completed "if" the operations center has a review process in place.
- GS3020.012 does not currently include the most current SLR template or reference where updates are maintained.
- GS3020.012 does not currently outline document requirements for manifold settings.

Risk/Impact: SLRs may be missing information and/or contain inaccurate information in the required fields related to job orders in accordance with Company Gas Standard 3020.012.

Recommendation: NiSource Management should consider revising Gas Standard 3020.012 to clarify what fields are required, taking into consideration information that is available within systems of record and assessing the associated risk with documentation requirements.

Management Response: GS 3020.012 is currently under revision by the Gas Standards Team and audit recommendations will be considered as updates are made.

Action Plan Owner: Lee Reynolds, Manager Gas Standards

Target Remediation Date: 12/31/2018

Findings

Objective 1, Procedure #2/#3: Ensure the required fields on SLRs (within OpenText) have been completed in accordance with Gas Standard 3020.012.	**Risk Rating**
Finding #2: Selections included in a population of 85 SLRs displayed blanks or incomplete data within fields identified as "always required" or other key fields in accordance with Gas Standard 3020.012 and the most recent SLR template was not always utilized.	**Moderate**

Process Owner(s): Don Eckstein, Sr VP Gas Operations; Rob Mooney, VP Engineering & Construction

Executive Council Member Responsibility: Pablo Vegas, Executive VP & President Columbia Gas Group & Mike Finissi, Executive VP Safety Capital Exec Technical Services

Observation

Criteria: Process and procedures are being followed to support that SLRs are completed accurately, after work in the field is completed.

Condition: Internal Audit selected a sample of 85 job orders completed across the Columbia Companies during the period October 1, 2016 through March 31, 2017, noting the following:

- **39** of the **85** SLRs showed fields left blank or incomplete which were specified by the standard as "always required"
    - Of the required fields, only the "*By*" field, or the field which captures the individual performing the pressure test, is not retained in another system of record
        - Missing or incomplete from sample population **17** times
- **68** of the **85** SLRs contained other fields which were left blank and/or were incomplete, which while not specifically identified as "always required" would be key to understanding the changes made to the gas pipeline.
    - **4** of these fields/categories are only captured on the SLR and are not currently captured within any other system of record. See below for definitions:
        - *Install Method*: Provides a code which corresponds to the installation method. (e.g. "OC" represents an open cut installation)
            - Missing or incomplete from sample population **14** times.
        - *Trenchless Technology fields*: Includes indication as to whether camera work was performed or is required to be scheduled.
            - Missing or incomplete from sample population **56** times. (Please refer to Trenchless Technology Audit Report)
        - *Reviewed By and Date (Office Use Only)*: The company employee reviewing the SLR for accuracy IF a review process is in place. (Refer to Conclusions under Step 1 for discussion of the included "IF" condition)
            - Missing or incomplete from sample population **36** times.
        - *Sketch*: An illustration, including, at minimum, the customer building(s), street(s), location of tap, service line segments, location of curb box, and distances in feet.
            - Internal Audit noted instances where sketches appeared to lack detail; however, more technical expertise would be needed to formally conclude. (Refer to **Slide 7** for further discussion.)

Findings

Objective 1, Procedure #2/#3: (Cont'd)	Risk Rating
Finding #2: (Cont'd)	Moderate

Process Owner(s): Don Eckstein, Sr VP Gas Operations; Rob Mooney, VP Engineering & Construction

Executive Council Member Responsibility: Pablo Vegas, Executive VP & President Columbia Gas Group & Mike Finissi, Executive VP Safety Capital Exec Technical Services

Observation (Cont'd)

- As many determinations on which fields are necessary requires a certain level of technical expertise, Internal Audit requested the PS&C team to perform a detailed review of **20** SLR selections. In addition to confirming the missing fields identified by Internal Audit, the following is a summary of the results of PS&C's review:
    - Information populated on SLR was inaccurate or did not agree to corresponding systems of records. Examples of errors identified included:
        - SLR stated 56 feet as the length of service installed while WMS stated 58 feet.
        - Incorrect MAP number listed on the SLR as compared to information in included in ARC Reader.
    - Key Information was missing from SLR. Examples include:
        - Special Conditions code – Indicates any/all special features that apply to the service line. (separate codes for each EFV installed)
        - Sketch missing measurements and directional north indications – Illustrate, at a minimum, of customer building(s), street(s), location of tap, service line segments, location of curb box. Indicate distances (in feet), offsets involved, and/or unusual configurations. Also, indicate the direction of north with an arrow and "N".
        - Materials utilized – Documentation of materials installed.
        - Pressure Test – Information for one or both segments of the service line, as applicable to the work being performed.

Risk/Impact: SLRs may be missing information and/or contain inaccurate information in the required fields related to job orders in accordance with Company Gas Standard 3020.012.

Recommendation: NiSource Management should establish a formal and consistent quality assurance and quality control process to ensure data accuracy. Additionally, Management should review opportunities for automation through MDTs or other electronic devices.

Management Response: Management is developing and implementing a formal quality assurance and control process to ensure accuracy of the data included on the Service Line Records. As recommended in the Audit finding, Automation of the SLR via MDT is currently being evaluated. The estimated timeline for completion will be December 31, 2018.

Action Plan Owner: Jennifer Hammond, Construction Quality Manager

Target Remediation Date: 12/31/2018

CC:

J. Hamrock
D.E. Brown
C.J. Hightman
M. Kempic
C.W. Levander
V. Sistovaris
M.J. Finissi
P.A. Vegas
S.K. Surface
T.L. Tucker
T.A. Dehring
C.J. Anstead
D.A. Levesque
S.L. Markle
J.L. Hammonds
K.D. Swiger
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D.G. Cote
R. Kitchell
M.J. Davidson
W.F. Davis
S.W. Sylvester
P.D. Wilson
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Deloitte & Touche

Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

2017 Service Line Record (TAP Card) Documentation Review

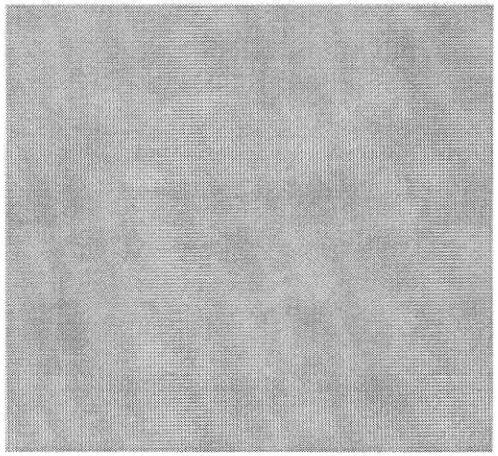
June 19, 2017

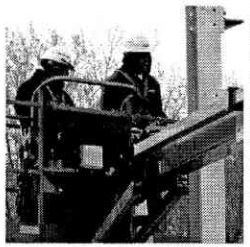
To: Don Eckstein, Sr. VP Gas Operations
Rob Mooney, VP Engineering & Construction Gas

From: Linda Black, Senior Internal Auditor
Chris Marlatt, Lead Internal Auditor
Jaclyn Callahan, Manager Internal Audit
Ryan Binkley, Director Internal Audit

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Executive Summary

Effective as of October 1, 2016, the Gas Standards for the Columbia Companies* required the completion of a Service Line Record (SLR)**, a standard manual form containing job order details, when specific work is completed in the field. Once completed, field personnel are responsible for submitting SLRs to 3SG, a third party, who is contracted to scan SLRs so that they can be uploaded and stored within a system of record called OpenText.

The focus of this review was to ensure that established processes and procedures followed by field personnel support the timely and accurate completion of required SLRs and that all completed SLRs are available in OpenText after the work was completed in the field.

Internal Audit selected a sample of 60 job orders completed across the Columbia Companies during the period October 1, 2016 through December 31, 2016, noting the following:

- SLRs for 14 out of 60 selections (23%) were not available in Open Text at the time of testing (March 20, 2017).
- At the time of testing, the 14 selections identified above ranged from 80 to 167 days past the date of completion in the field.

Through discussions with Management, Internal Audit noted that there is not a consistent process to ensure the completion and subsequent submission of SLRs to 3SG, or other methods, for scanning, resulting in the possibility that SLRs may not be uploaded into OpenText in a timely manner or at all.

Additionally, while a Management-led initiative team had previously identified potential quality assurance/quality controls (QA/QC) processes to complement the handoff of completed SLRs to 3SG, these processes and controls have not been consistently adopted across the Columbia Companies and established metric reports are not currently monitored. (See **Appendix B**).

* NIPSCO Gas was not included in this review as it follows separate processes and Gas Standards.
** Service Line Records (SLR) can be/are also referred to as TAP Cards.

Executive Summary (cont'd)

Summary Conclusions:

As a result of our procedures and related finding (moderate risk), Internal Audit has provided the following recommendation to Management:

NiSource Management should define and implement a process which establishes owners, timelines, and metrics associated with the creation of SLRs and the utilization of 3SG or other methods to ensure that all completed SLRs are uploaded into OpenText.

Note: While not reported herein, Internal Audit is currently completing additional procedures to review SLRs available in OpenText for accurate completion of required fields and will provide results at a later time.

Management Response:

Management agrees with the audit findings and has conducted a detailed review of current practices across all operating companies and work groups. This review identified process and performance gaps. Management will clarify performance expectations, institute process improvements, and implement performance monitoring and controls in this area. Management expects to remediate the identified exceptions by 12/31/2017 and requests a follow-up audit in 2018.

Audit Scope and Approach

Internal Audit performed a review of the processes and controls associated with completing and retaining Service Line Records (SLR) in accordance with Gas Standard 3020.012.

Note: GS 3020.012 applies to all NiSource companies excluding NIPSCO and the Brockton Operating Center within Massachusetts.

Objective 1: Determine whether SLRs have been created and maintained in accordance with Gas Standard 3020.012.		
#	**Procedures**	**Findings Summary** (Refer to Appendix A for rating scale)
1	Verify that SLRs were created and available within OpenText for a sample of 60 job orders completed across the Columbia Companies during the period October 1, 2016 through December 31, 2016.	**Finding #1 – See Page 5**

Findings (cont'd)

Procedure #1: Verify that SLRs were created and available within OpenText for a sample of 60 job orders completed across the Columbia Companies during the period October 1, 2016 through December 31, 2016.	**Risk Rating**
Finding #1: SLRs for 14 out of 60 selections (23%) were not available in Open Text at the time of testing (March 20, 2017).	**Moderate**
Process Owner(s): Don Eckstein, Sr VP Gas Operations; Rob Mooney, VP Engineering & Construction **Executive Council Member Responsible:** Pablo Vegas, Executive VP & President Columbia Gas Group & Mike Finissi, Senior VP Capital Execution	**Target Remediation Date:** **12/31/2017**

Observation

Criteria: Processes and procedures are established to support that SLRs are timely and accurately uploaded into OpenText after work in the field is completed.

Condition: Internal Audit noted 14 out of 60 (or 23%) SLRs selected were not available in OpenText at the time of testing (March 20, 2017). Through discussion with Management, it was determined that a consistent process does not exist to ensure the completion and subsequent submission of SLRs to 3SG, or other methods for scanning.

Additionally, while a Management-led initiative team had previously identified potential quality assurance/quality control (QA/QC) processes to complement the handoff of completed SLRs to 3SG, these processes and controls have not been consistently adopted across the Columbia Companies and established metric reports are not currently monitored. (See **Appendix B**).

Risk/Impact: SLRs may not be uploaded into OpenText in a timely manner or at all.

Recommendation

NiSource Management should define and implement a process which establishes owners, timelines, and metrics associated with the creation of SLRs and the utilization of 3SG or other methods to ensure that all completed SLRs are uploaded into OpenText.

Management Response

Management agrees with the audit findings and has conducted a detailed review of current practices across all operating companies and work groups. This review identified process and performance gaps. Management will clarify performance expectations, institute process improvements, and implement performance monitoring and controls in this area. Management expects to remediate the identified exceptions by 12/31/2017 and requests a follow-up audit in 2018.

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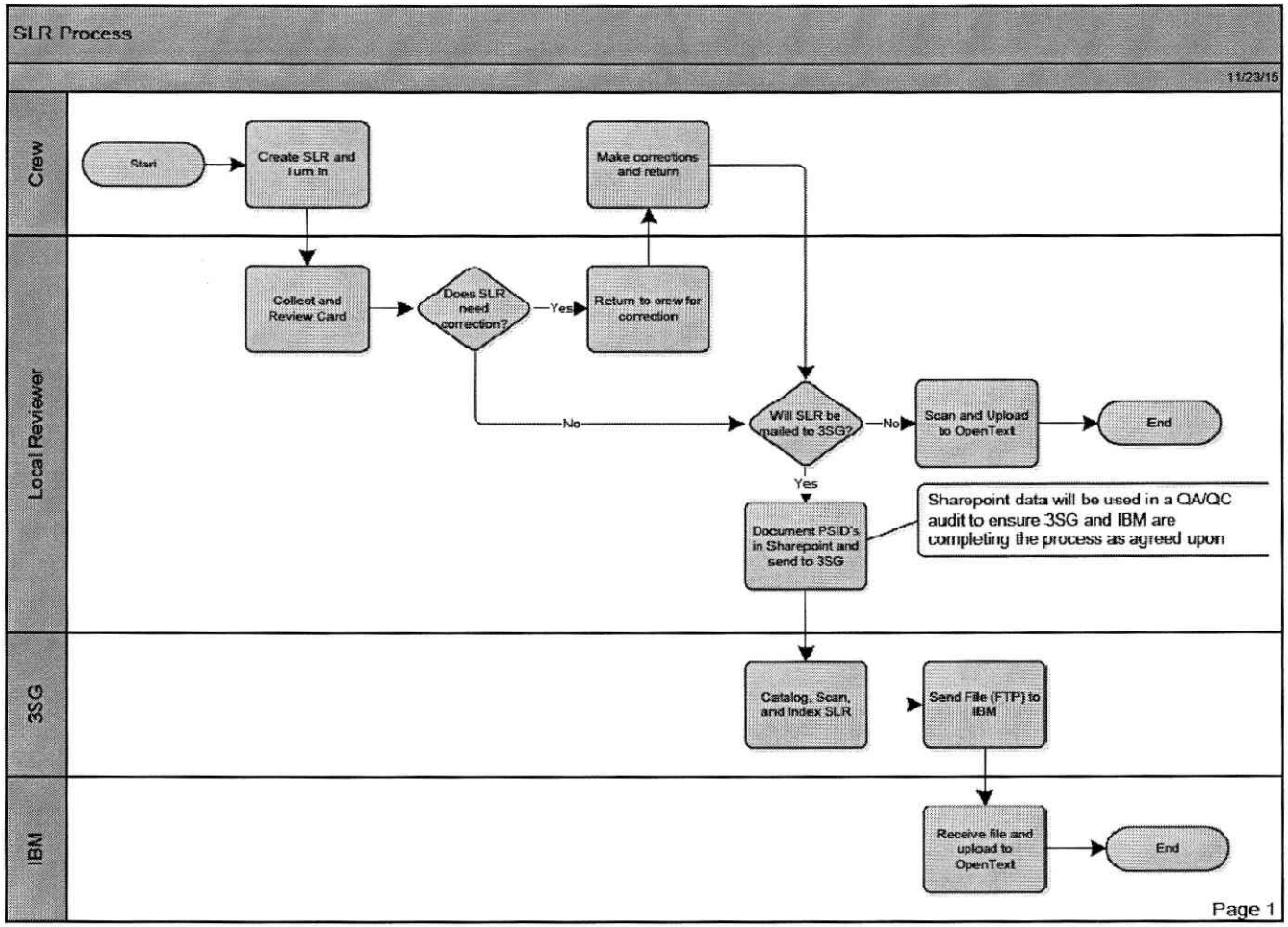
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D.E. Brown
C.J. Hightman
M. Kempic
C.W. Levander
V. Sistovaris
M.J. Finissi
P.A. Vegas
S.K. Surface
T.L. Tucker
T.A. Dehring
C.J. Anstead
D.G. Cote
R. Kitchell
M.J. Davidson
W.F. Davis
S.W. Sylvester
P.D. Wilson
J.S. Pino
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Appendix A

Rating Scale for Audit Findings	
High	Requires corrective action due to high risk of one or more of the following: safety risk; material financial statement impact or fraud; significant violation of established policies and procedures; process/control environment breakdown for critical business processes; high likelihood of legal/regulatory fines or penalties for non-compliance; or significant brand/reputational exposure. *High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.*
Moderate	Requires corrective action due to moderate risk of one or more of the following: safety risk; potential for significant financial statement impact or fraud; process/control design deficiency; process/control not operating effectively; moderate likelihood of legal/regulatory fines or penalties; or potential for negative publicity/brand impact. *Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.* *Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.*
Low	Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels. *Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.* *Internal Audit does not perform follow-up review procedures on low risk findings.*

Appendix B

Service Line Record (SLR) Process Flow Chart (Process Proposed by Management-led Initiative)



COLUMBIA GAS OF PENNSYLVANIA, INC
53.53 III. BALANCE SHEET AND OPERATING STATEMENT
A. ALL UTILITIES

19. List extraordinary property losses as a separate item, not included in operating expenses or depreciation and amortization. Sufficient supporting data must be provided.

Response: Columbia Gas of Pennsylvania, Inc. has no extraordinary property losses.

COLUMBIA GAS OF PENNSYLVANIA, INC
53.53 III. BALANCE SHEET AND OPERATING STATEMENT
E. GAS UTILITIES

27. Submit a schedule for gas producing units retired or scheduled for retirements subsequent to the test year showing station, units, Mcf capacity, hours of operation during test year, net output produced and cents/Mcf of maintenance and fuel expenses.

Response:

None.