

COLUMBIA GAS OF PENNSYLVANIA, INC.

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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 (Kempic):

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 (Kempic): 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 (Johnson): Refer to Exhibit No.103, Schedule No. 8.

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

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

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

Response (Kempic): 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 (Kempic): 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 (Kempic): 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 (Kempic): 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 (Kempic): 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 (Kempic): 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 (Kempic): 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 (Kempic): 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.

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- (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 (Kempic): Refer to Exhibit No.2.

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

Response (Johnson): 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 (Johnson): 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 (Johnson): 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 (Johnson): 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 the Company's response to Standard Data Request GAS-ROR-13 for projected revenues and expenses.

Please see the Company's response to Standard Data Request GAS-ROR-14 for the projected construction budget.

Columbia Gas of Pennsylvania, Inc.  
 Docket No. R-2022-3031211  
 Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended <u>November 30, 2020</u>		Fully Projected Future Test Year Twelve Months Ended <u>December 31, 2022</u>		Witness
		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
<b>53.52</b>	<b><u>Applicability: Public Utilities Other Than Canal, Turnpike, Bridge, and Wharf Companies</u></b>					
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			Kempic
53.52(a)1	The specific reasons for each change.	13	1	113	1	Kempic/Johnson
53.52(a)2	The total number of customers served by the utility.	3 13	1	103 113	1	Siegler Kempic
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	Siegler Kempic
53.52(a)4	The effect of the change on the utility's customers.	3 13	1	103 113	1	Siegler Kempic
53.52(a)5	The direct or indirect effect of the proposed change on the utility's revenue and expenses.	13	1	113	1	Kempic/Johnson
53.52(a)6	The effect of the change on the service rendered by the utility	13	1	113	1	Kempic/Johnson
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	Kempic/Johnson
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	Kempic/Johnson
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	Kempic/Johnson
53.52(a)10	Plans the utility has for introducing or implementing the changes with respect to its ratepayers.	13	1	113	1	Kempic/Johnson
53.52(a)11	FCC, FERC or Commission orders or rulings applicable to the filing.	13	1	113	1	Kempic/Johnson
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			Kempic/Johnson

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		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
53.52(b)1	The specific reasons for each Increase or decrease.	13	1	113	1	Kempic/Johnson
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 Siegler Kempic
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	Siegler Kempic
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	Siegler Kempic
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	Siegler Kempic
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	Siegler Kempic
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)(2).	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	<b>53.53 I. VALUATION</b> <b>A. ALL UTILITIES</b>					
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		Danhires

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		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
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 the 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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		Exhibit	Schedule	Exhibit	Schedule	
	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. <u>Column E divided by the total of the figure in Column D.</u>	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. <u>Government statistical releases.</u>	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. <u>Column E divided by the total of the figures in Column D.</u>	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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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.I.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
<b>53-53-I.C</b>	<b>53-53.I VALUATION</b> <b>C. GAS UTILITIES</b>					
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		Siegler

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	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		Siegler
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		Danhires
<b>53-53.II.A</b>	<b>53-53.II. RATE RETURN A. ALL UTILITIES</b>					
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-term 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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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		Harding
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		Harding
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		Harding

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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		Covert
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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	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		Kempic
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		Harding
<b>53-53.II.C</b>	<b>53-53.II. RATE RETURN C. GAS UTILITIES</b>					
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	<b>53-53.III. BALANCE SHEET AND OPERATING STATEMENT A ALL UTILITIES</b>					
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
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	Danhires
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
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	Kempic
53-53.III.A40	Adjustments which are estimated shall be fully supported by basic information reasonably necessary.	13	4	113	3	Miller
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
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
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
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
53-53.III.A47	Submit a schedule showing rate of return on facilities allocated to serve wholesale customers.	11		111		Johnson
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	Harding
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	Harding
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	Harding
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		Harding

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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		Harding
	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		Harding
53-53.III.A53	Submit a schedule showing a breakdown of the deferred income taxes by state and federal per books, <u>pro-forma existing rates, and under proposed rates.</u>	7		107		Harding
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		Harding
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		Harding
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		Harding
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		Harding
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		Harding
53-53.III.A59	Provide details of the Federal Surtax Credit allocated to the Pennsylvania jurisdictional area, if applicable.	7		107		Harding
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		Harding
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		Harding

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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		Harding
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		Harding
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		Harding
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		Harding
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		Harding
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		Harding
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		Harding

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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		Harding
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		Harding
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		Harding
<b>53-53.III.E</b>	<b>53-53.III.BALANCE SHEET AND OPERATING STATEMENT</b> <b>E. GAS UTILITIES</b>					
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	Siegler
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		Siegler
53-53.III.E.5	Submit a schedule showing the sources of gas supply associated with annualized MCF sales.	12	1	112	1	Siegler

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53-53.III.E.6	Supply, by classification. Operating Revenues - Miscellaneous for test year	3		103		Siegler
53-53.III.E.7	Provide details of respondent's attempts to recover uncollectible and delinquent accounts.	16		116	1	Siegler
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		Siegler
53-53.III.E.9	Describe the procedures involved in determining whether forfeited discounts or penalties are applied to customers billing.	3		103		Siegler
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		Siegler
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		Siegler
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	Bartos
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		Siegler
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		Siegler

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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, <del>whether sales are to affiliated companies, and any other pertinent information</del>	3		103		Siegler
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		Siegler
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
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	Siegler
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	Bartos
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		Siegler



Columbia Gas of Pennsylvania, Inc.  
Docket No. R-2022-3031211  
Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended <u>November 30, 2020</u>		Fully Projected Future Test Year Twelve Months Ended <u>December 31, 2022</u>		Witness
		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
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	Siegler
53-53.III.E.23	Submit a schedule showing fuel cost in excess of base compared to fuel cost recovery for the period <u>two months prior to test year and the test year</u>	12	3	112	2	Siegler
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	Siegler
53-53.III.E.25	Submit calculations supporting energy cost per MCF and operating ratio used to determine increase <u>in costs other than production to serve additional load</u> .	12	4	112	2	Siegler
53-53.III.E.26	Submit detailed calculations for bulk gas transmission service costs under supply and/or interconnection agreements.	12	4	112	2	Siegler
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		Siegler
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	Siegler
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	Siegler
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 MCF 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 MCF 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.  
Docket No. R-2022-3031211  
Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended <u>November 30, 2020</u>		Fully Projected Future Test Year Twelve Months Ended <u>December 31, 2022</u>		Witness
		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
	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	Harding
53-53.III.E.36	State the amount of gas, in MCF, obtained through various suppliers in past years.	12	4	112	2	Siegler
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		Siegler
53-53.III.E.38	Identify company's policy with respect to replacing customers lost through attrition.	10	4	110	4	Siegler
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	Danhires
<b>53-53.IV.B</b>	<b>53-53.IV. RATE STRUCTURE</b> <b>B. GAS UTILITIES</b> 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	Johnson
53-53.IV.B.2	Provide a statement of testimony describing the complete methodology of the cost of service study.	11		111		Johnson
53-53.IV.B.3	Provide a complete description and back-up calculations for all allocation factors.	11		111	4	Johnson
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	Bartos
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		Siegler
53-53.IV.B.6	Supply copies of all present and proposed Gas Tariffs.	14	2	114	1	Danhires
53-53.IV.B.7	Supply a graph of present and proposed base rates on hyperbolic cross section paper.	11		111	5	Siegler

Columbia Gas of Pennsylvania, Inc.  
 Docket No. R-2022-3031211  
 Referenced by Commission Regulations

Commission Regulation Number	Commission Regulation	Historic Test Year Twelve Months Ended <u>November 30, 2020</u>		Fully Projected Future Test Year Twelve Months Ended <u>December 31, 2022</u>		Witness
		<u>Exhibit</u>	<u>Schedule</u>	<u>Exhibit</u>	<u>Schedule</u>	
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		Danhires
53-53.IV.B.9	Supply a cost analysis supporting minimum charges for all rate schedules.	11		111	2 - 3	Johnson
53-53.IV.B.10	Supply a cost analysis supporting demand charges for all tariffs which contain demand charges.	11		111		Johnson
53-53.IV.B.11	Supply the net fuel clause adjustment by month for the test year.	12	6	112	2	Siegler
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	Siegler
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	Bartos
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	Siegler
<b>53.62</b>	<b>53.62 RECOVERY OF FUEL COSTS BY GAS UTILITIES</b> 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	Bartos
	Volumetric Portion of Load Growth Adjustment	10	9	110	9	Bartos
	Estimated Number of Bills and Normalized Sales Volumes	10	9	110	9	Bartos
	Future Test Year Sales Forecast	10	9	110	10	Bartos
	Adjustment to Purchase Gas Expense	12	7	112	3	Siegler
	Recovery of Fuel Costs by Gas Utilities (1307-F)	12	8	112	4	Siegler

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, 2021. 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 operations.

Response: Exhibits explaining the derivation of the amounts used for projecting a future test year (12 months ending November 30, 2022) and a fully projected future test year (12 months ended December 31, 2023) 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.

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 Exhibit 13, Schedule 4 Attachment A for copies of internal audits. There were no independent audit reports performed specifically for Columbia Gas of Pennsylvania during the test year and prior calendar year.

	Date of Report	Audit	Report
1	02/24/20	Emergency Preparedness and Response Plan Audit (NiSource)	YES
2	03/03/20	Odorization Monitoring Process / Documentation (Columbia Gas Distribution Companies)	YES
3	03/03/20	Cross Bore Identification & Remediation(NiSource Gas Distribution Companies)	YES
4	03/05/20	Software Asset Management Design – Advisory Memo	YES
5	03/12/20	SMS Mitigation Proposal Plan Audit	YES
6	04/17/20	Planning IT Migration – Advisory Memo	YES
7	05/15/20	2020 Tie-In Audit	YES
8	07/13/20	2020 Finding Follow Up: Abnormal Operating Conditions on Customer-Owned Services - Columbia Gas of Pennsylvania	YES
9	07/28/20	NiSource Officer Expense Audit	YES
10	07/28/20	Employee Expense Audit & Analytics (2019 Annual Period)	YES
11	07/28/20	IT Modernization – Human Capital Management SDLC (Design and Build Phases)	YES
12	07/29/20	2019 Pension Benefit Follow Up	YES
13	07/30/20	2019 Pension Trust and Benefits (NiSource)	YES
14	11/01/20	Cyber - Vulnerability Management Advisory Memo	YES
15	02/05/21	NiSource IAM Maturity - Advisory Review	YES
16	02/18/21	Internal Audit Follow-Up - 2020 Emergency Preparedness and Response Plan	YES
17	02/22/21	NiSource Corporate Services Company Cost Allocation Controls	YES
18	03/08/21	Pipeline Records and Electronic Maps (Columbia Gas Companies)	YES
19	03/15/21	NiSource Inc. Contact Center Technology Modernization Program	YES
20	03/16/21	NiSource Corporate Services Company Robotic Process Automation (RPA) Controls Execution	YES
21	April 2021	NiSource Corporate Services Company - Information Technology Third Party Vendor Risk Advisory Review	YES
22	05/11/21	NiSource Corporate Services Company - Cybersecurity Hardware Asset Management	YES
23	07/26/21	NiSource Gas Distribution Companies Critical Valve Inspection & Remediation	YES
24	10/06/21	NiSource Inc. Gas Meter Shop General Controls Internal Audit Report	YES
25	11/09/21	NiSource Inc. NiSource Next Program Risk Management Review	YES
A	02/04/20	2019 SCADA IT General Computer Controls Design (Attorney-Client Privilege)	No



# 2019 Emergency Preparedness and Response Plan Audit - NiSource

February 24, 2020

To: Don Eckstein, Senior VP Gas Operations Support  
Pat Gyure, Director Corporate Compliance & Business Continuity

From: Natalie Ladd, Lead Auditor  
Lin Koh, Director of Internal Audit



## Executive Summary

Internal Audit performed a review over the new gas segment Emergency Preparedness and Response Plan (EPRP) created in 2019. The EPRP focuses on the gas segment and integrates the Incident Command System (ICS) as a standardized approach to command, control, and coordination of emergency response. Internal Audit evaluated the communication and training of the EPRP to management and employees. Internal Audit also assessed the adequacy of plan administration and reviewed how the EPRP integrates into the Corporate Crisis Management Plan (CCMP). The electric segment has a Storm Management Emergency Response Plan, which is out of scope for this audit. The audit period for review was January 1, 2019 through December 31, 2019.

Based on procedures performed, Internal Audit noted the following findings:

- *Moderate Risk Findings*
  - Vacant ICS roles with no identified backup or only 1 identified backup exists.
  - While general ICS training has occurred, position specific training and practical exercises have not occurred for individuals with roles below the Command and General Staff leadership level or for front line leaders/supervisors and a plan has not yet been established to train these levels.
  - Some Command and General Staff leaders have incomplete training.
  - Key actions resulting from After Action Reviews are not clearly prioritized, assigned, and tracked. A process for communicating lessons learned to incident/training participants has not been established.
- *Low Risk Findings*
  - Training has not yet exercised emergency response using ICS at LNG or Underground Gas Storage facilities.
  - The process for updating, tracking, and communicating ICS roles is not documented.

*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.*



# Background

## Emergency Preparedness & Response Plan

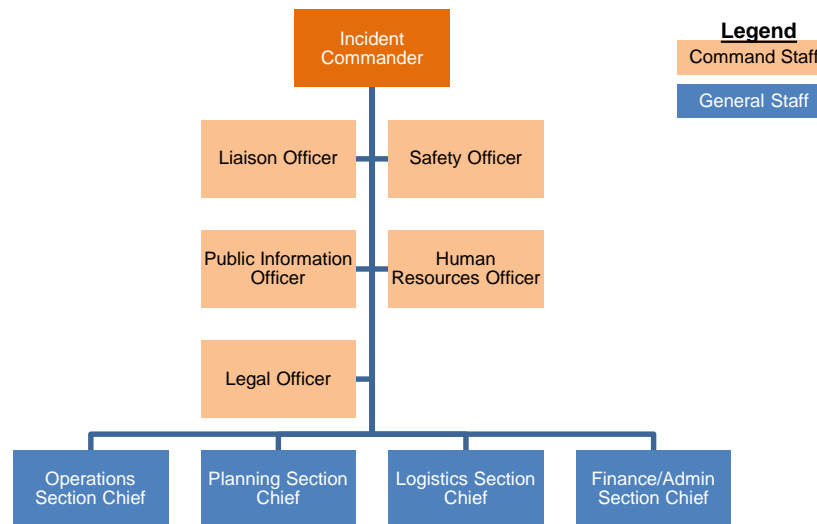
The Emergency Preparedness and Response (EP&R) team was formed in early 2019 to address and enhance NiSource's emergency response to gas incidents. The team created a new Emergency Preparedness and Response Plan (EPRP) to provide a framework for system-wide management of NiSource's response to gas related incidents. The plan was finalized in Q3 2019 and the beginning roll out of the plan, including role assignment and training, occurred in Q3 and Q4 2019. One of the guiding principles of the plan is to "collect feedback and measure our performance to ensure continuous improvement and the effectiveness of our processes."

## Incident Command System (ICS)

The EPRP framework is based on the Incident Command System (ICS), an established management system designed to enable effective and efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. ICS is flexible and scalable, and can be used for incidents of any type, scope, or complexity.

## ICS Organizational Structure and Roles

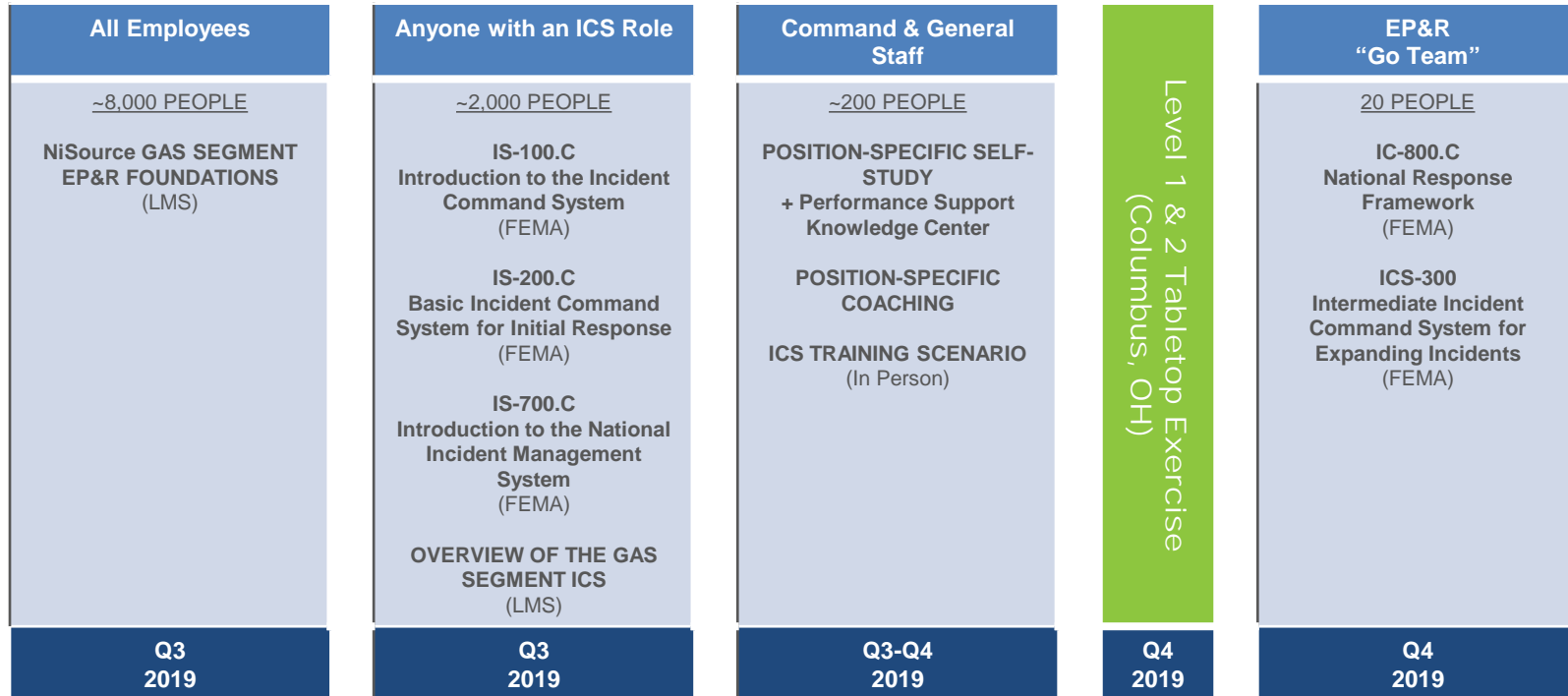
The ICS is organized around functional areas, each led by a Section Chief or Officer who reports directly to the Incident Commander. Each area has a structure of roles that serve a specific function and can either be sourced through internal or external resources. Each Section Chief or Officer has the responsibility of activating roles within their functional area. The EP&R team manages the assignment and training of ICS roles. Refer to the figure below for a high level view of the functional areas:



# Background

## Emergency Preparedness & Response Training

The EP&R team created a multi-year training and exercise framework to educate employees on the EPRP and ICS principles. Training in 2019 was organized in the following way:



## Third-Party Evaluation of the Training and Exercise Program

In late 2019, NiSource engaged Nixon & Associates to offer benchmarking and evaluation services related to the Training and Exercise program. Nixon & Associates provided the EP&R team with a written report evaluating NiSource's emergency preparedness and response program and specific observations from the December 9 Tabletop Exercise. The final section of this report includes recommendations for the company to consider as its emergency planning process moves forward.

# Background

## Corporate Crisis Management Plan

In 2019, NiSource also enhanced its corporate crisis response efforts by revising the NiSource Corporate Crisis Management Plan (CCMP). The CCMP defines a corporate crisis as any Level 1 or Level 2 incident, as defined by the NiSource Gas EPRP (see Appendix B). Once a corporate crisis has been determined, a Crisis Commander is named and a Crisis Management Team (CMT) is formed. For a gas operations related corporate crisis, the day-to-day responsibility for crisis management response is delegated to Incident Command and the Gas EPRP, while the Crisis Commander and CMT provide strategic direction and communicate with the Board of Directors and high-level elected and agency officials. The CCMP integrates the EPRP into the plan and clearly defines when a Gas Operations incident is deemed a Corporate Crisis. In addition, the role of the Crisis Management Team (CMT) is clearly defined for Gas Operations Incidents that are deemed a Corporate Crisis.

# Audit Scope and Approach

The audit procedures are aligned as follows:

<b>Objective 1:</b> Assess whether the EPRP is communicated to management and employees.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Evaluate whether identified ICS roles were communicated to specific individuals.	<b>Finding #1 – See Page 7</b>
2	Review whether individuals with ICS roles were trained over the plan.	<b>Finding #2 – See Page 8-9</b>
		<b>Finding #3 – See Page 10-11</b>
		<b>Finding #4 – See Page 12</b>
3	Review the protocols in place for identifying and capturing ICS role changes.	<b>Finding #5 – See Page 13</b>
<b>Objective 2:</b> Assess the adequacy of the EPRP administration and ownership.		
1	Observe EPRP drills and tabletop exercises and evaluate how lessons learned are incorporated into after action plans.	<b>Finding #6- See Page 14 (Refer to Appendix B)</b>
2	Review the process for capturing and integrating lessons learned after an emergency event.	<b>Finding #6 – See Page 14</b>
3	Review the protocols in place for plan revisions and updates.	<b>No Findings Noted</b>
<b>Objective 3:</b> Review how the EPRP is integrated into the CCMP.		
1	Evaluate whether clear lines of communication exist between the gas segment EPRP and Executive Management.	<b>No Findings Noted</b>
2	Review whether role alignment exists among the gas segment EPRP, the CCMP, and the Gas Emergency manual.	<b>No Findings Noted</b>

# Findings

<p><b>Audit Objective #1, Procedure #1:</b> Evaluate whether identified ICS roles were communicated to specific individuals.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> 28 ICS roles (94 total designees) across NiSource are either 1) vacant with no identified backups or 2) only 1 designee was identified with no identified backup as of 12/13/2019.</p> <p>Note: These vacancies do not include any Command or General Staff leadership roles (Officers and Section Chiefs); rather, these roles are at deeper levels in the ICS.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Don Eckstein, SVP Gas Operations Support  <b>Executive Council Member Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b>  <b>12/31/2020</b></p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Qualified personnel are appointed to serve in ICS roles and backups have been identified for each role.  <b>Condition:</b> Vacant ICS roles with no identified backup or only 1 identified backup exists.  <b>Risk/Impact:</b> Vacant ICS roles may prohibit efficient and effective emergency response.</p>	
<p><b>Recommendation</b></p> <p>Management should work to identify individuals to fill vacancies and provide them with training. If a pool of candidates will be used to fill vacancies, management should have a plan for identifying, training, and activating pool candidates.</p>	
<p><b>Management Response</b></p> <p>This is a valid concern, and one that has been identified as a high priority for 2020. Currently we have filled 82% of ICS positions. Our target goal for 2020 is to fill 90% of our ICS positions. Our stretch goal is to fill 100% of our ICS positions, although we recognize that will remain an ongoing challenge because of turnover in the organization and ongoing training needs. We receive a monthly extract from NiSource’s Human Resources department, which our team uses to make changes based on movement of people to other departments or leaving the company. Some roles were left vacant because we do not have equivalent positions or skillsets at NiSource, and we are creating new training by the end of 2020 for those vacant roles.</p>	

# Findings

<p><b>Audit Objective #1, Procedure #2:</b> Review whether individuals with ICS roles were trained over the plan.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> Position specific training and practical ICS scenario training/exercises have not occurred for individuals with ICS roles below the Command and General Staff leadership level. In addition, limited training over ICS concepts and the EPRP has occurred for front line leaders/supervisors who play a role in responding to gas emergencies, but are not a part of the ICS structure. A plan has not yet been established to train these levels. Training of the EPRP has been focused at the Command and General Staff leadership level.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Don Eckstein, SVP Gas Operations Support  <b>Executive Council Member Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p>
	<p>12/31/2020</p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Employees with ICS roles are trained and exercised in their assigned emergency roles.</p> <p><b>Condition:</b> While general ICS training has occurred, position specific training and practical exercises have not occurred for individuals with roles below the Command and General Staff leadership level or for front line leaders/supervisors and a plan has not yet been established to train these levels.</p> <p><b>Risk/Impact:</b> A lack of position specific and practical exercises for individuals below the Command and General Staff may prohibit efficient and effective emergency response.</p>	
<p><b>Recommendation</b></p> <p>Management should create a plan to provide training over ICS concepts, individual positions, and practical exercises for individuals with ICS roles below the Command and General Staff leadership levels. Management should determine how front line leaders/supervisors will be trained over ICS concepts and emergency response at NiSource.</p>	
<p><b>Management Response</b></p> <p>Refer to slide 9 for the Management Response to Finding #2.</p>	

# Findings

<b>Audit Objective #1, Procedure #2:</b> Review whether individuals with ICS roles were trained over the plan.	<b>Risk Rating</b>
<b>Finding #2 (Continued)</b>	<b>Moderate</b>
<b>Process Owner(s): Don Eckstein, SVP Gas Operations Support</b> <b>Executive Council Member Responsible: Pablo Vegas, EVP &amp; President Gas Utilities</b>	<b>Target Remediation Date:</b> <b>12/31/2020</b>

## Management Response

We created a tiered strategy for building ICS capabilities across the NiSource Gas Segment. The first tier of training focused on the Command and General Staff positions because of the critical need of a clear leadership structure during incident response.

Position specific training below the Command and General Staff is currently under development for roles that do not align with existing jobs at NiSource, and is scheduled to be delivered by the end of 2020. These ICS positions represent the next tier of roles that are critical to ensuring a well-organized, effective and efficient incident response. We are currently working with our training department to develop resources, such as position-specific workbooks and Learning Management System modules that will be assigned to those in this next wave of training.

It is important to recognize that numerous ICS roles do not require position-specific training because their day-to-day job aligns with their Incident Command System (ICS) role. Examples of these roles include Safety Branch Director, Work Planning and Prioritization Branch Director, Regulatory & Governmental Affairs Branch Director, Customer Care Center Branch Director, Corporate Security Branch Director, and Insurance and Claims Branch Director. While these roles do not require position-specific training the individuals identified for these roles have completed two LMS modules as well as the EPRP attestation.

All front line leaders/workers have completed the NiSource EP&R Foundations LMS module. We are currently developing additional training specifically for Operations Center Managers, Front Line Leaders and Front Line Workers in 2020. This training includes a field oriented LMS module to build greater awareness and understanding of the Gas Segment ICS, and a quarterly LMS module for reinforcing incident classification.

Tabletop exercises in each state, scheduled for Q1 2020, will involve participation from some positions below the Command and General Staff level to strengthen ICS capabilities. During the third quarter of 2020, we expect to conduct a functional exercise to simulate a severe or catastrophic incident, which will involve positions below the Command and General Staff, as well as external stakeholders.

# Findings

<p><b>Audit Objective #1, Procedure #2:</b> Review whether individuals with ICS roles were trained over the plan.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #3:</b> Some Command and General Staff leaders have incomplete Emergency Preparedness and Response training as of 12/13/2019. Out of 165 individuals assigned to Command and General Staff leadership roles:</p> <ul style="list-style-type: none"> <li>• 13 have incomplete FEMA training.</li> <li>• 17 did not complete a Coaching Session.</li> <li>• 25 did not participate in a Training Scenario.</li> </ul>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Don Eckstein, SVP Gas Operations Support  <b>Executive Council Member Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b>  <b>12/31/2020</b></p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Command and General Staff leaders are trained and exercised in their assigned emergency roles.</p> <p><b>Condition:</b> Some Command and General Staff leaders have incomplete training.</p> <p><b>Risk/Impact:</b> Command and General Staff leaders with incomplete training may not efficiently or effectively lead emergency response efforts.</p>	
<p><b>Recommendation</b></p> <p>Management should work with Command and General Staff leaders and ensure they complete their required training (FEMA, Coaching Session, Training Scenarios). Management should determine the period of time newly appointed Command and General Staff leaders can complete ICS training.</p>	
<p><b>Management Response</b></p> <p>Refer to slide 11 for the Management Response to Finding #3.</p>	



# Findings

<b>Audit Objective #1, Procedure #2:</b> Review whether individuals with ICS roles were trained over the plan.	<b>Risk Rating</b>
<b>Finding #3 (Continued)</b>	<b>)Moderate</b>
<b>Process Owner(s): Don Eckstein, SVP Gas Operations Support</b> <b>Executive Council Member Responsible: Pablo Vegas, EVP &amp; President Gas Utilities</b>	<b>Target Remediation Date:</b>  <b>12/31/2020</b>
<p><b><u>Management Response</u></b></p> <p>We regularly track who has completed all of the required training, using a weekly automated report from the LMS Training team. The EP&amp;R team sends reminder e-mails to individuals who are past due on the training, and will escalate the reminders to their supervisors as needed. Only five employees with Command &amp; General Staff roles have incomplete LMS training, and a reminder email was sent by the Senior VP of Gas Operations Support to those employees on 02/06/20.</p> <p>As of 02/07/2020, there are 21 people who currently need to attend their respective Command &amp; General Staff “Coaching Session.” Of these 21, a total of 13 missed the earlier sessions, while eight others have been added to the ICS Roster since the beginning of 2020. In all cases, we will schedule make-up sessions for these employees in the coming weeks/months.</p> <p>As of 02/07/2020, 32 employees currently need to attend the ICS Scenario Training. Twenty four of these employees missed the earlier sessions, while eight others have been added to the ICS Roster since the beginning of 2020. In all cases, we will schedule make-up sessions for these employees in the coming weeks/months.</p>	

# Findings

<p><b>Audit Objective #1 , Procedure #2:</b> Review whether individuals with ICS roles were trained over the plan.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #4:</b> ICS training has not yet specifically exercised emergency response using ICS at LNG or Underground Gas Storage facilities. Potential incidents at these facilities would be covered by the EPRP; however, specific training over responding to incidents using ICS has not been exercised.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s): Don Eckstein, SVP Gas Operations Support</b></p>	
<p><b>Observation</b></p> <p><b>Criteria:</b> Employees with ICS roles are trained and exercised on their assigned emergency roles during a gas emergency.</p> <p><b>Condition:</b> Training has not yet exercised emergency response using ICS at LNG or Underground Gas Storage facilities.</p> <p><b>Risk/Impact:</b> Lack of specific exercises at LNG or Underground Gas Storage could lead to inefficient or ineffective emergency response for gas emergencies occurring at these facilities.</p>	
<p><b>Recommendation</b></p> <p>As the EPRP training and exercises plan continues to be executed, management should work to incorporate LNG and Underground Gas Storage facilities into practical emergency response training.</p>	
<p><b>Management Response</b></p> <p>We are aware of this situation and plan to incorporate an LNG plant and/or Underground Gas Storage facility into future exercises.</p>	

# Findings

<p><b>Audit Objective #1 , Procedure #3:</b> Review the protocols in place for identifying and capturing ICS role changes.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #5:</b> The process for updating, tracking, and maintaining ICS roles has not been formally documented. A process for updating, tracking, and maintaining ICS roles exists and is managed in Excel by one individual.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Don Eckstein, SVP Gas Operations Support</p>	
<p><b>Observation</b></p> <p><b>Criteria:</b> The process for updating, tracking, and communicating ICS roles is documented.</p> <p><b>Condition:</b> The process for updating, tracking, and communicating ICS roles is not documented.</p> <p><b>Risk/Impact:</b> The lack of a documented process for updating, tracking, and communicating ICS roles could lead to inconsistent practices or knowledge transfer gaps.</p>	
<p><b>Recommendation</b></p> <p>Management should document the process for updating, tracking, and maintaining ICS roles. The process should include the frequency of updates and process for communicating with newly identified individuals with ICS roles.</p>	
<p><b>Management Response</b></p> <p>We have a detailed process in place, which will be formally documented by mid-year. Based on feedback from the Incident Management Teams across NiSource, we have made each state’s Level 3-5 ICS roster, as well as NiSource’s Level 1-2 roster, available on MySource, and these files are updated weekly. Long term, we have developed a business case to support a comprehensive technology solution to manage not only ICS rosters, but additional aspects of incident response.</p>	

# Findings

<p><b>Audit Objective #2 Procedure #1:</b> Observe EPRP drills and tabletop exercises and evaluate how lessons learned are incorporated into after action plans.</p> <p><b>Audit Objective #2, Procedure #2:</b> Review the process for capturing and integrating lessons learned after an emergency event.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #6:</b> A process for tracking and prioritizing required After Actions resulting from After Action Reviews has not been established. Nixon &amp; Associates also provided management with suggested actions for enhancements/improvements regarding the overall program that should be addressed by NiSource. In addition, a method for communicating lessons learned to incident/training participants has not been established.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Don Eckstein, SVP Gas Operations Support</p> <p><b>Executive Council Member Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p> <p>6/30/2020</p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Key actions resulting from After Action Reviews are prioritized and remediated. Lessons learned are communicated to incident/training participants.</p> <p><b>Condition:</b> Key actions resulting from After Action Reviews are not clearly prioritized and tracked. A process for communicating lessons learned to incident/training participants has not been established.</p> <p><b>Risk/Impact:</b> Key actions resulting from After Action Reviews are integrated into the EPRP, but not consistently communicated to the incident/training participants, resulting in efficient and ineffective emergency response.</p>	
<p><b>Recommendation</b></p> <p>Management should establish a process for tracking and prioritizing After Actions resulting from After Action Reviews and establish a method for communicating lessons learned to incident/training participants. Management should also create a plan for addressing Recommended Action Items included in the Nixon &amp; Associates' <i>Program Analysis Following Dec. 9, 2019 Tabletop Exercise</i> report.</p>	
<p><b>Management Response</b></p> <p>The EP&amp;R team conducts After Action Reviews (AAR) on all Level 1-3 incidents, as well as all Gas Segment ICS exercises. Findings from these AARs are captured and documented in the EP&amp;R SharePoint site. A continuous improvement process is under development to ensure that all findings are evaluated, prioritized, completed and communicated. As appropriate, the EP&amp;R team will incorporate findings (including the Nixon &amp; Associates recommendations) into the EPRP (The Plan). We expect to have the finalized process in place by mid-year 2020.</p>	

# Report Distribution

CC: J. Hamrock  
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# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is NOT required to perform follow-up review procedures on low risk findings.</i></u></p>

## Appendix B

The following table represents a portion from **Attachment 1: Incident Level Matrix – Summary** per the Emergency Preparedness and Response Plan (Version Revised 10/25/2019) and is provided for context for Incident Levels referenced in the report.

Level	Incident Characteristics	Customers Affected	Incident Duration*
5	<b>Routine Incident</b>	<10	<8 Hours
4	<b>Elevated Incident</b>	Between 10 and 49	<24 Hours
3	<b>Serious Incident</b>	Between 50 and 499	<48 Hours
2	<b>Severe Incident</b>	Between 500 and 999	<72 Hours
1	<b>Catastrophic Incident</b>	>1,000	>72 Hours

\*From the time that NiSource can safely respond to an event until the time all impacted customers have been visited once for a relief.

## Appendix C

In Audit Objective 2, Step 1, Internal Audit observed EPRP Training Scenarios at CKY, CMA, and NIPSCO, as well as the Tabletop Exercise with the EC in Columbus, OH. After Action reviews were performed at the end of each Training Scenario and documented by the EP&R team. Internal Audit interviewed 12 participants within the General and Command Staff who attended the training scenarios and documented a summary of responses below:

#	Question	Summary of Response
1	<b>Was the Training Scenario realistic?</b>	Yes (12/12 participants)
2	<b>Were the responsibilities of your section clear?</b>	<ul style="list-style-type: none"> <li>All interviewees thought the training scenario helped to clarify their specific section's roles/responsibilities. Their individual roles were not as clear prior to participation.</li> <li>Overarching theme: Desire for repetition and training to help reinforce responsibilities.</li> </ul>
3	<b>Are you clear on how to activate resources within your org?</b>	<ul style="list-style-type: none"> <li>Individuals are clear on when they need to activate, but overall, everyone would like more visibility into the list of individuals (ICS roster).</li> <li>Overarching theme: Transparency and accessibility of the ICS roster (within state and across the organization).</li> </ul>
4	<b>Did you identify gaps in your area/section that need to be addressed? If so, what are they?</b>	<p>Responses ranged based on the role, so a summary of high level points are noted below:</p> <ul style="list-style-type: none"> <li>Visibility into the ICS role structure, not only within your state, but across the organization.</li> <li>The practicality of having the Planning Section Chief be remotely located in Columbus.</li> <li>Terminology differences (critical care vs priority care) and differentiating from an individual customer and a commercial customer in CMA.</li> <li>Front line leaders need to be trained on the terminology and structure.</li> </ul>
5	<b>How clear was it that process gaps identified in the training scenario are to be solved by your individual group?</b>	<ul style="list-style-type: none"> <li>CKY and NIPSCO – Clear</li> <li>CMA – Not as clear. Looking for more support from EP&amp;R team to solve gaps.</li> </ul>



## Appendix C

#	Question	Summary of Response
6	<b>What "After Action" items are you interested in seeing follow up on?</b>	<p>Responses ranged based on the role, so a summary of high level points are noted below:</p> <ul style="list-style-type: none"> <li>• Visibility into ICS roles/structure.</li> <li>• More information on how ICS activation happens in real life (phone call, automated system).</li> <li>• Front Line Leader Exposure (terminology, structure, activation).</li> <li>• Clarity around how our existing Emergency Plans roll into EPRP.</li> </ul>
7	<b>Do you feel better prepared to respond to an incident?</b>	Yes (12/12 participants)
8	<b>If you could change anything about the Training Scenario, what would it be?</b>	<p>Responses ranged based on the role, so a summary of high level points are noted below:</p> <ul style="list-style-type: none"> <li>• More specific with incident (address/area) where you can pull up the address (similar to Tabletop Drill).</li> <li>• More practice and training. Keep this a regular training.</li> <li>• Eventually practicing in a different setting (outside, eventually using Mobile Command Centers for practice).</li> </ul>
9	<b>Any other comments?</b>	<ul style="list-style-type: none"> <li>• Need to review what people are in place and communicate roles and responsibilities in deeper layers (not just Command and General Staff).</li> <li>• More clarity around the transition of shifts - how does the Incident Commander know who's on duty? How do you keep track of who leaves? Not clear.</li> <li>• Operations Section Chief Interviewed – "Most useful" training all year and full day was well worth it.</li> </ul>



## Odorization Monitoring Process / Documentation:

Columbia Gas Distribution Companies

**March 3, 2020**

To: P. D. Wilson, VP & General Manager CGV  
D. A. Roy, VP & General Manager CKY  
L. A. Carmean, VP & General Manager COH  
W. F. Davis, VP Construction COH  
M. J. Davidson, VP & General Manager CPA/CMD  
R. M. Kitchell, VP Construction CPA/CMD  
M. G. Poulin, VP & General Manager CMA  
D. A. Monte, SVP Gas Technical Services

From: M. Castillo, Internal Auditor  
J. Callahan, Manager Internal Audit  
R. Binkley, Director Internal Audit



# Executive Summary

Internal Audit conducted an audit of the controls and processes associated with the Odorization Monitoring Process and Documentation for Columbia Gas Companies\*. The purpose of this audit was to assess whether processes followed are in accordance with the Pipeline and Hazardous Materials Safety Administration (PHMSA) requirements, which are aligned with the following Gas Standards:

- **Gas Standard 1670.010** (Odorant and Odorization Equipment Inspection and Maintenance); and
- **Gas Standard 1670.020** (Odor Level Monitoring).

The focus of the audit included the following procedures:

- Determine whether processes and controls support compliance with the inspection for facilities identified as odorizers and the inspection of the downstream odor level tests.

## Summary Conclusions:

As a result of our procedures, Internal Audit identified **1 Moderate Risk** finding:

There were several inconsistencies in the processes used to ensure proper odor level reads and odorization inspections were being completed.

- **Recommendation:** Operations Management should establish processes to ensure facilities are accurately reflected in systems of record and that Repetitive Tasks (RTs) are utilized to ensure timely completion and documentation of required facility inspections and the downstream odor level tests.
- **Management Response:** Management agrees to establish a cross functional working group to evaluate the inconsistencies in the processes relating to proper odor level reads and odorization inspections. In addition, a recommended mitigation strategy will be developed prior to the August Audit Committee.

\* 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.

**Note:** Internal Audit attempted to test the Operation Qualification requirements related to the jobs performed under the gas standards above, however testing has been postponed due to technical errors in the switch from the LMS to the OnBoard system.

# Background

## Columbia Gas Distribution Companies

All Columbia Gas Distribution Companies are subject to Gas Standard (GS) 1670.010: The standard sets forth the following requirements for inspection of odorization equipment and maintenance:

- *“Odorizers shall be inspected on a **monthly basis**, with the exception of individual customer odorizers which shall be inspected **once every three years**. However, odorization facilities should be inspected more frequently if local knowledge of operating conditions indicates that more frequent inspection is necessary.”*

All Columbia Gas Distribution Companies are also subject to Gas Standard (GS) 1670.020. The standard sets forth the following requirements for odor levels:

- *“The company shall monitor the gas for proper concentration of odorant using an instrument capable of determining the percentage of gas in air.”* For frequency requirements of when gas levels should be monitored, refer to the chart below:

Location	State	Frequency
Systems downstream of odorizers and systems that contain a natural odorant	<b>CMA, CVA, COH, CPA, CMD</b>	Monthly
Systems downstream of odorizers and systems that contain a natural odorant	<b>KY</b>	95 days - with ten (10) or fewer customers  Weekly - With more than ten (10) customers
Systems downstream of individual customer odorizers	<b>CMA, CVA, COH, CPA, CMD</b>	Once each calendar year not to exceed 15 months
Systems downstream of individual customer odorizers	<b>KY</b>	95 days

## Audit Scope and Approach

Internal Audit reviewed the processes and controls in place related to monitoring and documenting the odorization levels and inspection and maintenance of odorization equipment at the Columbia Gas Distribution Companies in accordance with both federal and state regulatory requirements as well as any internal Gas Standards for the audit period as of October 2019.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. A summary, along with detailed observations, have been provided to Gas Operations Management.

**Objective 1:** Review the processes and controls in place to ensure odorization equipment is inspected and to ensure odor levels are monitored in accordance with NiSource Gas Standards.

#	Procedures	Findings Summary (Refer to Appendix A)
1	Obtain the WMS population of all Columbia company odorizer facilities as of 10/4/2019, including RTs related to odorizer job types for those facilities to test for compliance with both federal and state regulatory requirements as well as any internal Gas Standards.	<b>Refer to Appendix B</b>
2	Using the population above, select at least 40 facilities to ensure every identified odorizer facility has a corresponding RT set up to ensure timely completion of the required odorization inspection and a corresponding RT for timely completion of downstream odor level tests.	<b>Finding #1 – See page 5</b>

## Findings (Cont'd)

<p><b>Objective 1, Procedure #2:</b> Using the odorizer Facility population, select at least 40 facilities to ensure every identified odorizer facility has a corresponding RT set up to ensure timely completion of the required odorization inspection and a corresponding RT for timely completion of downstream odor level tests. (See Appendix B for facilities tested)</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> There were several inconsistencies in the processes used to ensure proper odor level reads and odorization inspections were being completed. (Columbia Companies only) (See Appendix C for facilities tested)</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers; D. T. Williamson, Distribution Operations Management  <b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities [Operations]</p>	<p><b>Target Plan Date:</b>  <b>Q3 2020</b></p>
<p><b>Observation:</b></p> <p><b>Criteria:</b> Odorizer facilities within WMS are properly classified as an active odorizer facility and have a related RT for odor level reads and odorizer inspections.</p> <p><b>Condition:</b></p> <p>Internal Audit noted that the following areas of risk in the odorization inspection process out of the <b>42</b> facilities tested:</p> <ul style="list-style-type: none"> <li>• <b>12</b> facilities were listed as active in the WMS system which had been previously retired             <ul style="list-style-type: none"> <li>- 6 of the facilities above had RTs initially created but which were later manually voided</li> </ul> </li> <li>• <b>18</b> active facilities which did not have an RT created to ensure timely inspection</li> <li>• <b>1</b> active facility which used the same RT for both the facility inspection and the level test, creating a lack of clarity in what work was performed</li> <li>• <b>4</b> facilities which had multiple RTs to complete the same task</li> </ul> <p><b>Risk/Impact:</b> Inconsistent processes increase the risk of noncompliance of required inspections odorization which can lead to undetected gas leaks.</p>	
<p><b>Recommendation:</b></p> <p>Operations Management should establish processes to ensure odorizer facilities are accurately reflected in systems of record and that RTs are utilized to ensure timely completion and documentation of required facility inspections.</p>	
<p><b>Management Response:</b></p> <p>Management agrees to establish a cross functional working group to evaluate the inconsistencies in the processes relating to proper odor level reads and odorization inspections. In addition, a recommended mitigation strategy will be developed prior to the August Audit Committee.</p>	

## Report Distribution

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M.A. Huwar

M. Kempic

D.L. Douglas

R.V. Mooney

M.E. Walker

W.E. Mojica

D.A. Eckstein

T.J. Tokish

S. Anderson

E.T. Belle

D.T. Williamson

E.M. Fitzgerald

M.S. Downing

D.L. Reynolds

R.D. Poe

S.F. Phelps

Deloitte & Touche

# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response</i></p> <p><u><i>Internal Audit typically does not perform follow-up review procedures on low risk findings.</i></u></p>



## Appendix B – Total odorizer facilities by state and selections

State	Total Odorizer Facilities	Total Individual Customer Odorizers	Total Active Odorizer Facilities per WMS	Tested Odorizer Facilities	Tested Individual Customer Odorizers	Total Tested
<b>CKY</b>	12	135	<b>147</b>	3	3	<b>6</b>
<b>COH</b>	16	316	<b>332</b>	6	9	<b>15</b>
<b>CMD</b>	1	0	<b>1</b>	1	0	<b>1</b>
<b>CPA</b>	22	0	<b>22</b>	2	0	<b>2</b>
<b>CGV</b>	72	280	<b>352</b>	8	8	<b>16</b>
<b>CMA</b>	23	1	<b>24</b>	2	0	<b>2</b>
<b>Total</b>	<b>146</b>	<b>732</b>	<b>878</b>	<b>22</b>	<b>20</b>	<b>42</b>

## Appendix C – Breakout of findings by state and facility type

State	Finding	Odorizer Facility	Individual Customer Odorizer
Kentucky	More than one RT created for the same job		1
	No RT for odorizer inspection		2
Ohio	Facility is inactive	1	
	No RT for odorizer inspection		9
Virginia	More than one RT created for the same job	3	
	No RT for odorizer inspection		4
	No RT for downstream odor level read	1	
	Facility uses the same RT for both jobs	1	
Massachusetts	No RT for downstream odor level read	1	
<b>Total</b>		<b>7</b>	<b>16</b>



# Cross Bore Identification & Remediation

NiSource Gas Distribution Companies

**March 3, 2020**

To: P. D. Wilson, VP & General Manager CGV  
D. A. Roy, VP & General Manager CKY  
L. A. Carmean, VP & General Manager COH  
W. F. Davis, VP Construction COH  
S. W. Sylvester, VP & General Manager NIPSCO  
M. J. Davidson, VP & General Manager CPA/CMD  
R. M. Kitchell, VP Construction, CPA/CMD  
M. G. Poulin, VP & General Manager CMA

From: A. Meyers, Senior Internal Auditor  
J. Callahan, Manager Internal Auditor  
R. Binkley, Director Internal Auditor



## Executive Summary

Internal Audit conducted a review of the processes and procedures in place within each of the NiSource Gas Distribution Companies (NGD) to identify and remediate cross bores. Cross bores are defined as “an intersection of an existing underground utility by a second utility resulting in direct contact between the utilities’ assets that compromises the integrity of either utility.” Cross bores of gas lines in sewers have resulted in property damage, injury and death. According to the Cross Bore Safety Association (CBSA), the largest reported court award associated with a cross bore explosion of a residence was \$30M. There have been 18 incidents that have occurred between 2002 – 2015, but the CBSA believes that the total is most likely understated as PHMSA does not track cross bore incidents specifically. The use of trenchless technology, or the process of installing pipe without the need to make an open trench excavation, was identified as increasing the risk of creating cross bores.

In 2008, NGD implemented a new common gas standard (GS 1100.050, “Damage Prevention – Using Trenchless Technology”) which outlined recommended processes to be followed to avoid creating cross bores when utilizing trenchless installation methods. In 2016, this standard clarified the requirements for performing pre- and post-construction cameraing and additional training was provided to field personnel. During this same time period, each company established a Cross Bore Program to inspect pipeline infrastructure that was historically subject to damage as a result of these trenchless technology practices. (Refer to chart below for company program start dates.)

**Summary Conclusions:** Internal Audit identified **(3) high risk** audit findings as a result of our testing procedures:

- A total of **21%** of the cross bores identified by the Company Programs were installed subsequent to 2008. Although the gas standard clarified requirements and training was provided in 2016, **2%** of the cross bores identified were installed subsequent to 12/31/16. This indicates a lack of adherence to GS 1100.050, "Damage Prevention - Using Trenchless Technology."

Company	Program Start Date	Total	Breakout of Total					
			Prior to 1/1/08	% of Total	1/1/08 to 12/31/16	% of Total	After 1/1/17	% of Total
COH	5/1/2015	632	457	72%	161	25%	14	2%
CPA	9/1/2013	274	217	79%	52	19%	5	2%
CGV	3/1/2014	227	216	95%	11	5%	-	0%
CKY	11/1/2017	34	33	97%	1	3%	-	0%
CMA	5/3/2018	20	20	100%	-	0%	-	0%
CMD	9/1/2016	10	9	90%	-	0%	1	10%
NIPSCO	1/1/2018	46	32	70%	7	15%	7	15%
<b>NGD Total</b>		<b>1,243</b>	<b>984</b>	<b>79%</b>	<b>232</b>	<b>19%</b>	<b>27</b>	<b>2%</b>

**NOTE:** Refer to **Appendix B** for further detail of the chart above.

# Executive Summary

## Summary Conclusions (Cont'd):

- **Recommendation:**

- Management should:

- Establish processes and controls which ensure that the requirements of GS 1100.050, “Damage Prevention – Using Trenchless Technology” are being met (e.g. additional QA/QC procedures over work performed in the field and training over gas standards).
    - Ensure that Company Cross Bore Programs continue to target known risks, including installations that occurred during the period of 1/1/08 – 12/31/2016.
    - Evaluate root cause and trends in cross bores identified. (Refer to **Appendix C** for analysis of cross bores installed by company versus contractor personnel.)

- **Management Response:** Management agrees to establish a cross functional working group to evaluate existing processes and controls related to cross bores in Gas Standard 1100.050, “Damage Prevention –Using Trenchless Technology” by January 31, 2021. Identified opportunities for additional processes and controls will be captured along with an initial timeframe for implementation. This cross functional group will also ensure that cross bore teams are included in the evaluation of causes or trends.

- The population of cross bores identified indicate that steel pipelines are also at risk of cross bores if they were not originally installed with the proper clearance from neighboring utilities. (Refer to **Appendix D** for further detail of cross bores found in steel pipelines.)

Note: With the exception of the gas standard for CGV, the scope of the requirements outlined in GS 1100.050 does not include the sleeving method (i.e. inserting plastic lines into existing steel lines).

- **Recommendation:** Management should expand the requirements to perform camera work outlined in GS 1100.050 to include installations utilizing the sleeving method (i.e. inserting plastic lines into existing steel lines) to ensure that no cross bores exist prior to installation.
- **Management Response:** Management agrees to expand requirements for planned work by completing a pre or post-video on any insertion regardless of material type. By January 31, 2021 a target date will be established when this change will become effective. In addition, State Operating Companies will review and align current state Gas Standard (GS 1100.050) as it relates to insertions. Please note, Pennsylvania’s customer-owned service lines may require additional review/exception.

**Summary Conclusions (Cont'd):**

- The length of time estimated to complete each program ranges from 41 years to 338 years.

Project Estimates	COH	CKY	CGV	CMA	CPA	CMD	NIPSCO
Estimated Total Miles	15,000	1,945	2,272	5,000	2,804	223	17,572
Average Miles/Year	41.76	20.00	55.00		43.90	2.40	52.00
# of Years to Complete	318	100	41	130	64	94	338

**NOTE:** The numbers above all reflect estimates provided by the Company Program Leads. It is important to note that the estimated total miles for each program is developed from data obtained at a point in time and is subject to change. Internal Audit noted that some of the estimates vary from historical actuals completed per year as some expect the program to increase in funding and/or efficiency. Refer to **Appendix E** and **Appendix F** for further details on actual spend, miles completed per year and additional information related to the project estimates above.

- Recommendation:** Management should assess the timeline to complete each program in comparison to the assessment this risk and the resulting risk tolerance.
- Management Response:** Management will establish a team to assess the current estimated number of years to complete each cross bore program by state. This effort will continue to be ranked with other system risks that will impact program completion time frame. Furthermore, state operating companies will continue to explore opportunities to accelerate existing programs, in addition to leveraging Regulatory strategies in future rate case proceedings. Initial findings from this assessment to accelerate existing programs will be developed by January 31, 2021.

Internal Audit identified **(1) low risk** audit finding as a result of our testing procedures:

- Potential process improvements were identified specific to the various Company Cross Bore Programs to ensure consistent risk coverage across the NGD companies.
  - Recommendation:** Each of the Company Cross Bore Programs should consider process improvements related to formalizing program objectives, metrics, and remediation policies, establishing QA/QC processes for camera work performed by contractors, and coordinating with the construction group. (Refer to **Slide 8** for further details.)
  - Management Response:** Management will establish a team to identify process improvement opportunities for the cross bore programs. A program charter will be developed by January 31, 2021 that will include initial process improvement opportunities along with estimated timeframe(s) to initiate and implement these recommendations.

## Background

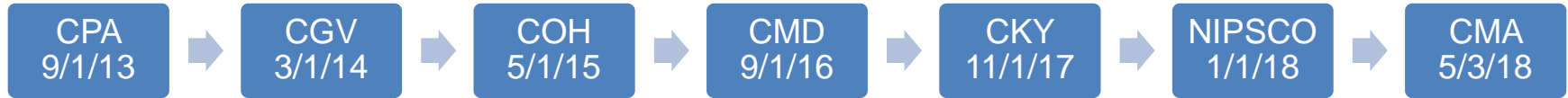
Refer to the table below for a brief overview of the history of events and regulatory guidance established related to cross bores:

Year	History of Events and Regulatory Guidance Established Related To Cross Bore Prevention
1976	<p><b><u>Wisconsin Cross Bore Incident:</u></b> On August 29th, a sewer drain cleaner hit a cross-bored gas line, causing an explosion that resulted in two deaths. The National Transportation Safety Board (NTSB) recommended performing inspections where gas mains and sewer laterals may be in proximity, determining other locations where gas lines were installed near existing facilities and taking corrective action where necessary.</p>
1999	<p><b><u>Advisory Bulletin ADB-99-04:</u></b> On August 23rd, a subgroup of the Department of Transportation (DOT) issued a bulletin to advise the industry to review/amend written damage prevention programs to minimize risks associated with directional drilling near buried pipelines. This action followed several pipeline incidents involving trenchless technology operations which resulted in loss of life, injuries and significant property damage.</p>
2006	<p><b><u>Columbia Gas of Ohio Incident:</u></b> In August 2006, a gas main was ruptured when the sewer lateral was being cleaned by a power drain snake. Natural gas traveled through the sewer lateral and into a residence causing explosion and injuries. Investigation found that a contractor working for COH in 2001 unknowingly damaged the sewer lateral. As a result, COH made a commitment to the Public Utilities Commission of Ohio (PUCO) that NiSource would implement procedures to address the requirements for construction using trenchless technology.</p>
2008	<p><b><u>Gas Standard 1100.050:</u></b> The policy created in response to the 2006 COH incident was implemented in COH in July 2007. This was later superseded by a new common Gas Standard, GS 1100.050, "Damage Prevention – Using Trenchless Technology," effective March 2008 for all companies. The purpose is to avoid creating a cross bore of another underground facility when utilizing trenchless installation methods.</p>
2016	<p><b><u>Revision to GS 1100.050:</u></b> Effective September 12, 2016, a revision to the gas standard created the requirement that a post sewer camera or pull back camera video is required when certain service installation methods are utilized. Use of video is intended to verify that cross bores aren't created.*</p> <p><b>Note:</b> CGV created an additional requirement in their gas standard that requires camera work to be completed on lines installed by the sleeving method.</p>

\*Refer to the 2017 audit completed by Internal Audit, Service Line Post Camera Sewer Video (Trenchless Technology), which was completed to evaluate the processes and controls in place to ensure compliance with GS 1100.050.

## Background (Cont'd)

**Timeline of Program Establishment:** The Company Cross Bore Programs are at various stages of maturity across all of the NGD Companies. Refer to the timeline below, which reflects the inception date for each company's program.



Note: The CMA Cross Bore Program began in May 2018, and was subsequently placed on hold due to the Merrimack Valley event that occurred in September 2018.

**Risk Model:** Each company recently adopted a risk model in order to target future areas of investigation, which considers the following factors:

- High density/hard to evacuate locations (schools, hospitals, nursing homes, etc.)
- Location of known cross bores
- Areas where previous damage occurred (query of WMS database and claims)
- Evaluation of soil/terrain
- Notification by other parties
- Review of job orders for any type of boring activity (directional, mole, etc.) (query of WMS database for bore contract items)
- Water-table – may result in shallow sewers and in the elevation where gas lines are frequently installed
- Rock soil conditions – may result in shallow sewers
- Basements – may result in deeper sewers and often below gas line elevations
- Slab or mobile home construction – may result in shallow sewers
- Deep gas main – allows for deeper gas mains and laterals, which may more likely intersect with sewers
- Material of pipe
- Date of installation
- Population density
- Length of service line (longer length could be higher risk)
- Services that are replaced

Note: Prior to the risk model, companies utilized a list of locations where cross bores had previously been found and then determined if any were close to high risk areas (schools, churches, hospitals, etc.). Additionally, the installation date and material of pipe were considered.

**Public Awareness and Education:** Each NiSource Company Cross Bore Program Lead noted that a successful program includes raising awareness of the risk of cross bores through public outreach and education, which can prevent the occurrence of cross bore incidents. Project specialists distribute fliers, attend seminars, work with contractors and emergency officials, and send information to plumbers in their operating area. Each company website includes information regarding cross bore safety information, as well.



# Audit Scope and Approach

Internal Audit conducted a review of the processes and procedures in place within each of the NiSource Gas Distribution Companies to identify and remediate cross bores. 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.

<b>Objective 1: Assess the processes and controls in place across the NiSource Gas Distribution Companies to address the risk of cross bores.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary (Refer to Appendix A)</b>
1	Review the procedures performed by Cross Bore Program Leads for each NGD Company to identify and remediate existing cross bores.	<b>Finding #1 – See page 8</b>
2	For each NGD Company, analyze the Company Cross Bore Program metrics and results to identify trends, patterns, or other areas of risk.	<b>Finding #2 – See page 9</b>
		<b>Finding #3 – See page 11</b>
		<b>Finding #4 – See page 12</b>

## Findings (Cont'd)

<p><b>Objective #1, Procedure #1:</b> Review the procedures performed by Cross Bore Program Leads for each NGD Company to identify and remediate existing cross bores.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> Potential process improvements were identified specific to the various Cross Bore Programs to ensure consistent risk coverage across the NGD companies.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers</p> <p><b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p> <p><b>Q1 2021</b></p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Documented and thorough processes and controls (including QA/QC processes) are established to ensure that a program is effective.</p> <p><b>Condition:</b> Potential process improvement opportunities were identified specific to the various Cross Bore Programs to ensure consistent risk coverage across the NGD companies.</p> <p><b>Risk/Impact:</b> Lack of systematic approach in Cross Bore Programs may lead to inefficiencies and low quality results.</p>	
<p><b>Recommendation</b></p> <p>Each of the Company Cross Bore Programs should consider the following process improvements:</p> <ul style="list-style-type: none"> <li>• Development of a Program Charter outlining objectives and key stakeholders;</li> <li>• Definition of key metrics for tracking and reporting of Program progress;             <ul style="list-style-type: none"> <li>• Note: Currently, metrics are created and reported at a company level. Consideration should be given to creating consistency in metrics and reporting across all companies to provide a NiSource-wide lens of progress.</li> </ul> </li> <li>• Creation of remediation policies outlining timeframes and requirements for remediation;</li> <li>• Development of QA/QC processes to review camera work performed by contractors engaged by the Program Leads to ensure that contractors are properly identifying cross bores when they are noted within videos; and</li> <li>• Coordination with the construction group to eliminate duplication of camera work in certain areas.             <ul style="list-style-type: none"> <li>• Note: New construction utilizing trenchless technology is required to perform camera work which could benefit the Company Cross Bore Programs.</li> </ul> </li> </ul>	
<p><b>Management Response</b></p> <p>Management will establish a team to identify process improvement opportunities for the cross bore programs. A program charter will be developed by January 31, 2021 that will include initial process improvement opportunities along with estimated timeframe(s) to initiate and implement these recommendations.</p>	

## Findings (Cont'd)

<p><b>Objective #1, Procedure #2:</b> For each NGD Company, analyze the Company Cross Bore Program metrics and results to identify trends, patterns, or other areas of risk.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> A total of <b>21%</b> of the cross bores identified by the Company Programs were installed subsequent to 2008. Although the gas standard clarified requirements and training was provided in 2016, <b>2%</b> of the cross bores identified were installed subsequent to 12/31/16. This indicates a lack of adherence to GS 1100.050, "Damage Prevention - Using Trenchless Technology."</p>	<p><b>High</b></p>
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers</p> <p><b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p> <p><b>Q1 2021</b></p>

### Observation

**Criteria:** The company shall adhere to GS 1100.050 in order to prevent creating cross bores from the use of trenchless technology.

**Condition:** A total of **21%** of the cross bores identified by the Company Programs were installed subsequent to 2008. Although the gas standard clarified requirements and training was provided in 2016, **2%** of the cross bores identified were installed subsequent to 12/31/16. This indicates a lack of adherence to GS 1100.050, "Damage Prevention - Using Trenchless Technology."

Company	Program Start Date	Total	Breakout of Total					
			Prior to 1/1/08	% of Total	1/1/08 to 12/31/16	% of Total	After 1/1/17	% of Total
COH	5/1/2015	632	457	72%	161	25%	14	2%
CPA	9/1/2013	274	217	79%	52	19%	5	2%
CGV	3/1/2014	227	216	95%	11	5%	-	0%
CKY	11/1/2017	34	33	97%	1	3%	-	0%
CMA	5/3/2018	20	20	100%	-	0%	-	0%
CMD	9/1/2016	10	9	90%	-	0%	1	10%
NIPSCO	1/1/2018	46	32	70%	7	15%	7	15%
<b>NGD Total</b>		<b>1,243</b>	<b>984</b>	<b>79%</b>	<b>232</b>	<b>19%</b>	<b>27</b>	<b>2%</b>

**Risk/Impact:** Lack of adherence to GS 1100.050 creates the risk that cross bores may be created, which could potentially cause loss of life, injury, or damages if not remediated.

## Findings (Cont'd)

<p><b>Objective #1, Procedure #2:</b> For each NGD Company, analyze the Company Cross Bore Program metrics and results to identify trends, patterns, or other areas of risk.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> A total of <b>21%</b> of the cross bores identified by the Company Programs were installed subsequent to 2008. Although the gas standard clarified requirements and training was provided in 2016, <b>2%</b> of the cross bores identified were installed subsequent to 12/31/16. This indicates a lack of adherence to GS 1100.050, "Damage Prevention - Using Trenchless Technology."</p>	<p><b>High</b></p>
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers</p> <p><b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p>
	<p><b>Q1 2021</b></p>
<p><b>Recommendation</b></p> <p>Management should perform the following:</p> <ul style="list-style-type: none"> <li>Establish processes and controls which ensure that the requirements of GS 1100.050, "Damage Prevention – Using Trenchless Technology" are being met (e.g. additional QA/QC procedures over work performed in the field and training over gas standards).</li> <li>Ensure that Company Cross Bore Programs continue to target known risks, including installations that occurred during the period of 1/1/08 – 12/31/2016.</li> <li>Evaluate root causes and trends in cross bores identified. (Refer to <b>Appendix C</b> for analysis of cross bores installed by company versus contractor personnel.)</li> </ul>	
<p><b>Management Response</b></p> <p>Management agrees to establish a cross functional working group to evaluate existing processes and controls related to cross bores in Gas Standard 1100.050, "Damage Prevention –Using Trenchless Technology" by January 31, 2021. Identified opportunities for additional processes and controls will be captured along with an initial timeframe for implementation. This cross functional group will also ensure that cross bore teams are included in the evaluation of causes or trends.</p>	

## Findings (Cont'd)

<p><b>Objective #1, Procedure #2:</b> For each NGD Company, analyze the Company Cross Bore Program metrics and results to identify trends, patterns, or other areas of risk.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #3:</b> The population of cross bores identified indicate that steel pipelines are also at risk of cross bores if they were not originally installed with the proper clearance from neighboring utilities. (Refer to Appendix D for further detail of cross bores found in steel pipelines.)</p>	<p><b>High</b></p>
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers</p> <p><b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p> <p><b>Q1 2021</b></p>
<p><b>Observation</b></p> <p><b>Criteria:</b> NiSource has policies and practices in place that mitigate the risk of future cross bores being created.</p> <p><b>Condition:</b> Internal Audit noted that 22% of cross bores identified were steel. Steel cross bores are created when the utility is either dug/pushed/jacked through or built on top of another facility. It is common for the bottom of a gas main to settle and crack in the top of a storm main. This is caused when proper clearance from neighboring utilities is not assured or if written permission from facility owner is obtained. The current practice allows for plastic to be inserted through steel lines without having to camera.</p> <p><b>Risk/Impact:</b> Unknown cross bores are created, which could potentially cause loss of life, injury, or damages if not remediated.</p>	
<p><b>Recommendation</b></p> <p>Management should expand the requirements to perform camera work outlined in GS 1100.050 to include installations utilizing the sleeving method (i.e. inserting plastic lines into existing steel lines) to ensure that no cross bores exist prior to installation.</p> <p><b>Note:</b> CGV has already created an additional requirement in their gas standard that requires camera work to be completed on lines installed by the sleeving method.</p>	
<p><b>Management Response</b></p> <p>Management agrees to expand requirements for planned work by completing a pre or post-video on any insertion regardless of material type. By January 31, 2021 a target date will be established when this change will become effective. In addition, State Operating Companies will review and align current state Gas Standard (GS 1100.050) as it relates to insertions. Please note, Pennsylvania's customer-owned service lines may require additional review/exception.</p>	

## Findings (Cont'd)

<p><b>Objective #1, Procedure #2:</b> For each NGD Company, analyze the Company Cross Bore Program metrics and results to identify trends, patterns, or other areas of risk.</p>	<p><b>Risk Rating</b></p>																																
<p><b>Finding #4:</b> The length of time estimated to complete each program ranges from 41 years to 338 years.</p>	<p><b>High</b></p>																																
<p><b>Process Owner(s):</b> All NiSource Gas Distribution Presidents and General Managers</p> <p><b>Executive Council Members Responsible:</b> Pablo Vegas, EVP &amp; President Gas Utilities</p>	<p><b>Target Remediation Date:</b></p>																																
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<p><b>Observation</b></p> <p><b>Criteria:</b> NiSource management is actively working to remediate known risks to pipeline integrity.</p> <p><b>Condition:</b> The length of time estimated to complete each program ranges from 41 years to 338 years.</p> <table border="1"> <thead> <tr> <th>Project Estimates</th> <th>COH</th> <th>CKY</th> <th>CGV</th> <th>CMA</th> <th>CPA</th> <th>CMD</th> <th>NIPSCO</th> </tr> </thead> <tbody> <tr> <td>Estimated Total Miles</td> <td>15,000</td> <td>1,945</td> <td>2,272</td> <td>5,000</td> <td>2,804</td> <td>223</td> <td>17,572</td> </tr> <tr> <td>Average Miles/Year</td> <td>41.76</td> <td>20.00</td> <td>55.00</td> <td style="background-color: #cccccc;"></td> <td>43.90</td> <td>2.40</td> <td>52.00</td> </tr> <tr> <td># of Years to Complete</td> <td>318</td> <td>100</td> <td>41</td> <td>130</td> <td>64</td> <td>94</td> <td>338</td> </tr> </tbody> </table> <p><b>Risk/Impact:</b> An abnormal operating condition that remains unremediated could potentially lead to loss of life, injury, or damages.</p>		Project Estimates	COH	CKY	CGV	CMA	CPA	CMD	NIPSCO	Estimated Total Miles	15,000	1,945	2,272	5,000	2,804	223	17,572	Average Miles/Year	41.76	20.00	55.00		43.90	2.40	52.00	# of Years to Complete	318	100	41	130	64	94	338
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<p><b>Management Response</b></p> <p>Management will establish a team to assess the current estimated number of years to complete each cross bore program by state. This effort will continue to be ranked with other system risks that will impact program completion time frame. Furthermore, state operating companies will continue to explore opportunities to accelerate existing programs, in addition to leveraging Regulatory strategies in future rate case proceedings. Initial findings from this assessment to accelerate existing programs will be developed by January 31, 2021.</p>																																	

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# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response</i></p> <p><u><i>Internal Audit typically does not perform follow-up review procedures on low risk findings.</i></u></p>



## Appendix B –Cross Bores Identified and Remediated

Internal Audit obtained the cross bore log from each Company Cross Bore Program leader. The inputs in the chart below include all cross bores found in each company by year since program inception date. Additionally, Internal Audit also obtained information from each Program leader on the remediation status of all identified cross bores, noting that management is actively working to remediate the 29 outstanding.

Note: The amounts reflected for 2019 are through September 2019.

Cross Bores Found per Year by Company							
Year	COH	CKY	CGV	CMA	CPA	CMD	NIPSCO
2013					28		
2014			31		46		
2015	101		33		44		
2016	150		35		40	2	
2017	152	4	40		44	3	
2018	127	18	52	20	49	1	25
2019	102	12	36	-	23	4	21
<b>Total</b>	<b>632</b>	<b>34</b>	<b>227</b>	<b>20</b>	<b>274</b>	<b>10</b>	<b>46</b>

Program	Total	Remediated	Outstanding
COH	632	632	-
CKY	34	26	8
CGV	227	225	2
CMA	20	19	1
CPA	274	269	5
CMD	10	9	1
NIPSCO	46	34	12
<b>TOTAL</b>	<b>1,243</b>	<b>1,214</b>	<b>29</b>

## Appendix C – Cross Bores Installed by Company vs. Contractor

Internal Audit obtained the cross bore log for each Company Cross Bore Program from the project lead in each company. The inputs in the chart below include all cross bores found, including those found by non-program resources (external parties).

Note: The amounts reflected for 2019 are through September 2019. The chart identifies cross bores installed by the Company vs. Contractors. Some records did not contain adequate information in order to determine who installed the cross bore.

Note: The program totals reconcile to Appendix B – Cross Bores Found per Year. Refer to the chart below:

Program	Prior to 1/1/2008				Between 1/1/2008 to 12/31/2016				After 1/1/2017				Program
	CO.	CONT.	Unknown	ALL	CO.	CONT.	Unknown	ALL	CO.	CONT.	Unknown	ALL	Total
COH	282	175	-	457	30	131	-	161	2	12	-	14	632
CKY	3	12	18	33	-	1	-	1	-	-	-	-	34
CGV	13	203	-	216	-	11	-	11	-	-	-	-	227
CMA	-	-	20	20	-	-	-	-	-	-	-	-	20
CPA	187	30	-	217	11	41	-	52	-	5	-	5	274
CMD	8	1	-	9	-	-	-	-	-	1	-	1	10
NIPSCO	4	19	9	32	-	5	2	7	2	3	2	7	46
<b>Total</b>	<b>497</b>	<b>440</b>	<b>47</b>	<b>984</b>	<b>41</b>	<b>189</b>	<b>2</b>	<b>232</b>	<b>4</b>	<b>21</b>	<b>2</b>	<b>27</b>	<b>1,243</b>
<b>Total (%)</b>	<b>51%</b>	<b>45%</b>	<b>5%</b>	<b>100%</b>	<b>18%</b>	<b>81%</b>	<b>1%</b>	<b>100%</b>	<b>15%</b>	<b>78%</b>	<b>7%</b>	<b>100%</b>	

## Appendix D – Cross Bores Found by Type & Material

Internal Audit obtained the cross bore log for each Company Cross Bore Program from the project lead in each company. The inputs in the charts below include cross bores that are found by external parties broken out by type and material.

Note: The amounts reflected for 2019 are through September 2019. The charts identify the type of pipe where the cross bore was found (main versus service) and the material type (plastics versus steel). Some records did not contain adequate information in order to determine the material or type of cross bore.

Note: The program totals reconcile to Appendix B – Cross Bores Found per Year. Refer to the tables below:

Type - Main vs. Service							
Program	Main	%	Service	%	Unknown	%	Total
COH	289	46%	343	54%	-	-	632
CKY	24	71%	10	29%	-	-	34
CGV	144	63%	83	37%	-	-	227
CMA	14	70%	4	20%	2	10%	20
CPA	107	39%	167	61%	-	-	274
CMD	7	70%	3	30%	-	-	10
NIPSCO	28	61%	13	28%	5	11%	46
<b>Total</b>	<b>613</b>	<b>49%</b>	<b>623</b>	<b>50%</b>	<b>7</b>	<b>1%</b>	<b>1,243</b>

Material - Plastic vs. Steel							
Program	Plastic	%	Steel	%	Unknown	%	Total
COH	455	72%	177	28%	-	-	632
CKY	22	65%	12	35%	-	-	34
CGV	216	95%	11	5%	-	-	227
CMA	9	45%	1	5%	10	50%	20
CPA	213	78%	61	22%	-	-	274
CMD	8	80%	2	20%	-	-	10
NIPSCO	32	70%	4	9%	10	22%	46
<b>Total</b>	<b>955</b>	<b>77%</b>	<b>268</b>	<b>22%</b>	<b>20</b>	<b>2%</b>	<b>1,243</b>

## Appendix E – Actual Spend and Miles Reviewed

Internal Audit obtained the actual spend and miles reviewed for each program since inception date from each Program Lead in each company.

Program Actual Spend and Miles Reviewed by Year*														
Year	COH		CGV		CPA***		NIPSCO		CKY		CMD		CMA****	
	\$\$	Miles	\$\$	Miles	\$\$	Miles	\$\$	Miles	\$\$	Miles	\$\$	Miles	\$\$	Miles
2013					\$650,000	10								
2014			\$787,426	14	\$1,300,000	39								
2015	\$934,773	17	\$1,408,991	13	\$1,574,103	46								
2016	\$2,123,511	63	\$895,478	8	\$1,547,500	42					\$123,505	3		
2017	\$2,048,728	46	\$1,159,781	16	\$1,381,373	44			\$132,484	5	\$122,756	3		
2018	\$1,938,629	46	\$1,602,942	25	\$1,505,092	49	\$844,868	64	\$386,147	12	\$74,098	2	\$-	9
2019**	\$1,405,383	37	\$2,473,028	52	\$1,198,194	30	\$378,306	36	\$112,606	10	\$9,614	1	\$-	3
<b>ALL</b>	<b>\$8,451,024</b>	<b>209</b>	<b>\$8,327,646</b>	<b>128</b>	<b>\$9,156,262</b>	<b>260</b>	<b>\$1,223,174</b>	<b>100</b>	<b>\$631,237</b>	<b>27</b>	<b>\$329,973</b>	<b>9</b>	<b>\$-</b>	<b>12</b>

<b>Est. Total Miles</b>	<b>15,000</b>	<b>2,272</b>	<b>2,804</b>	<b>17,572</b>	<b>1,945</b>	<b>223</b>	<b>5,000</b>
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\* Information included herein was provided by the Program Lead for each Company and was not verified against source data by Internal Audit.

\*\* Actuals for 2019 represent spend through September 2019.

\*\*\* CPA did not manually track spend until 2015, as such, an estimate was utilized.

\*\*\*\* Minimal spend was incurred during the two three-month periods the program was in place.

## Appendix F – Program Details

Internal Audit obtained this information from the project lead for each company program. The ET did not verify this information with source data. Refer to the Project Estimates table in the Executive Summary and Appendix E – Actual Spend and Miles Reviewed in conjunction with the additional information below:

Program	Additional Details:
COH	<p><b>Cost:</b> The cross bore program budget includes costs for inspection, investigation, remediation, public awareness and education, risk model advancements, data analysis, salaries, equipment and travel expenses. The budget is allocated as part of the PSP program, which is determined by the COH Regulatory Group. All costs are recoverable through deferral. COH utilizes WMS in order to track spend, in addition to code patterns for expenses and employee salaries/overhead.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. The amount of miles inspected does not reflect storm and sanitary laterals, and are tracked within the annual totals by operating center log. The laterals are tracked within the same log by the amount of laterals inspected that had a cross bore. The estimated total miles for the entire program are based off of sanitary main footage in records. The estimated years to complete does not include the amount of pipe that could be eliminated in rural areas and replacement.</p>
CKY	<p><b>Cost:</b> The program budget includes costs for inspection, remediation, salaries, expenses, outside services and plant department cost. The budget is determined by executive Kentucky leadership. The recoverable costs include any cross bore identified outside of the legacy program and any capital work. Costs are tracked manually.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. The information is tracked in an invoice log maintained by a Project Specialist. There is an estimated 1,931 miles of main and 14 miles of service for a total of 1,945 miles that should be included in the program. The estimate was obtained by selecting all mains and services within the municipality boundaries for CKY, which was obtained by a GIS Tech. According to the DOT report, at the end of 2017, CKY has a total of 2,586.5 miles of main and 135,767 service lines. Note, the average miles per year was not calculated using miles inspected per year, as the program is expected to gain efficiency.</p>
CGV	<p><b>Cost:</b> The budget includes costs for investigation, remediation and any restoration. Salaries are included in the O&amp;M budget. Money for the program is allocated from the commission in rates as part of the DIMP budget. The only O&amp;M is the Project Specialist's salary and expenses. For tracking spend, Virginia has a code of DP07 in WMS, and the budget is included in the GM budget – not the general O&amp;M budget.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. The amount of miles inspected each year was obtained from a spreadsheet maintaining financial information, which is how miles are being tracked. The estimated total miles for the entire project is from a report requested from engineering that includes all plastic pipe from 1983 – 2008, which came back as 12M feet, which calculates to 2,272 miles. It is estimated that the budget increase (as of this year) will bring the program completion time to ~40 years, as they project to hit 50 miles of inspection for 2019.</p>
CMA	<p><b>Cost:</b> The budget includes costs for camera investigation, field investigations, travel and office expenses and salaries. The budget was created in April 2018 for a two person team. Remediation is taken care of by the Operations Group. There are no recoverable costs (rate case in 2018, but did not get the opportunity). Spend is tracked through WMS – Reverse Billing.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. Note, CMA has only been able to operate the Legacy Cross Bore Program a few months each year due to the Merrimack Valley incident taking precedence. As such, the amount of miles inspected has been limited; however, during the few months of operation, they were able to inspect 11 miles, but this is not enough information to provide a sufficient average of miles inspected per year in order to calculate the number of years to complete the program. The miles inspected are tracked within the Dash Board and Mapping, which is located in GIS. The total number of miles for the program was obtained from a PHMSA report inspected by IA. The number of years to complete the program is an estimate.</p>

# Appendix F – Program Details (Cont'd)

Program	Additional Details:
CPA	<p><b>Cost:</b> The budget includes costs for salaries and expenses of two full-time employees, expenses for one fleet vehicle and sewer investigation by contractors. It also includes costs for remediation, excluding large jobs that will be considered a capital project.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. The miles inspected per year are tracked within the Daily Progress Report completed by the contractors, which is provided to the Project Specialist. The Project Specialist inputs these footages into the manual tracking spreadsheets (Job Orders and Units Reported). The total number of miles completed are miles of sanitary sewer inspected (storm sewers, sanitary laterals and storm laterals are also inspected). There were 25,629 sewer laterals inspected for CPA and 111.9 miles of storm sewer mains have been inspected in CPA since the program started. The estimated total miles of the entire program is 7,500, but the estimated miles remaining for the program is 2,804. These footages are based on a Crossbore Risk Report generated through CIS in August 2018, which deducted capital work areas and areas where sewers had been inspected at that time from the total length of gas main. As such, IA utilized the estimated miles remaining within the table in Appendix E. The average miles per year only averaged the 2014 through 2018, as 2013 and 2019 do not include all 12 months (due to program start date and the date audit work concluded).</p>
CMD	<p><b>Cost:</b> There is no formal legacy cross bore program, but funds have been made available for some legacy sewer inspections since September 2016. For 2017, the initial amount provided was \$100K; however, additional funds were made available in November 2017.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through October 2019. The miles inspected per year are tracked within the Daily Progress Report completed by the contractors, which is provided to the Project Specialist. The Project Specialist inputs these footages into the manual tracking spreadsheets (Job Orders and Units Reported). The total number of miles completed are miles of sanitary sewer inspected (storm sewers, sanitary laterals and storm laterals are also inspected). There were 1,232 sewer laterals inspected for CPA and 2.4 miles of storm sewer mains have been inspected in CPA since the program started. The estimated total miles of the entire program is 650, but the estimated miles remaining for the program is 223. These footages are based on a Crossbore Risk Report generated through CIS in August 2018, which deducted capital work areas and areas where sewers had been inspected at that time from the total length of gas main. As such, IA utilized the estimated miles remaining within the table in Appendix E. The average miles per excludes 2019, as 2019 does not include all 12 months (due to the date audit work concluded).</p>
NIPSCO	<p><b>Cost:</b> The budget includes costs for investigation, remediation, salaries, expenses and contractors. The budget will stay flat from January 2018 to 2021, as it is funded through a rate case. Costs are split between O&amp;M and capital. In order to track spend, a monthly report is run in Cognos.</p> <p><b>Miles:</b> The information provided in the chart in Appendix F is through September 2019. The miles inspected each year are tracked manually the Project Specialist, through spreadsheets, invoices and videos received. The average utilized in the table should increase as the program continues, as it is only in its second year, and have yet to complete an entire 12 months of the program annually. The estimated total miles for the entire project is based on what is reported to PHMSA annually.</p>

**TO:** Tami Ely – Lead IT Analyst, Service Governance  
Amy Weiss-Neal - Manager, Service Governance  
JoAnn Cummins – Director, Service Management  
Kevin Johannsen – VP, IT Services

**FROM:** Goranka Kasic - Project Manager - Infor. Systems Audit  
Greg Wancheck - Director - Infor. Systems Audit

**DATE:** March 5, 2020

**SUBJECT: Software Asset Management Design – Advisory Memo**

NiSource IT Audit performed an independent advisory assessment over Software Asset Management (SAM) processes, including how assets are accounted for, optimized, and maintained for value realization. The objective of IT Audit’s advisory assessment was to provide management with an overall opinion on the design of processes and procedures used to govern, safeguard, and manage software assets throughout the asset lifecycle.

**Key Observations/Review Results:**

Policies and Procedures:

IT Audit’s advisory assessment of currently available NiSource policies and procedures related to Software Asset Management found that an enterprise Software Asset Management procedure is not currently utilized.\* While various components of software asset management were found to be embedded within NiSource’s existing IT policy portfolio, core processes such as the Software Asset Management Lifecycle, Software Asset Compliance (for external and internal licensing audits), and Software Maintenance were found to be managed, but are not formally defined. In addition, while an Operating Level Manual (OLM) for Software Asset Management exists for NiSource’s primary IT Service Providers, this document has not been kept up-to-date. As a result, an opportunity exists for refresh of the legacy Software Asset OLM based on both current IT Service Provider contractual agreements and how the software asset lifecycle currently operates.

IT Audit was made aware of an ongoing effort by NiSource IT Risk Management to refresh the IT enterprise policy and procedure stack. Based on interviews with NiSource’s IT Services management team, IT Audit additionally noted that Software Asset Management will be embedded into a new ITIL-based roadmap for process enhancement. As such, IT Audit sees an

alignment opportunity between IT Services and IT Risk Management in establishing an enterprise Software Asset Management procedure and/or supporting policies that incorporate risk and are based on ITIL best practices.

*\*At the time of IT Audit's Advisory Memo creation, and post Advisory fieldwork closure, IT Audit was made aware of a Software Asset Management Process Handbook that was developed by NiSource as part of the 2017 IT Service Provider Transition. While this Software Asset Management Process Handbook is not currently in use for recent software asset management procedural activities, NiSource IT Service Governance is currently evaluating this document and intends to share it with broader NiSource IT management post completion of this advisory assessment.*

#### Roles and Responsibilities:

IT Audit noted that NiSource Software Asset Management does not have a defined process owner, with the legacy process traditionally managed based on acquired knowledge and experience. As a result, IT Audit sees an opportunity to both define and formalize the roles and responsibilities for all stakeholders within the Software Asset Management process for providing heightened enterprise accountability and awareness.

#### ITIL Adoption:

While it appears ITIL based training has been completed by a majority of NiSource IT members, the roadmap for adoption and execution of ITIL based practices related to Software Asset Management has yet to be defined. Core Software Asset Management processes such as License Audit Framework and Accountability, Software Asset Maintenance, and Software Asset Lifecycle (from license procurement to retirement) have been managed ad-hoc and based on experience. As such, IT Audit sees an opportunity to leverage ITIL in formalizing the Software Asset Management process and in helping define roles, responsibilities, deliverables, and the related communications strategy.

#### **Summary Comments:**

IT Audit noted there is an opportunity to re-evaluate the Software Asset Management process to clearly communicate process ownership and leverage ITIL based Software Asset Management design work that was originally created by NiSource for the 2017 IT Service Provider Transition program. Additionally, configuration and adoption of an ITIL approach would enable the definition and alignment of key roles and responsibilities for the full Software Asset Management value chain.



NiSource IT Audit would like to thank NiSource IT Service Management/Governance and other relevant business stakeholders for their cooperation and time in supporting this effort.

cc: D. Brown  
P. Disser  
M. Rozsa  
G. Skinner  
C. Donev  
J. Tipton  
K. Jones  
K. Morris



# SMS Mitigation Proposal Plan Audit

July 2, 2020

To: William Mojica, VP Safety Management & Engineering

From: Chris Marlatt, Audit Project Manager  
Ryan Binkley, Director Internal Audit



# Executive Summary

Internal Audit performed an audit over the governance and controls of implementing the SMS Mitigation Proposal Plans.

The focus of the audit included the following procedures:

- Determine if SMS Mitigation Proposal Plans are implemented throughout NiSource; and
- Understand the processes and controls in place to govern the implementation of the SMS Mitigation Proposal Plans.

## **Summary Conclusions:**

As a result of our procedures, Internal Audit noted governance processes and controls are in place to properly implement proposal plans throughout NiSource and effectively govern the implementation of the SMS Mitigation Proposal Plan.

The following programs were completed meeting all stated objectives: **Casing Removal, Gasket Strainer Inspections, Electric Systems Maintenance Work Stoppage, and ASV Installation – Massachusetts.**

Internal Audit noted that during the audit some of the mitigation plans experienced delays and were not fully executed. The major cause related to the COVID-19 outbreak starting in March which prevented mitigation teams to conduct field visits, training, etc. The following were still in progress as of testing, however Internal Audit noted that SMS leadership has been aligned with process owners over the status of each project.

**LP Uprates:** Plan delayed due to COVID-19. As of date of testing, the LP Uprate team did execute ON 19-10, suspended LP Uprates involving the incremental method, and applied a buffer zone that requires an investigation to determine if address/structures may or may not be in a LP uprate zone. Remaining effort is to finalize the Gas Standard based upon feedback from Operation SMR's with a planned release date of September 1, 2020. This plan impacts multiple states and departments, and as such, Internal Audit will consider auditing this process in future audit periods.

**Secondary Damage Investigation:** Plan delayed due to COVID-19 which had an effect on the training department being able to instruct the new ON. Revisions to Gas Standards completed to expand the definition of damages, added additional requirements for inside inspection or service shut-off, and enhanced gas leak testing. This plan impacts multiple states and departments, and as such, Internal Audit will consider auditing this process in future audit periods.

**UGS Blowout Contingency Plan:** Delays in getting the third party Wild Well to sign and agree to a service agreement postponed implementation of this plan. Once Wild Well and NiSource came to agreeable terms, COVID-19 also delayed Wild Well's field visits which is required to gather data and develop site specific plan, train, and perform table top exercises.

**Confined Space Entry:** This plan is still aligned with original deadline and has completed the following: implemented and updated procedures for safe entry work practices (permit and non-permit) for confined spaces at Supplemental Gas facilities, created an ON Mitigation Plan, and training and inspections complete for vaporizers at LNG plants.

This audit conforms with the International Standards for the Professional Practice of Internal Auditing. Internal Audit would like to thank SMS staff and management for their cooperation and time in support of this audit.

## Background

During the third quarter of 2019, NiSource performed a 30-Day SMS Deep Dive that focused on producing safety mitigation plans across the five SMS asset classes with the goal of reducing operation risk across NiSource. A total of 8 proposals were approved, the following is a brief description of each plan.

**Casing Removal:** Transmission asset class plan focused on updating standards and contingency planning around transmission casing removal.

**Recommendations for LP Upgrades:** M&R asset class plan which will modify procedures and standards related to work on incremental upgrade projects.

**Gasket Strainer Inspections:** M&R asset class plan focused on creating a formal process to document and perform gasket strainer inspections to ensure gas flow will not be limited if strainers have become partially or completely clogged.

**UGS Blowout Contingency Plan:** Supplemental Gas asset class plan related to creating an underground gas storage blowout contingency plan that meets the standards recommended by the American Petroleum Institute.

**Secondary Damage Investigation:** Main or Services & Meter asset class plan that will enhance and standardize requirements for secondary damage investigations following a reported dig-in when a main or service gas line is damaged, weakened or unexpectedly uncovered during excavation.

**Confined Space Entry:** Supplemental Gas asset class plan focused on implementing specific procedures for safe entry work practices for confined spaces at LNG facilities.

**Electric System Maintenance Stop Work:** Supplemental Gas asset plan which will ensure future electrical work is performed by trained electricians.

**Automatic Shutoff Valves (ASV) Installation – Massachusetts:** M&R asset class plan which resumes work of ASV installation in Massachusetts which was on pause as of August 8, 2019.

# Audit Scope and Approach

Internal Audit performed an audit over the governance and controls of implementing the SMS Mitigation Proposal Plans in accordance with company policies and standards. The review performed aligned with the following objectives:

Objective 1: Determine if SMS Mitigation Proposal Plans are implemented throughout NiSource.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Perform walkthroughs with overall management and process plan owners to understand how proposal plans are being adopted throughout NiSource and ensure that implementation activities are aligned with established plans/proposals.	<b>No Findings Noted</b>

Objective 2: Understand the processes and controls in place to govern the implementation of the SMS Mitigation Proposal Plans.		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Perform walkthroughs with overall management and process plan owners to understand the processes and controls implemented and where applicable perform testing procedures (i.e. test to ensure gasket strainers were inspected or test to see if blowout contingency plan is in compliance with API RP 1171).	<b>No Findings Noted</b>

## Report Distribution

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# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit does not perform follow-up review procedures on low risk findings.</i></u></p>

**TO:** Catherine Larson – Lead Architect – EA Infrastructure  
Katy Perez – Manager, IT Infrastructure  
Viji Jagabandhu – Director, Solution Arch & Information Systems  
Walter Wojcik – Director, IT Applications  
Greg Skinner - VP, IT Infrastructure

**FROM:** Brett Welsch - Project Manager - Infor. Systems Audit  
Greg Wancheck - Director - Infor. Systems Audit

**DATE:** April 17, 2020

**SUBJECT: Planning IT Migration – Advisory Memo**

NiSource IT Audit performed an independent advisory assessment of the NiSource Information Technology (IT) PlanningIT Migration project to migrate Software AG's PlanningIT tool into ServiceNow's (SNOW) Application Program Management (APM) module. This migration was performed by KPMG LLP, with NiSource IT providing support and guidance. The objectives of this migration were to establish confidence in how to ensure data quality of NiSource's application portfolio, enable proactive decision making, drive operational excellence, and establish further capabilities within the ServiceNow platform.

### **Key Observations/Review Results:**

#### PlanningIT Migration to ServiceNow APM:

IT Audit's advisory assessment found the project utilized a systematic approach to validate, update and migrate data from the legacy PlanningIT tool into ServiceNow APM. The project team held workshops to identify the key application fields necessary for migration, divided NiSource's applications into functional groups (corporate, customer, infrastructure, etc.), and validated PlanningIT information with both relevant IT and Business owners prior to migration. Additionally, reports and tasks were setup within SNOW to provide the periodic data review cadence required to drive continued accuracy.

#### Statement of Work Deliverables:

IT Audit noted that within the associated Statement of Work (SOW) between KPMG and NiSource IT, nine (9) deliverables were found to be related to APM module development. These deliverables included items such as policy and process guides, technical designs, and "As-Built" documentation outlining configuration changes for the APM module. IT Audit verified these SOW deliverables were created and documented within the construct of project deliverables and in their handoff discussions with WIPRO to assist with understanding and



preparation for APM support (as WIPRO is responsible for ongoing steady state support of the SNOW APM module).

**Future State Management Controls:**

Lastly, IT Audit verified the project team created future state management controls to be utilized by NiSource IT management in assisting with ongoing accuracy and completeness of the SNOW APM module and associated data during steady state operation. These controls consist of reports and tasks, both on-demand and scheduled, which will assist NiSource IT management in maintaining accuracy and completeness of the APM module. IT Audit also met with NiSource IT Risk Management in preparation for inclusion of these management controls in future state IT compliance efforts to ensure they are performed and maintain currency.

**Summary Comments:**

IT Audit found the project team's migration of the defined business application repository from the PlanningIT tool into ServiceNow APM, coupled with subsequent data validation, allowed for the creation of a new application with initially accurate data and processes designed to maintain data accuracy. Additionally, the detailed handover between NiSource IT Service Integration and WIPRO should assist with the support of the new system. However, the continued accuracy of data and information within the tool can only be maintained provided solid processes and procedures are followed and the management controls developed during the project are performed on a routine basis. IT Audit encourages the related SNOW APM IT management controls provided by KPMG be absorbed into any future state NiSource IT Risk Management framework(s) so as to require their continued use in maintaining the accuracy of the system.

NiSource IT Audit would like to thank NiSource IT Architecture, Infrastructure and Application teams and other relevant business stakeholders for their cooperation and time in supporting this effort.

cc: D. Brown  
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## 2020 Tie-In Audit

May 15, 2020

To: William Mojica, VP Safety Management & Engineering

From: Chris Marlatt, Audit Project Manager  
Ryan Binkley, Director Internal Audit



# Executive Summary

Internal Audit performed an audit over the governance, controls, and management of change to properly execute tie-in work in accordance with company policies and standards for COH, CKY, CGV, CPA, and CMD.

The focus of the audit included the following procedures:

- Determine if tie-in work completed was performed in accordance with company policies and standards; and
- Understand the processes and controls in place to govern the tie-in work flow from design to close-out.

## **Summary Conclusions:**

As a result of our procedures, Internal Audit noted governance processes and controls are in place to properly execute tie-in work in accordance with company policies and standards. Internal Audit noted no findings, however we have made observations regarding Operator Qualifications (“OQ”) and SMS activity/CAP tool.

## **OQ Observations:**

With the assistance of the PS&C department Internal Audit noted that none of the selections showed OQ noncompliance; however Internal Audit did note the following:

- Inconsistency in retaining (i.e. uploading to WMS Docs) OQ documentation;
- Instances where the construction coordinator had past due OQ covered tasks; since they are not physically doing the work this observation is more of a of best practice consideration that coordinators are “current” for all OQ Covered tasks; and
- Tie-in work is typically group based. As such, we noted examples of work where Internal Audit was unable to conclude whether there was full compliance as each task designated as part of a job is not fully documented/reported for each person, etc.

## **SMS Task Force**

The SMS department created a task force to address the growing number of CAP tool items related to Tie-ins and the Tie-in Plan. Starting in February 2020 a cross departmental approach was created to provide SME knowledge to identify which areas of the Tie-in Plan and Tie-in process to focus on. Internal Audit noted that these teams had representation from each state and from all critical departments (i.e. Engineering, Construction, Operations, Standards, Training, and SMS). In March 2020 there was an all hands meeting where specific issues and subteams were identified, see **following slide** for list.

## Executive Summary (Con't)

As of time of testing the following are the different sub teams that are addressing Tie-in risks:

- Contingency Plans – Team created to overhaul the contingency plan section of the Tie-in Plan
- Emergency Tie-In Process – Team created to streamline the process for emergency Tie-in Plans
- Engineering Checklist & Signature Process – Plan to make edits to the engineering section of the Tie-in Plan and clarifying what goes into the signature/approval process within the Advanced Briefing Section
- Tie-in Preparation – Construction/Field Operations and Pre-Construction Review – Team working on edits to each checklist section
- Miscellaneous Items – Team looking into the use of specific equipment (i.e. Air Movers, Electric Gauges, and Tablets)
- Tie-in Specific Template and Drawing Updates - Will review Tie-in specific process steps and standard Tie-in drawings

### ***Internal Audit Conclusion***

Internal Audit will plan to perform follow up work at a later date to determine if the various states adopted the changes from the above SMS Tie-in teams. In addition Internal Audit will comment on SMS leadership's communication of the changes, training provided, and highlight how SMS Management is assessing the effectiveness of the changes as part of the SMS methodology of plan, do, check, act.

## Background

During 2019 there were changes to Gas Standard 1680.010 “Tie-Ins and Tapping Pressurized Pipelines” and a new Gas Standard 2810.050 “Stakeholder Reviews of Design Capital Projects” that impacted the processes and controls related to tie-in work. One of the changes was the expansion of the Tie-in Plan. The Gas Standard provided a Tie-in Plan template that included an Engineering Checklist, Contingency Plan, Advance Briefing, Construction/Field Operations Checklist, Pre-Construction Review, and Project-Specific Tie-in Steps.

## Audit Scope and Approach

Internal Audit performed an audit over the governance, controls, and management of change to properly execute tie-in work in accordance with company policies and standards. The review performed aligned with the following objectives:

<b>Objective 1: Determine if tie-in work completed was performed in accordance with company policies and standards.</b>		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Sampled completed Job Orders (both internal and external) and make sure that the Tie-in Plan is filled out in accordance with Gas Standards.	<b>No Findings Noted</b>
2	Verify if Tie-in work performed was completed by individuals with proper OQ.	<b>No Findings Noted</b>
3	Determine if work had proper approval based on GS guidance (i.e. peer or PE).	<b>No Findings Noted</b>

<b>Objective 2: Understand the processes and controls in place to govern the tie-in work flow from design to close-out.</b>		
#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Perform walkthroughs with Gas Control, Engineering, Construction to understand how Gas Control is notified of work performed.	<b>No Findings Noted</b>
2	Perform walkthroughs with supporting departments (i.e. Construction Scheduling, Close-out, PS&C, SMS) to understanding additional layers of governance over the Tie-in process.	<b>No Findings Noted</b>

## Report Distribution

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D. A. Creekmur	D. Schmelzer
B. K. Archer	Deloitte & Touche, LLP
K. H. Cole	
M. A. Huwar	

# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings do not require an auditee Management Response nor a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit does not perform follow-up review procedures on low risk findings.</i></u></p>



# 2020 Finding Follow Up: Abnormal Operating Conditions on Customer-Owned Services – Columbia Gas of Pennsylvania

July 13, 2020

To: Michael Davidson, VP & GM of CPA/CMD

From: Jaclyn Callahan, Manager Internal Audit  
Ryan Binkley, Director Internal Audit





## Executive Summary

During 2018, Internal Audit conducted an audit to assess how Abnormal Operating Conditions (AOC)\* were tracked through the use of the NiSource Field Application Survey Tool (NiFAST) and how identified AOCs were remediated timely for Columbia Gas of Pennsylvania (CPA). As of result of the audit, the following **moderate** risk audit finding was created specific to customer-owned services:

- **2018 Audit Finding:** Formal policies, processes and procedures have not been established to address AOCs identified on customer-owned service lines in CPA. (Refer to **Appendix A** for findings rating scale.)
- **2018 Management Response:** Management and IT will be submitting a RIT for the April (2019) IT demand meeting to notify customers through an automated process. This process will entail sending a communication in letter format that notifies a customer to take certain actions when an AOC is identified. The solution will be linked to NiFAST: When a customer is identified, a letter needs to be triggered. After a letter is sent, it needs documented and recorded as such in NiFAST. This IT solution will be in place by the end of the 3<sup>rd</sup> quarter. This change in process will be used when the condition is not deemed to be hazardous. In addition to the IT automated notification, Management will also be putting together a cross-functional team consisting of Regulatory, Legal, Compliance, System Operations and the Integration Center to design the communication message for any possible AOC on a customer-owned service line.

To verify that Management implemented the actions noted above, Internal Audit performed the following:

- Reviewed templates of the letter created to notify customers of AOCs on their lines.
- Obtained a listing of all AOCs identified on customer-owned services from the November 18, 2019 – March 27, 2020.\*\*
  - For a selection of **40** customers, Internal Audit verified DIS system programming indicated that letters were generated.
  - For a selection of **5** customers, Internal Audit obtained a copy of the actual letter sent. No exceptions were noted.

**Internal Audit Conclusion:** Based on procedures performed, Internal Audit considers the finding **adequately addressed by CPA Management**. As such, Internal Audit will close this audit finding.

\*The Code of Federal Regulations, Title 49, Section 192: Subpart I (*Requirements for Corrosion Control*) defines an abnormal operating condition as a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may: (a) indicate a condition exceeding design limits; or (b) result in a hazard(s) to persons, property, or the environment.

\*\*Management implemented the automated process to send letters notifying customers of any AOCs identified on their assets going forward from November 18, 2019. However, as a result of COVID-19, these letters were suppressed as of March 27<sup>th</sup> as Management decided not to send letters that referenced the possibility of shutting off services during the pandemic.

# Report Distribution

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C. Levander	
D. Monte	

# Appendix A

Ratings Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response.</i></p> <p><u><i>Internal Audit typically does not perform follow-up review procedures on low risk findings.</i></u></p>



# NiSource Officer Expense Audit

July 28, 2020

To: J. Hamrock, Chief Executive Officer  
From: A. Meyers, Senior Internal Auditor  
J. Callahan, Manager Internal Audit  
R. Binkley, Director Internal Audit

**Note:** Officers as defined in this review were referred to as the Executive Council as of December 31, 2019. In June 2020, the name was changed to the Executive Leadership Team and members of that team were also changed. Those changes will be reflected in the audit conducted over 2020 expenses.



## Executive Summary

Internal Audit conducted an audit of spend incurred by Officers(1) via NiSource corporate credit cards as well as any cash reimbursements processed through the MySpend expense reporting system to identify trends in spending and instances of non-compliance during the period of January 1, 2019 to December 31, 2019(2).

As part of the testing procedures, Internal Audit identified the population of expenses incurred by Officers related to the Columbia Gas of Massachusetts' Greater Lawrence Incident (GLI) that occurred on September 13, 2018. Restoration efforts and related expenses were incurred in both 2018 and 2019; however, the related Officer expenses decreased significantly in 2019. Officer GLI spend for 2019 was **\$8.7K**, which accounted for **~3%** of the total **\$345K** Officer Spend and **~0.2%** of the total 2019 GLI spend of **\$4.4M**.(3)

The focus of the audit included the following procedures:

- Review Accounts Payable and Supply Chain procedures to monitor spend and/or periodically audit Officer expenses; and
- Review Officer expense reimbursements to identify any potential unusual items and/or trends.

### Summary Conclusions:

Internal Audit identified **two (2) low risk** audit findings related to MySpend audit rules and minor deviations from policy.

### Low Risk Finding #1: MySpend Pre-Payment Audit Rule

As an added level of review(4), Accounts Payable programmed MySpend to require all expense reports submitted by Officers and their Administrative Assistants to be subject to a pre-payment audit performed by Accounts Payable personnel. Upon review of this process in Q1 2020, Internal Audit noted that one (1) Officer and their supporting Administrative Assistant (both new to the role in 2019) were excluded from the programming language. As of the date of this report, Accounts Payable has updated the MySpend programming to ensure that all current Officers and their Administrative Assistants are included.

- **Recommendation:** Accounts Payable should establish a process to periodically update the MySpend pre-payment audit programming for any changes to Officer and Executive Administrative Assistant roles.

(1) For the purposes of this audit, Officers are defined as any direct report to the CEO as of December 31, 2019.

(2) Expense population determined by utilizing the GL Extraction Date, the date the expense is posted to the General Ledger.

(3) While no additional testing procedures were deemed necessary, the Officer GLI expense population was subject to review through both analytic procedures and sample testing.

(4) This additional level of review performed by Accounts Payable is not identified as a 404 control but is considered a best practice.

## Executive Summary (Cont'd)

### Summary Conclusions (cont'd):

- **Management Response:** Going forward, a monthly check will be completed using the HR employee list to ensure all employees reporting directly to the CEO and their administrative assistants will be included in the audit group. This group will have all expense reports submitted to the audit queue for review and approval.

### Low Risk Finding #2 –Supporting Documentation:

Internal Audit reviewed **57** Officer expense selections for compliance with corporate policy and treatment for tax purposes. (Refer to **Appendix B** for testing criteria and risk factors utilized in selection process). As a result, it was noted that one (**1**) Officer expense selection did not provide the level of detail required by policy in the documentation uploaded to MySpend.

- **Recommendation:** Officers and their Administrative Assistants should ensure that supporting documentation submitted meets the requirements outlined in NiSource policy.
- **Management Response:** In the future, hotel receipts for meeting deposits and conference room rentals will be returned if not itemized.

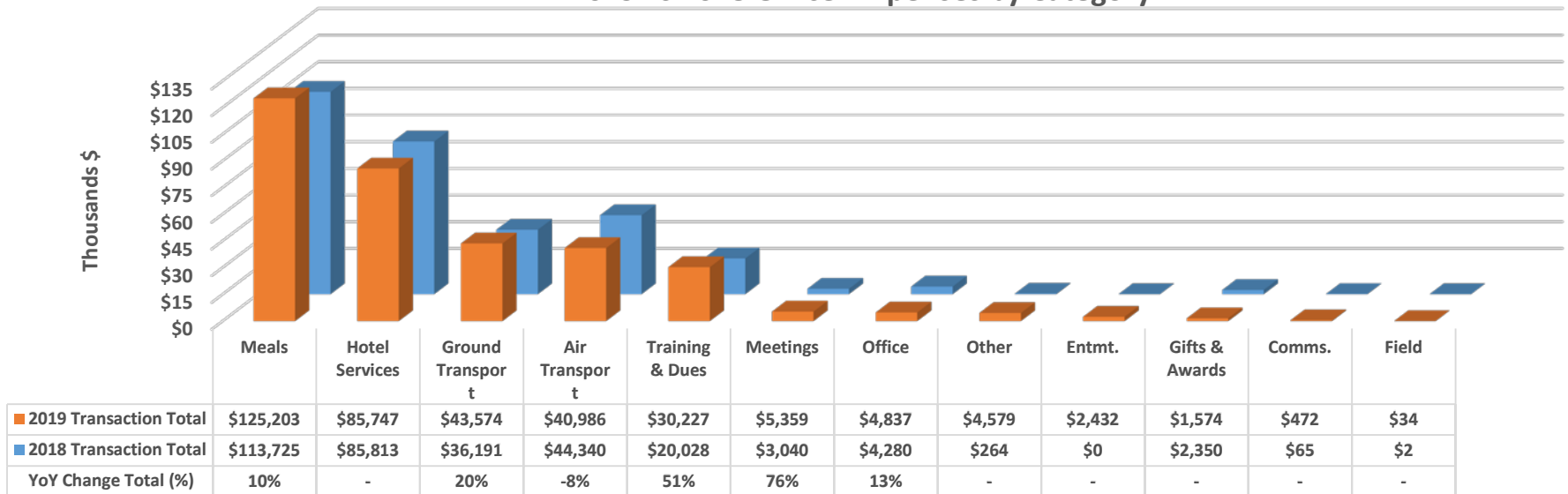
### Analytic Highlights

- Officer expenses for 2019 increased **\$35K (11%)** over 2018. The main drivers of this increase were within the following expenses categories: Meals (**\$11K**), Training (**\$10K**), and Ground Transportation (**\$7K**). (Refer to **Appendix C – Analysis by Officer** and **Appendix E – Analysis by Category**).
- Spend submitted by the Administrative Assistants who support Officers increased 100% during 2019. Internal Audit analyzed the total spend by each Administrative Assistant to identify any unusual items or trends. (Refer to and **Appendix D – Analysis by Administrative Assistant**).
  - Note: As Administrative Assistants may incur expenses that benefit Officers due to the nature of their supportive roles and responsibilities, Internal Audit reviewed supplemental selections (as noted in **Appendix B**) in order to ensure that any expenses made by the Administrative Assistants for an Officer’s benefit had the appropriate level of review.

Employee Level	2019	2018	Change (\$)	Change (%)
Officer	345,024	310,098	34,926	11.3%
Administrative Assistant	124,008	61,900	62,108	100.3%

# Executive Summary (Cont'd)

2019 vs 2018 Officer Expenses by Category



Refer to **Appendix E** for further analysis on Officer spend by category.

## Background

The following NiSource policies apply to the use of corporate credit cards and reimbursement of business expenses:

Policy Name	Owner
Business Expense Rules and Guidelines (includes Guidelines reference document)	Finance & Accounting
Requisition and Disbursement Approval Levels	Finance & Accounting
Vehicle Policy	Supply Chain
Travel Policy	Supply Chain
Mobile Devices and Cellular Services Policy	Information Technology
Fraud Prevention Policy	Corporate
Gifts, Meals and Entertainment	Corporate
Use of Aircraft Policy	Corporate

In 2018, NiSource transitioned from an American Express Employee Expense card to a JPMorgan Chase (“One Card”) Visa. American Express was effective as the provider for corporate cards from January 1, 2018 through August 30, 2018 and the One Card was effective July 19, 2018 through the date of this review.

In 2019, Officers held only One Cards to pay for business expenses. One Card charges are auto-fed into the NiSource expense reporting system, MySpend, and then processed by the individual Officers. Officers who incur out of pocket business expenses may include them within their MySpend expense reports for review and approval by their supervisor. Once expense reports are processed and approved within MySpend, payments are remitted to the card administrator.

Accounts Payable designed the following rules within the MySpend system:

- “Hard Stops” are generated if a transaction does not meet programmed criteria and an automatic web response is sent to the MySpend user notifying them that the expense report won’t be processed until all required criteria have been entered.
- Expense reports meeting programmed criteria within MySpend are sent to pre-payment reviews performed by Accounts Payable. As part of the programmed criteria, Accounts Payable reviews:
  - A system generated sample of 10% of all expense reports submitted; and
  - Expense reports from Officers and their Administrative Assistants are automatically sent to the audit queue. The list is periodically updated. (Refer to **Slide 7** for a finding related to this process.)



# Audit Scope and Approach

<b>Objective 1: Analyze Officer expenses to identify unusual items and/or trends.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary (Refer to Appendix A)</b>
1	Analyze a two-year period of Officer to detect significant variations over time.	<b>No Findings Noted – Refer to Appendix C</b>
2	Analyze the current audit period’s Officer expenses and determine whether the expenses were submitted timely for review, approval, and payment.	<b>No Findings Noted</b>
3	Analyze the current audit period’s Officer expenses to identify outliers, anomalies, or potential fraud indicators.	<b>Refer to Objective 2 &amp; Appendix E</b>
<b>Objective 2: Determine whether corporate credit card expenses are submitted timely and processed in accordance with the Business Expense Policy and Internal Revenue Service guidelines.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary (Refer to Appendix A)</b>
1	Review the procedures performed by Accounts Payable and Supply Chain to monitor spend and/or periodically audit transactions incurred by Officers.	<b>Finding #1 – See Page 7</b>
2	Using a risk-based approach, review selected expense transactions incurred by Officers (and their administrative assistants) identified as part of our analytic procedures in Step 3 of Objective 1 and evaluate their compliance with Corporate Policies.	<b>Finding #2 – See Page 8</b>
3	Review procedures followed to identify expenses incurred on behalf of the Officer’s spouse and ensure proper treatment for tax purposes.	<b>No Findings Noted</b>
4	Verify that taxable travel (including the use of the Company-leased aircraft or instances of unique commuting arrangements) has been identified and properly included in income as required by IRS reporting requirements for Officers.	<b>No Findings Noted</b>
5	Assess the accuracy and completeness of perquisite information disclosed in the most recent NiSource, Inc. Proxy (Schedule 14A) for the applicable Officers.	<b>No Findings Noted</b>

## Findings (Cont'd)

<p><b>Objective #2, Procedure #1:</b> Review the procedures performed by Accounts Payable and Supply Chain to monitor spend and/or periodically audit transactions incurred by Officers.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> One (1) Officer and their supporting Administrative Assistant (both new to the role in 2019) were excluded from MySpend programming language which sends expense reports to Accounts Payable to perform pre-payment audits.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Remediation Date:</b></p> <p><b>Q3 2020</b></p>
<p><b>Observation</b></p> <p><b>Criteria:</b> As an added level of review, MySpend is programmed to require all expense reports submitted by Officers and their Administrative Assistants to be subject to a pre-payment audit performed by Accounts Payable personnel.</p> <p><b>Condition:</b> Upon review of this process in Q1 2020, Internal Audit noted that one (1) Officer and their supporting Administrative Assistant (both new to the role in 2019) were excluded from the programming language. As of the date of this report, Accounts Payable has updated the MySpend programming to ensure that all current Officers and their Administrative Assistants are included.</p> <p><b>Risk/Impact:</b> Instances of non-compliance with policy and / or unusual transactions may not be identified by management.</p>	
<p><b>Recommendation</b></p> <p>Accounts Payable should establish a process to periodically update the MySpend pre-payment audit programming for any changes to Officer and Executive Administrative Assistant roles.</p>	
<p><b>Management Response</b></p> <p>Going forward, a monthly check will be completed using the HR employee list to ensure all employees reporting directly to the CEO and their administrative assistants will be included in the audit group. This group will have all expense reports submitted to the audit queue for review and approval.</p>	

## Findings (Cont'd)

<p><b>Objective #2, Procedure #2:</b> Review selected corporate card expense transactions identified as outliers, anomalies, or potential fraud indicators and evaluate their compliance with corporate policies.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> One (1) Officer expense selection did not provide the level of detail required by policy in the supporting documentation uploaded to MySpend.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Remediation Date:</b></p> <p>Q3 2020</p>
<p><b>Observation</b></p> <p><b>Criteria:</b> Officer expenses are for valid business purposes, are adequately supported and reviewed, and are in compliance with corporate policy.</p> <p><b>Condition:</b> Internal Audit reviewed <b>57</b> expense selections for compliance with corporate policy and treatment for tax purposes. (Refer to <b>Appendix B</b> for testing criteria and risk factors utilized in selection process). Internal Audit identified one (<b>1</b>) Officer expense selection did not provide the level of detail required by policy in the supporting documentation uploaded to MySpend.</p> <p>The selection identified related to a deposit for the June NiSource Leadership Meeting for ~\$8,317 that was labeled as a “Hotel” expense in MySpend. Based on the nature of this transaction, the expense type for “Conference Room Rentals” may be more appropriate*; however, the Business Expense Rules and Guidelines note that both expense types require the following supporting documentation:</p> <ul style="list-style-type: none"> <li>• <b>Hotel:</b> Itemized hotel receipts must be provided in order for room expenses to be distinguished from all other expenses; and</li> <li>• <b>Conference Room Rentals:</b> Offsite Conference Room Rental or deposit should be itemized by day and by conference room. Itemizations are required.</li> </ul> <p>A receipt was uploaded to MySpend for this expense, which had one line item for “group charges.” Internal Audit noted that this selection was audited by Accounts Payable as part of the MySpend pre-payment audit rule but was not sent back to the Officer to provide the proper level of detail.</p> <p><i>*As the accuracy of the expense type classification impacts the business’ ability to analyze expenses (e.g. identify average cost per person, transaction, and / or day) and make policy decisions, we encourage Officers and their Executive Administrative Assistants to fully consider the nature of the transaction when classifying expenses.</i></p>	

## Findings (Cont'd)

<p><b>Objective #2, Procedure #2:</b> Review selected corporate card expense transactions identified as outliers, anomalies, or potential fraud indicators and evaluate their compliance with corporate policies.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> One (1) Officer expense selection did not provide the level of detail required by policy in the supporting documentation uploaded to MySpend.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Remediation Date:</b></p> <p>Q3 2020</p>
<p><b>Observation (cont'd)</b></p> <p><b>Risk/Impact:</b> Instances of non-compliance with policy and / or unusual transactions may not be identified by management.</p>	
<p><b>Recommendation</b></p> <p>Officers and their Administrative Assistants should ensure that supporting documentation submitted in MySpend meets the requirements outlined in NiSource policy.</p>	
<p><b>Management Response</b></p> <p>In the future, hotel receipts for meeting deposits and conference room rentals will be returned if not itemized.</p>	

## Report Distribution:

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              P.A. Vegas                K. Shugart  
              S. Brummitt              Deloitte & Touche, LLP  
              S. Anderson

# Appendix A

Ratings Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
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<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response.</i></p> <p><u><i>Internal Audit typically does not perform follow-up review procedures on low risk findings.</i></u></p>

## Appendix B – Selection Analysis

Using a risk-based approach, Internal Audit selected a total of **57** selections for compliance with corporate policy and treatment for tax purposes based on the following criteria and methodologies:

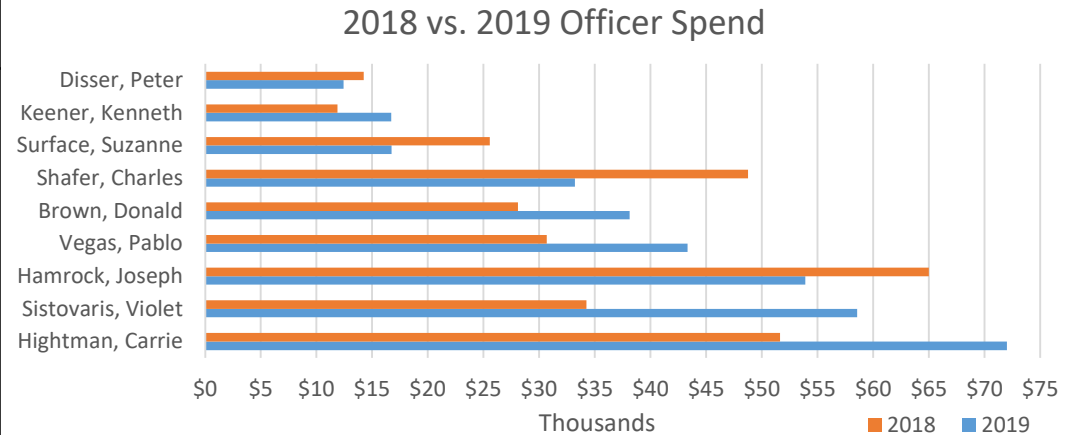
Criteria:	Definition:
High Risk Expense Types	Expense types with past audit issues, higher potential for fraud, misclassification, or tax impacts such as Gifts, Entertainment, & Other
Amount	High dollar spend, or high spend per nights stay, rental days, or attendees; spend just under receipt requirements or other thresholds
Payment Type	Cash reimbursements in unexpected expense types
Vendor	Unusual vendors
Business Purpose	Transactions without sufficient detail in the business purpose (e.g. March Expenses) or transactions which indicate a purpose related to NIPAC
Fraud Risk Factors	Transactions incurred on weekends or holidays, round dollar amounts, spend just below policy limits, etc
Risk of Inadequate Review	Internal Audit made selections of expenses submitted by Officers' Administrative Assistants to address the risk of an Administrative Assistant charging expenses for the benefit of the Officer without adhering to the appropriate approval process in those cases. Additionally, Internal Audit noted that total expenses submitted by Officers' Administrative Assistant expenses increased \$62.1K from 2018 to 2019, which is a 100.3% increase. As such, IA selected nine (9) selections from the 2019 Executive Administrative Assistant Expenses obtained from MySpend, as this was deemed to be a risk factor in the current year.

Selection Summary				
Employee Level	Selections		Population	
	#	\$	#	\$
Officers	48	59,474	2,586	345,024
Admin Assistants	9	24,706	686	124,008
<b>Total</b>	<b>57</b>	<b>84,180</b>	<b>3,272</b>	<b>469,032</b>

## Appendix C – Analysis by Officer

The table and chart below display the 2019 vs. 2018 MySpend expenses for Officers. Total Officer spend increased 11% from 2018 to 2019. See below for further analysis:

Spend by Officer	2019	2018	Change (\$)	Change (%)
<b>Brown, Donald</b>	38,130	28,098	10,032	36%
<b>Disser, Peter</b>	12,437	14,240	(1,803)	-13%
<b>Hamrock, Joseph</b>	53,899	64,993	(11,094)	-17%
<b>Hightman, Carrie</b>	72,001	51,636	20,365	39%
<b>Keener, Kenneth</b>	16,719	11,883	4,836	41%
<b>Shafer, Charles</b>	33,201	48,763	(15,562)	-32%
<b>Sistovaris, Violet</b>	58,566	34,236	24,330	71%
<b>Surface, Suzanne</b>	16,754	25,575	(8,821)	-34%
<b>Vegas, Pablo</b>	43,317	30,674	12,643	41%
<b>Grand Total</b>	<b>345,024</b>	<b>310,098</b>	<b>34,926</b>	<b>11%</b>



In addition to the selection testing performed, Internal Audit noted that these increases were evaluated as part of our analysis of the top 5 expense categories (Refer to **Appendix F** through **Appendix I**):

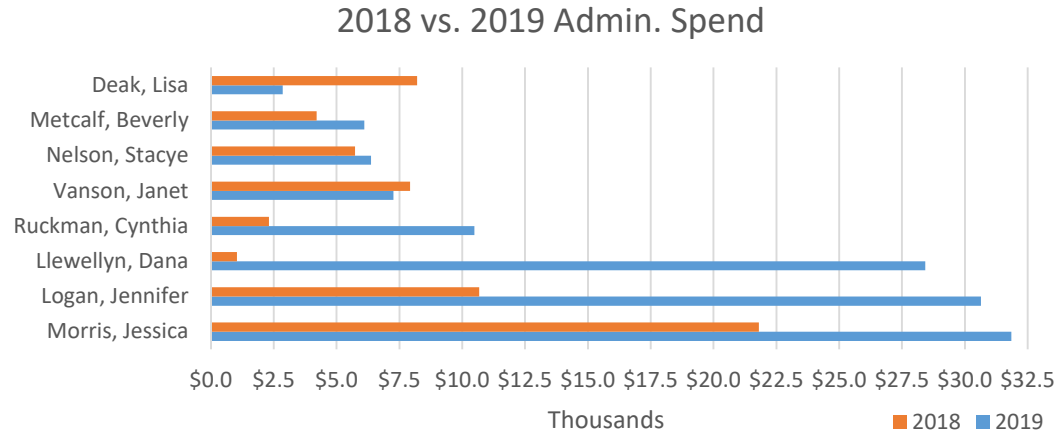
Internal Audit concluded that the increases listed above were reasonable. Refer to **Appendix E – Analysis by Category** for an overview of Officer spend by category.



# Appendix D – Analysis by Administrative Assistant

The table and chart below display the 2019 vs. 2018 spend for Administrative Assistants that directly reported to Officers as of 12/31/2019. Overall spend submitted by Administrative Assistants Spend doubled in total from 2018 to 2019. See below:

Spend by Admin.	2019	2018	Change (\$)	Change (%)
<b>Morris, Jessica</b>	31,857	21,809	10,048	46%
<b>Logan, Jennifer</b>	30,646	10,673	19,973	187%
<b>Llewellyn, Dana</b>	28,429	1,036	27,393	2644%
<b>Ruckman, Cynthia</b>	10,488	2,316	8,172	353%
<b>Vanson, Janet</b>	7,257	7,922	(665)	-8%
<b>Nelson, Stacye</b>	6,378	5,731	647	11%
<b>Metcalf, Beverly</b>	6,099	4,210	1,889	45%
<b>Deak, Lisa</b>	2,854	8,203	(5,349)	-65%
<b>Grand Total</b>	<b>124,008</b>	<b>61,900</b>	<b>62,108</b>	<b>100%</b>



- 1** – Morris’ **\$10K** increase related to catering for SMS project meetings, which did not occur in 2018.
- 2** – Logan’s **\$20K** increase was for an Officer’s OSU Fisher College of Business COE Board Membership that commenced in 2019.
- 3** – Llewellyn had a **\$26K** increase due to travel related to monthly SMS Quality Review Board meetings that commenced in April 2019.
- 4** – Ruckman had a **\$6K** increase related to dues to a professional organization for two annual periods - both 2018 and 2019 dues were posted to the GL in 2019 .

**Conclusion:** Per review of the table above, Internal Audit noted the following 2019 expense increases related to projects, events and membership dues that were not incurred in 2018. Internal Audit concluded that the increases listed above were reasonable. As such, no further analysis has been provided for Administrative Assistant spend.

Note, Internal Audit identified three (3) policy deviations within the population of expenses submitted by Administrative Assistants:

- One (1) selection that was a taxable expense not properly included in income; and
- Two (2) selections that were misclassified in the Expense Type field available within MySpend.

These deviations are not included as a separate finding in this report, as these deviations did not directly relate to an Officer and the nature of the exceptions are covered by existing findings within the **Employee Expense Review**.

## Appendix E – Analysis by Category

Internal Audit reviewed Officer spend by expense category, noting the top 5 categories with highest spend made up **94%** of the total Officer spend. Additionally, Internal Audit compared the average spend by category incurred by Officers to the average spend of the same category incurred by non-Officers, noting the following:

Officer Spend by Category					2019 Average Spend per Transaction			Reference:
Category	2019 (\$)	2018 (\$)	Variance (\$)	Variance (%)	Officer Average (\$)	Non-Officer Average (\$)	Variance (\$)	
Meals	125,203	113,725	11,478	10%	169	50	119	Appendix E
Hotel Services	85,747	85,813	(66)	0%	135	103	32	Appendix F
Ground Transportation	43,574	36,191	7,383	20%	57	45	12	Appendix G
Air Transportation	40,986	44,340	(3,354)	-8%	197	263	(66)	Appendix H
Training, Dues & Memberships	30,227	20,028	10,199	51%	916	477	439	Appendix I
Meetings	5,359	3,040	2,319	76%	335	445	(110)	N/A
Office	4,837	4,280	557	13%	72	131	(59)	N/A
Other	4,579	264	4,315	1634%	82	418	(336)	*
Entertainment	2,432	-	2,432	100%	304	414	(110)	N/A
Gifts & Awards	1,574	2,350	(776)	-33%	143	157	(14)	N/A
Communications	472	65	407	626%	10	88	(78)	N/A
Field	34	2	32	1600%	34	234	(200)	N/A
<b>Grand Total</b>	<b>345,024</b>	<b>310,098</b>	<b>34,926</b>	<b>11%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	

\*Due to the variable nature of the “Other” category, IA deemed it necessary to provide further information on the year-over-year fluctuation, as this category may contain expenses for: advertising, charitable contributions / donations, credit card fees and miscellaneous costs. For this category in table above, the year-over-year variance is related to a **\$2.2K** donation for the GCSC Community Cup and **\$2.4K** for CMA Emergency Response.

**NOTE:** In **Appendix F** through **Appendix J**, Internal Audit reviewed any Officer’s spend within the respective category with a variance over \$5K from the prior year to identify drivers. All averages in this report are based on transaction count. Additionally, Internal Audit identified outliers within category spend to review for compliance with policy as part of our selections testing methodology on Slide 11. IA also identified the top 5 vendors of the top 5 categories noted in the table above (see **Appendix K**).

## Appendix F – Meals Analysis

Officers' largest expense category related to Meal expenses totaling ~\$125K in 2019. Refer to the tables below for further analysis:

Officer	2019	2018	Change	
	\$	\$	(\$)	(%)
Sistovaris, Violet	35,487	11,660	23,827	204% <sup>1</sup>
Hamrock, Joseph	20,657	22,486	(1,829)	-8%
Vegas, Pablo	19,790	12,420	7,370	59% <sup>2</sup>
Hightman, Carrie	13,015	20,911	(7,896)	-38% <sup>1</sup>
Shafer, Charles	12,712	14,896	(2,184)	-15%
Keener, Kenneth	7,690	5,563	2,127	38%
Surface, Suzanne	7,367	15,752	(8,385)	-53% <sup>3</sup>
Brown, Donald	6,161	5,964	197	3%
Disser, Peter	2,324	4,073	(1,749)	-43%
<b>Grand Total</b>	<b>125,203</b>	<b>113,725</b>	<b>11,478</b>	<b>10%</b>

<sup>1</sup> – The main driver of the Sistovaris' increase related to expenses totaling \$16.4K for the 2019 Energetic Women's Conference. Expenses related to this event totaling \$17.6K were submitted by Hightman in 2018.

<sup>2</sup> – The increase for Vegas can mainly be attributed to \$8.6K related to multiple SMS Quality Review Board dinners in 2019, which was implemented in 2019.

<sup>3</sup> – The significant decrease for Surface is mainly attributed to \$10.8K related to CVT Weekly Working Sessions that occurred in 2018, but not 2019.

Meals – Expense Type	2019			2018			Change	
	\$	Count	Average (\$)	\$	Count	Average (\$)	(\$)	(%)
With Attendees *	113,892	419	272	104,459	500	209	9,433	9%
Work Late/Snacks/Celebrations	5,976	27	221	6,351	10	635	(375)	-6%
Self Only - Travel Status	5,283	293	18	2,900	159	18	2,383	82%
Self Only - Not On Travel Stat (Taxable)	52	4	13	15	2	8	37	247%
<b>Grand Total</b>	<b>125,203</b>	<b>743</b>	<b>169</b>	<b>113,725</b>	<b>671</b>	<b>169</b>	<b>11,478</b>	<b>10%</b>

\*For the Meals with Attendees Expense Type, the average cost per attendee for expenses submitted by Officers was \$40 per attendee. Internal Audit noted that the average cost per attendee for expenses submitted by Non-Officers in 2019 was \$19. Of the 419 Meals with Attendees submitted by Officers, 48 of them were over \$100 per attendee. The maximum meal per attendee submitted by an Officer was \$482 per person.

## Appendix G – Hotel Services Analysis

Officers' second largest expense category related to Hotel Services expenses totaling ~\$85.7K in 2019. Refer to the tables below for further analysis:

Officer	2019	2018	Change	
	\$	\$	(\$)	(%)
Hightman, Carrie	24,747	6,438	18,309	284% <sup>1</sup>
Hamrock, Joseph	17,943	26,647	(8,704)	-33% <sup>2</sup>
Brown, Donald	13,069	9,316	3,753	40%
Sistovaris, Violet	9,120	7,638	1,482	19%
Vegas, Pablo	6,801	10,890	(4,089)	-38%
Shafer, Charles	5,661	12,757	(7,096)	-56% <sup>3</sup>
Disser, Peter	4,548	5,430	(882)	-16%
Keener, Kenneth	2,086	2,513	(427)	-17%
Surface, Suzanne	1,772	4,184	(2,412)	-58%
<b>Grand Total</b>	<b>85,747</b>	<b>85,813</b>	<b>(66)</b>	<b>-0.1%</b>

<sup>1</sup> – The significant flux from prior year for Hightman related to ~\$13K expenses incurred in 2019 for travel for CMA legal meetings, prep and hearings for the GLI.

<sup>2</sup> – The decrease in Hamrock's hotel spend in 2019 can be attributed to \$3K expensed in 2018 for an extension of the Executive Council Meeting that did not occur in 2019. Additionally, he traveled less in 2019 for GLI work than he did in 2018.

<sup>3</sup> – The significant decrease for Shafer's hotel services relates to a \$5K decrease in travel for GLI work in 2019.

Hotel Services – Expense Type	2019			2018			Change	
	\$	Count	Average (\$)	\$	Count	Average (\$)	(\$)	(%)
<b>Non-Room Expense</b>	138	132	1	1,325	49	27	(1,187)	-90%
<b>Hotel</b>	76,058	260	293	79,803	315	253	(3,745)	-5%
<b>Hotel Tax</b>	8,190	175	47	3,273	136	24	4,917	150%
<b>Hotel/Lodging – Self (retired)</b>	683	2	341	864	6	144	(181)	-21%
<b>Travel Fees (Egencia)</b>	678	66	10	548	40	14	130	24%
<b>Grand Total</b>	<b>85,747</b>	<b>635</b>	<b>135</b>	<b>85,813</b>	<b>546</b>	<b>157</b>	<b>(66)</b>	<b>-0.1%</b>

\*For the Hotel Expense Type, the average cost for expenses submitted by Officers was \$293. Internal Audit noted that the average cost for expenses submitted by Non-Officers in 2019 was \$144.

The maximum transaction submitted by an Officer was \$8.3K. This transaction was referenced in more detail in **Finding #2** (page 8). See slide for further review.

## Appendix H – Ground Transportation Analysis

Officers' third largest expense category related to Ground Transportation expenses totaling ~\$43.6K in 2019. Refer to the tables below for further analysis:

Officer	2019	2018	Change	
	\$	\$	(\$)	(%)
Hightman, Carrie	9,907	4,789	5,118	107% <sup>1</sup>
Hamrock, Joseph	9,395	7,770	1,625	21%
Sistovaris, Violet	6,411	6,315	96	2%
Vegas, Pablo	6,015	2,795	3,220	115%
Brown, Donald	5,321	3,153	2,168	69%
Disser, Peter	2,190	1,960	230	12%
Shafer, Charles	1,786	7,055	(5,269)	-75% <sup>2</sup>
Keener, Kenneth	1,690	841	849	101%
Surface, Suzanne	859	1,513	(654)	-43%
<b>Grand Total</b>	<b>43,574</b>	<b>36,191</b>	<b>7,383</b>	<b>20%</b>

<sup>1</sup> – The significant flux in Hightman's ground transportation expenses from prior year related to ~\$3K expenses incurred in 2019 for travel for CMA legal meetings, prep and hearings for the GLI.

<sup>2</sup> – The significant decrease in Shafer's ground transportation expenses relates to a ~\$3K decrease in travel for GLI work in 2019.

Ground Transportation – Expense Type	2019			2018			Change	
	\$	Count	Average (\$)	\$	Count	Average (\$)	(\$)	(%)
Car Rental	3,341	29	115	7,863	33	238	(4,522)	-58%
Rental Car Fuel	104	9	12	489	14	35	(385)	-79%
Ground Transportation (Bus/Car/Rail/Taxi)*	29,662	481	62	18,091	303	60	11,571	64%
Tolls / Road Charges / Parking	5,190	167	31	4,738	131	36	452	10%
Personal Car Mileage	5,277	73	72	5,010	94	53	267	5%
<b>Grand Total</b>	<b>43,574</b>	<b>759</b>	<b>57</b>	<b>36,191</b>	<b>575</b>	<b>63</b>	<b>7,383</b>	<b>20%</b>

\*Ground Transportation (Bus/Car/Rail/Taxi) spend increased due to increases in travel of \$3K for Investor Meetings, \$1.3K for National Transportation Safety Board Meetings and \$2.1K for Ratings Agency Meetings in the current year.

For the Ground Transportation (Bus/Car/Rail/Taxi) Expense Type, the average cost for expenses submitted by Officers was \$62. Internal Audit noted that the average cost for expenses submitted by Non-Officers in 2019 was \$27. The maximum transaction submitted by an Officer was \$1,577.

## Appendix I – Air Transportation Analysis

Officers' fourth largest expense category related to Air Transportation expenses totaling ~\$41K in 2019. Refer to the tables below for further analysis:

Officer	2019	2018	Change	
	\$	\$	(\$)	(%)
Hightman, Carrie	14,373	8,649	5,724	66% <sup>1</sup>
Shafer, Charles	5,842	9,664	(3,822)	-40%
Keener, Kenneth	4,742	2,455	2,287	93%
Brown, Donald	4,402	7,331	(2,929)	-40%
Surface, Suzanne	3,814	4,088	(274)	-7%
Hamrock, Joseph	2,251	5,675	(3,424)	-60%
Disser, Peter	1,922	2,451	(529)	-22%
Vegas, Pablo	1,918	943	975	103%
Sistovaris, Violet	1,722	3,084	(1,362)	-44%
<b>Grand Total</b>	<b>40,986</b>	<b>44,340</b>	<b>(3,354)</b>	<b>-8%</b>

<sup>1</sup> – The significant flux for Hightman from prior year related to \$5K expenses incurred in 2019 for travel for CMA legal meetings, prep and hearings for the GLI.

Air Transportation – Expense Type	2019			2018			Change	
	\$	Count	Average (\$)	\$	Count	Average (\$)	(\$)	(%)
Airfare*	40,340	142	284	42,922	166	259	(2,582)	-6%
Airline Fees	646	66	10	1,418	111	13	(772)	-54%
<b>Airfare / Airline Fees</b>	<b>40,986</b>	<b>208</b>	<b>197</b>	<b>44,340</b>	<b>277</b>	<b>160</b>	<b>(3,354)</b>	<b>-8%</b>

\*For Airfare, the average cost for expenses submitted by Officers was \$284. Internal Audit noted that the average cost for expenses submitted by Non-Officers in 2019 was \$350. The maximum airfare / airline fee submitted by an Officer was \$1,609.

Note: The corporate jet was in use during 2019 and the use of the jet could impact Officer spend for Air Transportation.

## Appendix J – Training, Dues & Memberships Analysis

Officers' fifth largest expense category related to Training expenses totaling ~\$30K in 2019. Refer to the tables below for further analysis:

Officer	2019	2018	Change	
	\$	\$	(\$)*	(%)
Vegas, Pablo	7,230	2,295	4,935	215%
Hightman, Carrie	6,539	7,406	(867)	-12%
Shafer, Charles	5,475	2,595	2,880	111%
Sistovaris, Violet	3,609	2,399	1,210	50%
Hamrock, Joseph	3,480	2,295	1,185	52%
Brown, Donald	2,385	2,295	90	4%
Disser, Peter	1,300	325	975	300%
Keener, Kenneth	209	418	(209)	-50%
<b>Grand Total</b>	<b>30,227</b>	<b>20,028</b>	<b>10,199</b>	<b>51%</b>

\*Internal Audit noted no significant fluctuations from prior year.

Training, Dues & Memberships – Expense Type	2019			2018			Change	
	\$	Count	Average (\$)	\$	Count	Average (\$)	(\$)	(%)
Civic and Professional Associations*	9,933	12	828	4,703	9	523	5,230	111%
Seminars / Conferences / Training	20,294	21	966	15,325	15	1,022	4,969	32%
<b>Grand Total</b>	<b>30,227</b>	<b>33</b>	<b>916</b>	<b>20,028</b>	<b>24</b>	<b>835</b>	<b>10,199</b>	<b>51%</b>

\*Significant fluctuation for Civic and Professional Associations was attributed to a membership to YPO INTL for \$3.75K in the current year.

For the Seminars / Conferences / Training Expense Type, the average cost for expenses submitted by Officers was \$966. Internal Audit noted that the average cost for expenses submitted by Non-Officers in 2019 was \$557. The maximum transaction submitted by an Officer was \$1,900.

# Appendix K – Top Vendors for Officer Spend

The two charts below display the top 10 vendors for Officers for 2019 and 2018 for overall spend:

2019 Top 10 Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
Marriott	81	32,186	397	16,440
American Airlines	169	21,303	126	1,609
Guckenheimer NiSource	115	18,769	163	1,147
Hilton	135	17,817	132	8,318
Hyatt	128	16,755	131	1,053
Southwest Airlines	64	15,693	245	1,106
Uber	390	11,355	29	267
American Gas Association	11	8,050	732	1,095
Ritz Carlton	51	7,621	149	965
Edison Electric Inst.	5	7,500	1,500	1,900

2018 Top 10 Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
Guckenheimer NiSource	129	31,693	246	2,441
Hilton	152	23,167	152	3,000
Hyatt	56	20,965	374	9,015
Southwest Airlines	100	18,641	186	1,186
Waldorf Astoria	4	17,604	4,401	13,073
American Airlines	72	16,301	226	1,489
DoubleTree	199	13,660	69	347
United Airlines	24	6,217	259	1,354
Edison Electric Inst.	4	5,600	1,400	1,400
Uber	237	5,496	23	169

**Conclusion:** No unusual vendors noted in the tables above and no significant changes in spend. The max transactions in 2019 and 2018 listed above are for a recurring annual conference. No further analysis required.

The charts below display the top five vendors for the top five categories analyzed in Appendix F through Appendix J:

Meals - 2019 Top Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
Marriott	23	20,539	893	16,440
Guckenheimer NiSource	105	15,038	143	736
Black Point	9	6,696	744	1,991
Gamba	12	5,854	488	2,111
McCormick & Schmick's	1	4,506	4,506	4,506

Hotel - 2019 Top Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
Hilton	93	16,634	179	8,318
Hyatt	110	16,427	149	1,053
Marriott	57	11,597	203	801
Ritz Carlton	23	4,378	190	695
Egencia Fee	76	3,635	48	677

Ground Trans- 2019 Top Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
Uber	378	11,022	29	267
Unique Limo	10	5,168	517	1,577
US Sedan Service	20	4,035	202	474
Enterprise	31	2,943	95	644
Valet	15	1,944	130	244

Air - 2019 Top Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
American Airlines	107	19,860	186	1,609
Southwest Airlines	64	15,693	245	1,106
United Airlines	27	3,283	122	783
Delta Airlines	8	2,056	257	480
TSA Pre-check	1	85	85	85

Training - 2019 Top Vendors	Count	Spend (\$)	Average (\$)	Max (\$)
American Gas Association	11	8,050	732	1,095
Edison Electric Inst.	5	7,500	1,500	1,900
YPO INTL	2	3,750	1,875	3,750
AABE	3	3,250	1,083	1,300
Southern Gas Association	1	1,805	1,805	1,805



# Employee Expense Audit & Analytics (2019 Annual Period)

July 28, 2020

To: A . Acevedo, Director Shared Services Center

From: M. Castillo, Internal Auditor  
J. Callahan, Manager Internal Audit  
R. Binkley, Director Internal Audit



## Executive Summary

Internal Audit conducted an audit of expense transactions incurred by employees on behalf of NiSource to analyze trends in employee spending and aid in identifying instances of non-compliance during the period of January 1, 2019 to December 31, 2019<sup>(1)</sup>. Refer to the chart below for a breakdown of spend by the various corporate card types in use during 2019.

Card Type	Administrator	Total 2019 Spend (MM)	Total 2018 Spend (MM)	Variance (MM)	% of Change	Reference
Employee Expense Cards <sup>(2)</sup>	JPMorgan Chase "One Card" Visa	\$ 44.65	\$ 50.41	\$ (5.76)	-11%	Appendix E-I
Purchasing Cards	Citibank	\$ 0.40	\$ 27.70	\$ (27.30)	-99%	(3)
Fuel Cards	ARI/WEX	\$ 16.13	\$ 17.50	\$ (1.37)	-8%	Appendix J
Fleet Cards	ARI	\$ 0.04	\$ 0.05	\$ (0.01)	-26%	Appendix J
<b>Total Corporate Credit Card Spend</b>		<u>\$ 61.22</u>	<u>\$ 95.66</u>	<u>\$ (34.44)</u>	<u>-36%</u>	

The focus of the audit included the following procedures:

- Determine whether corporate card access is properly removed from terminated/former employees;
- Analyze corporate card and other reimbursable expenses to identify any unusual items and/or trends;
- Determine whether a sample of corporate card and other reimbursable expenses are processed in accordance with the Business Expense policy and Internal Revenue Service (IRS) guidelines.

<sup>(1)</sup> Expense population determined by utilizing the GL Extraction Date, the date the expense posted to the General Ledger.

<sup>(2)</sup> 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 MySpend expense reporting system and are included in the Employee Expense Cards total referenced above.

<sup>(3)</sup> Supply Chain noted that all Purchasing Cards, with the exception of two (2), were closed as of November 22, 2018. The remaining two (2) cards were utilized solely for the Columbia Gas Massachusetts' Greater Lawrence Incident (GLI) expenses. The cards were managed by Supply Chain personnel and were closed as of February 22, 2019.

# Executive Summary

## Summary Conclusions:

As a result of the analytic procedures performed and a review of **54** expense selections (refer to **Appendix B** for testing criteria and risk factors utilized in selection process), Internal Audit identified the following **four (4) moderate** and **one (1) low** risk audit findings:

### **Finding #1 - Departed Employees With One Card Access (Moderate Risk)**

Internal Audit reviewed a listing of all active One Cards as of April 1, 2020, noting that card access was not removed timely upon the departure of six **(6)** employees and extended leave (i.e. greater than 6 months) of five **(5)** employees. Additionally, one **(1)** former employee made purchases totaling **\$656** on their corporate card several months after their departure from the company and these expenses were paid by NiSource.

- **Recommendation:** Supervisors should ensure employees no longer have access to their corporate card and should reconcile any remaining balances (i.e. unprocessed credit card transactions in MySpend and/or unpaid submitted personal expenses) upon the employee's departure. In addition to the supervisor's responsibilities, Accounts Payable Management and Human Resources should collaborate to periodically verify that active corporate cards are assigned to active employees only and any outstanding balances have been resolved.
- **Management Response:** When this was researched, the employees with continued access were not included in the termination report sent by HR and received every Monday into the MySpend@nisource.com inbox. HR and Accounts Payable are working together to streamline its communication process and ensure that weekly emails will include all terminations and extended leaves. These changes will be in place by **August 1, 2020**.

# Executive Summary

## Summary Conclusions (Cont'd):

### **Finding #2 – Method of Submission Varies (Low Risk)**

Internal Audit identified transactions which appear to meet the classification of employee expenses submitted through methods other than MySpend (e.g. Catalyst). Refer to **Slide 15** for further detail on the transactions identified.

The Business Expense Policy states the following:

“The One Card is required for all approved business expenses wherever the card is accepted. If a merchant does not accept the One Card, or in the event of an emergency where the employee does not have access to the One Card, a personal credit card may be used after receiving approval from the employee's supervisor.” Additionally, the policy notes that business expenses must be submitted for reimbursement “in the expense reporting tool, MySpend.”

However, the expense policy also indicates that “the One Card can not be used for invoices provided by a supplier.”

As the policy language may conflict in certain cases, none of the transactions identified by Internal Audit are direct violations of policy. However, Internal Audit noted that employee expenses submitted through other methods may not provide the detail necessary to ensure proper tax treatment (e.g. names of attendees/recipients) and current processes do not review transactions submitted in this manner for tax purposes. Additionally, employee expense transactions that are not submitted through MySpend are not classified by expense categories and impact the company's ability to effectively analyze expenses and make policy decisions.

- **Recommendation:** Accounts Payable should work to clarify requirements for method of submission within the policy and work with Communications and Training to educate employees and their supervisors on the proper methods to submit business expenses.
- **Management Response:** Accounts Payable is currently proposing changes to the policy to add verbiage to use the OneCard for payment specifically for Season Tickets, Civic & Professional Associations, and Social and Athletic Club Memberships. Accounts Payable will reach out to the employees who completed the payments through Catalyst which were identified by Internal Audit to provide education once the policy has been finalized. Additionally, as referenced in the response to Finding #5, Accounts Payable is also working to establish a training for employees over the Business Expense policy and use of MySpend. These changes are expected to be completed by **December 31, 2020**.

# Executive Summary

## Summary Conclusions Cont'd:

### **Finding #3 - Taxable Expenses not Properly Included in Income (Moderate Risk)**

Internal Audit noted two (2) expense types, “Taxable to the Employee” and “Meals – Self Only – Not On Travel Status (Taxable to the Employee)”, which were created upon the transition to One Card, are not currently assessed for tax requirements. As a result, the total of **\$5,671** expenses incurred in these categories were not properly taxed in 2019.

In addition to the process gap identified above, Internal Audit noted one (1) gift selection totaling **\$332** was not appropriately included in the recipient’s taxable income as the employee who submitted the expense did not include the recipient’s name within MySpend and did not submit the required manual forms to Payroll.

- **Recommendation:** Accounts Payable, Tax, and Payroll should establish processes to ensure any expenses with tax implications are properly included in employee income.
- **Management Response:** Accounts Payable, Tax, and HR/Payroll have created a MySpend report that can be used to identify all transactions taxable to employees. This will be reviewed by Tax in the 4<sup>th</sup> quarter of every year (beginning in **Q4 2020**) and applied to income by Payroll. Gift cards/gift merchandise transactions will be applied to employee income monthly when Payroll pulls the MySpend report. Taxable Travel and Meals-Self Non Travel-Taxable to Employee expense types have been removed from MySpend as of July 8, 2020. (Total spend in these categories to date has been \$1,959, which will be included in income for 2020 if applicable). Going forward employees will be directed to identify those transactions as “personal” within MySpend.

# Executive Summary

## Summary Conclusions Cont'd:

### Finding #4 – Improper categorization/coding of NiSource Political Action Committee (NIPAC) expenses (Moderate Risk)

Two (2) selections reviewed by Internal Audit related to expenses incurred for the benefit of NIPAC. Internal Audit noted that both selections were not appropriately classified using the NIPAC expense type. Additionally, one (1) selection was charged to the incorrect accounting code.

To determine the prevalence of these errors within the complete expense population, Internal Audit analyzed all expenses which referenced PAC in the Transaction Business Purpose within MySpend to determine whether they utilized the proper expense type accounting code, noting the following:

- **360** transactions totaling **~\$46K** referenced PAC.
  - **26** transactions (from the population above) totaling **~\$5K** were classified using the PAC expense type.
  - **17** transactions (from the population above) totaling **~\$3K** were properly charged to the correct accounting code.
- **Recommendation:** As NIPAC expenses have different tax implications than other expenses, a process should be put in place to ensure any transactions that relate to PAC expenses are properly identified and charged to the correct expense type/accounting code. There should be more guidance in the policy as to which PAC expenses need to be charged to the PAC code.
- **Management Response:** Tax has confirmed that PAC transactions should be classified in specific categories. Accounts Payable will work with PAC team to send a targeted email to employees submitting PAC expenses to provide additional training for correct MySpend Expense Types. Accounts Payable has also added 'Travel' to the PAC/Lobbying-Meals and Entertainment. These efforts will be completed by **December 31, 2020**.

# Executive Summary

## Summary Conclusions Cont'd:

### **Finding #5 - Deviations from Policy (Moderate Risk)**

As a result of the testing performed, Internal Audit identified the following:

- One **(1)** transaction related to an employee who made a personal purchase with their One Card and did not mark it as a personal expense within the MySpend reporting system, resulting in the amount of the expense **(\$164)** being improperly paid by the company.
- Two **(2)** transactions totaling **(\$1,898)** were charged to the incorrect accounting code based on the nature of the expenses.
  - Both expenses were charged to the accounting code 92100000 for Office Supplies and Expenses even though the expenses were classified as Special Event/Season Tickets/Golf and General Entertainment, respectively.

Additional Items to Note:

- **14** transactions did not provide the level of detail required by policy in the supporting documentation uploaded to MySpend. See **Appendix C** for further detail.
- **16** transactions were misclassified in the Expense Types field available within MySpend. In some cases, these misclassifications would impact our ability to comply with IRS regulations. See **Appendix D**.
- **Recommendation:** Based on the policy deviations identified, Internal Audit supports the implementation of the policy enhancements proposed by Accounts Payable on **Slide 10** as these improvements would help clarify responsibilities, establish a culture of accountability, and alleviate risk to the company.
- **Management Response:** Accounts Payable is working on several items to help guide employee selections, including the following: Policy recommendations to better direct employees, required yearly training, and MySpend audit rules to require specific accounts be used. These efforts will be completed by **December 31, 2020**.

# Background

The following NiSource policies apply to the use of corporate credit cards and reimbursement of business expenses:

Policy Name	Owner
Business Expense Rules and Guidelines (includes Guidelines reference document)	Finance & Accounting
Requisition and Disbursement Approval Levels	Finance & Accounting
Vehicle Policy	Supply Chain
Travel Policy	Supply Chain
Mobile Devices and Cellular Services Policy	Information Technology
Fraud Prevention Policy	Corporate
Gifts, Meals and Entertainment	Corporate
Use of Aircraft Policy	Corporate

## Employee Expense Cards:

In 2018, NiSource transitioned from an American Express Employee Expense card to a JPMorgan Chase (“One Card”) Visa. American Express was effective as the provider for corporate cards from January 1, 2018 through August 30, 2018 and the Visa (“One Card”) was effective July 19, 2018 through the date of this review.

In 2019, employees used JPMorgan Chase Visa “One Cards” to pay for appropriate company related expenses. One Card charges are auto-fed into the NiSource expense reporting system, Concur Expense Solutions (referred to herein as “MySpend”), and then processed by individual employees. Employees who incur out of pocket business expenses may include them within the MySpend employee expense statement for review and approval by their supervisor. Once expense reports are processed and approved within MySpend, payments are remitted to the card administrator.

- Accounts Payable performs pre-payment audits on expense reports meeting programmed criteria within MySpend. 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.
- Additionally, Accounts Payable has identified specific employees (based on employee level or employees with previous instances of non-compliance with policy) who are automatically sent to the audit queue. The list is periodically updated.



## Background (Cont'd)

### Purchase Cards

Prior to the transition to “One Card”, Purchase Cards were used as a payment method for purchases of materials, supplies, and certain field services. The process of approval for expenses incurred on Purchase Cards was manually intensive, lacked automated controls and quality assurance/quality control processes. As a result, NiSource made the decision to stop using these cards in 2018. Supply Chain noted that all Purchasing Cards, with the exception of two (2), were closed as of November 22, 2018. The remaining cards were utilized solely for GLI expenses and were closed as of February 22, 2019.

### Fuel Cards

Fuel cards are used to purchase fuel or very limited vehicle-related expenses (e.g. a car wash, quart of oil, or diesel additive). Fuel cards are restricted using the Merchant Category Code (MCC) to limit the types of purchases that can be made using the card. Cards are assigned to a vehicle within a NiSource company and must remain with the vehicle at all times. Each card is assigned a cost accounting code and changes to the code require management approval. In order to use a Fuel card, an employee must sign the NiSource Automotive Resource International (ARI) Wright Express Card User Agreement and submit the form with manager approval to the NiSource Credit Card Program Administrator. Employees are then assigned a unique PIN number which allows purchases to be traced to the individual employee using a vehicle card. ARI monitors spend for compliance with NiSource policy and potential fraud and will communicate with the Fleet Administration team when transactions need further review. In addition to the controls outlined above, exception reporting is also available to supervisors of employees using Fuel cards. Each supervisor may determine what criteria they would like to monitor related to fuel spend and the Fleet Administration team will communicate the results of the daily exceptions to the supervisors. Examples of exception reports are (but not limited to): cardholders with more than 3 transactions per day, transactions greater than \$150, cardholders who made a purchase in gallons which exceeded the vehicle's tank capacity, and a purchase of premium fuel when vehicle calls for regular.

### Fleet Cards

Fleet cards are not credit cards but they do contain ARI billing information which allow users to make purchases at automotive parts stores via a purchase order process managed for NiSource by ARI. Purchases under \$50 don't require approval, however, any purchase over \$50 is required to go through an ARI approval process. Cardholders are instructed to only use the incidental card for small items (i.e. lights bulbs, oil, windshield wipers) as a way to be cost effective and not use a garage for replacement.

**Note:** Cardholders who incur Fuel and Fleet (incidental) spend are not required to submit receipts or “process” expenses. ARI (Wright Express) maintains the detail of all spend transactions and monitors spend on a daily basis. See **Appendix J** for Fleet and Fuel Card Analysis

## Background (Cont'd)

### Accounts Payable Initiative

Accounts Payable has established an initiative focused on continuous improvement in the expense submission, approval, and reporting processes as well as the following proposed enhancements to associated company policies:

- Returning guidelines to the policy, rather than suggestions, to provide more regulation and clarity to employees. Examples include:
  - Requiring itemized receipts for all purchases over \$25  
*Internal Audit Comment: This would improve transparency, provide support for the stated business purpose and decrease the risk of fraud, especially for vendors like Amazon, Paypal, Sam's Club, etc where various types of items can be purchased.*
  - Clarifying when to rent a car versus when to submit for personal mileage and requiring employees to utilize the Google maps functionality to provide detail on trip information for personal mileage  
*Internal Audit Comment: Current policy language is vague, resulting in inconsistent interpretation by employees.*
  - Establishing requirements for how to process the purchase of Entertainment expenses and season tickets, including defining the One Card as the acceptable purchase method, requiring a process to track attendees, and clarifying which level of employee must purchase and approve  
*Internal Audit Comment: Entertainment expenses reviewed by Internal Audit often lack details regarding attendees (and the related tax implications) as well as and business purposes. Clarifying the policy to require more information would be provide more transparency related to this expense type.*
- Establishment of yearly refresher training to include policy reminders and updates on any changes to the policy, with a focus on training for those supervisors approving reports  
*Internal Audit Comment: As with any change, communication and education for employees will aid in their ability to comply with policy.*

Based on the findings of this review, Internal Audit agrees that these recommendations would help establish a culture of accountability, alleviate risk to the company and increase compliance with tax laws and IRS regulations.

# Audit Scope and Approach

Internal Audit reviewed the processes and controls in place related to employee expenses for the audit period of 2019.

<b>Objective 1: Determine whether corporate card access is properly removed from terminated/former employees.</b>		
#	Procedures	Findings Summary (Refer to Appendix A)
1	Review the processes and procedures in place to remove corporate card access from terminated/former employees.	<b>No Findings Noted</b>
2	Independently verify that card access has been removed for all non-active employees and ensure no transactions were incurred subsequent to employee departure.	<b>Finding #1 – Page 13-14</b>

<b>Objective 2: Analyze employee expenses to identify unusual items and/or trends.</b>		
#	Procedures	Findings Summary (Refer to Appendix A)
1	Analyze a two-year period of employee expenses and examine historical spending patterns to detect significant variations over time.	<b>No Findings Noted – Refer to Appendix E-J</b>
2	Analyze the current audit period's employee expenses and determine whether the expenses were submitted timely for review, approval, and payment.	<b>No Findings Noted</b>
3	Analyze the current audit period's employee expenses to identify outliers, anomalies, or potential fraud indicators.	<b>See Objective 3</b>

# Audit Scope and Approach

Objective 3: Determine whether corporate credit card expenses are submitted timely and processed in accordance with the Business Expense Policy and Internal Revenue Service guidelines.				
#	Procedures	Findings Summary (Refer to Appendix A)		
1	Review the procedures performed by Accounts Payable and Supply Chain to monitor spend and/or periodically audit transactions incurred by employees.	<b>No Findings Noted</b>		
2	Review expense transactions submitted through other Accounts Payable processes (e.g Catalyst) to identify potential employee expenses that should have been incurred through the One Card or processed through MySpend.	<b>Finding #2 – Page 15-16</b>		
3	Using a risk-based approach, make a selection of no less than 40 transactions from the MySpend audit population. Review selected transactions and evaluate their compliance with Corporate Policies.  <i>NOTE: Upon reviewing the controls and processes in place to monitor Fuel and Fleet spend and performing an independent analysis of the Fuel and Fleet transactions to identify potential fraud indicators and/or significant outliers, Internal Audit noted that additional sample testing was not necessary to assess the risk related to Fuel and Fleet transactions. As such, the sample testing performed herein focused on MySpend transactions.</i>	<table border="1" style="width: 100%; background-color: yellow;"> <tr> <td style="text-align: center; width: 50%;"><b>Finding #4 – Pages 18</b></td> <td style="text-align: center; width: 50%;"><b>Finding #5 – Pages 19-20</b></td> </tr> </table>	<b>Finding #4 – Pages 18</b>	<b>Finding #5 – Pages 19-20</b>
<b>Finding #4 – Pages 18</b>	<b>Finding #5 – Pages 19-20</b>			
4	Verify that taxable expenses have been identified and properly included in income as required by IRS reporting requirements for employees.	<b>Finding #3 – Page 17</b>		

<p><b>Objective 1, Procedure #2:</b> Independently verify that card access has been removed for all non-active employees and ensure no transactions were incurred subsequent to employee departure.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> Card access was not removed timely upon the departure/extended leave of several employees. Additionally, an expense was incurred on an employee's card subsequent to their departure.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center), Tonja Langhurst (Director HR Operations Delivery)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q3 2020</b></p>
<p><b>Observation:</b></p> <p><b>Criteria:</b> Per the Business Expense Rules and Guidelines, when an employee leaves the company, access to One Card should be removed and their account should be deactivated. "The Cardholder agrees to surrender and cease use of his/her One Card upon termination of employment. The Cardholder is responsible for processing any outstanding expenses."</p> <p>If employees are out for an extended period, he/she should surrender their card to their supervisor/manager. If the employee is expected to be out for less than 6 months the card should be suspended. If the employee expected to be out for more than 6 months, the card should be closed.</p> <p><b>Condition:</b> Internal Audit noted the following :</p> <ul style="list-style-type: none"> <li>• Six <b>(6)</b> employees who had departed NiSource still had active corporate cards as of April 1, 2020. Accounts Payable has since removed access to the former employees.             <ul style="list-style-type: none"> <li>• One <b>(1)</b> employee made purchases totaling <b>\$656</b> on their corporate card several months after they were no longer employed at the company. The expenses were processed through a force submittal process and were paid by the company.                 <p><b>Note:</b> Force submittals occur when an expense is over 75 days old and has not been processed. Accounts Payable notified the supervisor of the person who incurred the expense about the force submittal through email.</p> </li> </ul> </li> <li>• Five <b>(5)</b> employees on extended leave (greater than 6 months) still had an active corporate card as of April 1, 2020.</li> </ul> <p><b>Risk/Impact:</b> Individuals who are no longer employees at NiSource with access to their corporate cards increases the risk of unauthorized or fraudulent purchases.</p>	

## Findings (Cont'd)

<p><b>Objective 1, Procedure #2:</b> Independently verify that card access has been removed for all non-active employees and ensure no transactions were incurred subsequent to employee departure.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> Card access was not removed timely upon the departure/ extended leave of several employees. Additionally, an expense was incurred on an employee's card subsequent to their departure.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center), Tonja Langhurst (Director HR Operations Delivery)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q3 2020</b></p>
<p><b>Recommendation:</b> Supervisors should ensure employees no longer have access to their corporate card and should reconcile any remaining balances (i.e. unprocessed credit card transactions in MySpend and/or unpaid submitted personal expenses) upon the employee's departure. In addition to the supervisor's responsibilities, Accounts Payable Management and Human Resources should collaborate to periodically verify that active corporate cards are assigned to active employees only and any outstanding balances have been resolved.</p>	
<p><b>Management Response:</b> When this was researched, the employees with continued access were not included in the termination report sent by HR and received every Monday into the MySpend@nisource.com inbox. HR and Accounts Payable are working together to streamline its communication process and ensure that weekly emails will include all terminations and extended leaves. These changes will be in place by <b>August 1, 2020</b>.</p>	

## Findings (Cont'd)

<p><b>Objective #3, Procedure #2:</b> Review expense transactions submitted through other Accounts Payable processes ( e.g. Catalyst) to identify potential employee expenses that should have been incurred through the One Card or processed through MySpend.</p>	<p><b>Risk Rating</b></p>																														
<p><b>Finding #2:</b> Various transactions which appear to meet the classification of employee expenses were submitted through methods other than MySpend (e.g. Catalyst).</p>	<p><b>Low</b></p>																														
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q4 2020</b></p>																														
<p><b>Observation:</b></p> <p><b>Criteria:</b> The Cardholder or delegate must submit Business Expenses for reimbursement in the expense reporting tool “MySpend.”</p> <p><b>Condition:</b> Internal Audit identified various expenses that appear to fall under the types of expenses covered by the Business Expense Rule and Guidelines policy which were submitted through Catalyst instead of MySpend. Internal Audit noted several of these expenses related to entertainment. Refer below for examples of the types of expenses submitted within Catalyst.</p> <table border="1"> <thead> <tr> <th>Vendor</th> <th>2019 AP Spend</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Rocky Gap Casino Resort</td> <td>\$ 3,379</td> <td>Appears to have hosted some sort of event here - could be classified as Non-Room Expense</td> </tr> <tr> <td>Sam’s Club Direct</td> <td>\$ 5,744</td> <td>Could flow through MySpend as General Office Supplies or Meals - Work Late/Snacks/Celebrations</td> </tr> <tr> <td>The Columbus Club</td> <td>\$ 17,922</td> <td>Could flow through MySpend as Social / Athletic Club Dues for better visibility and transparency</td> </tr> <tr> <td>OSU Football Season Tickets</td> <td>\$ 16,379</td> <td rowspan="5">Could flow through MySpend as Special Event / Season Tickets / Golf Fees for better visibility and transparency</td> </tr> <tr> <td>Columbus Blue Jackets (and other events at Nationwide Arena)</td> <td>\$ 50,845</td> </tr> <tr> <td>Toledo Mudhens Baseball</td> <td>\$ 34,850</td> </tr> <tr> <td>Cleveland Indians Baseball</td> <td>\$ 2,700</td> </tr> <tr> <td>Pittsburgh Pirates</td> <td>\$ 28,821</td> </tr> <tr> <td>Holiday Inn</td> <td>\$ 4,897</td> <td rowspan="3">Various transactions simply represented individual hotel stays or conference room rentals</td> </tr> <tr> <td>Zane’s Hotels (Springhill Suites)</td> <td>\$ 13,813</td> </tr> <tr> <td>Hilton Hotels (Various)</td> <td>\$ 21,154</td> </tr> </tbody> </table> <p><b>Note:</b> This is not an all inclusive list of expenses that were improperly submitted. Internal Audit provided a list of employees who submitted these expenses to Accounts Payable so they can reach out to the employees and educate them on the proper expense tool to use; however, future review may be necessary.</p>		Vendor	2019 AP Spend	Notes	Rocky Gap Casino Resort	\$ 3,379	Appears to have hosted some sort of event here - could be classified as Non-Room Expense	Sam’s Club Direct	\$ 5,744	Could flow through MySpend as General Office Supplies or Meals - Work Late/Snacks/Celebrations	The Columbus Club	\$ 17,922	Could flow through MySpend as Social / Athletic Club Dues for better visibility and transparency	OSU Football Season Tickets	\$ 16,379	Could flow through MySpend as Special Event / Season Tickets / Golf Fees for better visibility and transparency	Columbus Blue Jackets (and other events at Nationwide Arena)	\$ 50,845	Toledo Mudhens Baseball	\$ 34,850	Cleveland Indians Baseball	\$ 2,700	Pittsburgh Pirates	\$ 28,821	Holiday Inn	\$ 4,897	Various transactions simply represented individual hotel stays or conference room rentals	Zane’s Hotels (Springhill Suites)	\$ 13,813	Hilton Hotels (Various)	\$ 21,154
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## Findings (Cont'd)

<p><b>Objective #3, Procedure #2:</b> Review expense transactions submitted through other Accounts Payable processes ( e.g. Catalyst) to identify potential employee expenses that should have been incurred through the One Card or processed through MySpend.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #2:</b> Several employee expenses that should have been submitted through MySpend were submitted through Catalyst.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p>	<p><b>Target Plan Date:</b></p>
<p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Q4 2020</b></p>
<p><b>Observation (cont'd):</b></p> <p>The Business Expense Policy states the following:</p> <p style="padding-left: 40px;">“The One Card is required for all approved business expenses wherever the card is accepted. If a merchant does not accept the One Card, or in the event of an emergency where the employee does not have access to the One Card, a personal credit card may be used after receiving approval from the employee’s supervisor.” Additionally, the policy notes that business expenses must be submitted for reimbursement “in the expense reporting tool, MySpend.”</p> <p>However, the expense policy also indicates that “the OneCard cannot be used for invoices provided by a supplier.”</p> <p>As the policy language may conflict in certain cases, none of the transactions identified by Internal Audit are direct violations of policy.</p> <p><b>Risk/Impact:</b> Employee expenses submitted through other methods may not provide the detail necessary to ensure proper tax treatment (e.g. names of attendees/recipients) and current processes do not review transactions submitted in this manner for tax purposes. Additionally, employee expense transactions that are not submitted through MySpend are not classified by expense categories and impact the company’s ability to effectively analyze expenses and make policy decisions.</p>	
<p><b>Recommendation:</b> Accounts Payable should work to clarify requirements for method of submission within the policy and work with Communications and Training to educate employees and their supervisors on the proper methods to submit business expenses.</p>	
<p><b>Management Response:</b> Accounts Payable is currently proposing changes to the policy to add verbiage to use the OneCard for payment specifically for Season Tickets, Civic &amp; Professional Associations, and Social and Athletic Club Memberships. Accounts Payable will reach out to the employees who completed the payments through Catalyst which were identified by Internal Audit to provide education once the policy has been finalized. Additionally, as referenced in the response to Finding #5, Accounts Payable is also working to establish a training for employees over the Business Expense policy and use of MySpend. These changes are expected to be completed by <b>December 31, 2020</b>.</p>	



## Findings (Cont'd)

<p><b>Objective 3, Procedure #4:</b> Verify that taxable expenses have been identified and properly included in income as required by IRS reporting requirements for employees.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #3:</b> Internal Audit noted the expense type “Taxable to the Employee” is not reviewed by Accounts Payable or the Tax Department thus any expenses incurred in this category may not be properly taxed.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center), Jennifer Harding (Director Income Tax Operations), Tonja Langhurst (Director HR Operations Delivery)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q4 2020</b></p>
<p><b>Observation:</b></p> <p><b>Criteria:</b> Expenses that are taxable to the employee are properly tracked and included in the employee’s income.</p> <p><b>Condition:</b> Internal Audit noted two (2) expense types, “Taxable to the Employee” and “Meals – Self Only – Not On Travel Status (Taxable to the Employee)”, which were created upon the transition to One Card and are not currently assessed for tax requirements. As a result, the total of <b>\$5,671</b> expenses incurred in these categories were not properly taxed in 2019.</p> <ul style="list-style-type: none"> <li>• “Taxable to the Employee” - <b>\$602</b></li> <li>• “Meals – Self Only – Non Travel - Taxable to the Employee” - <b>\$5,069</b></li> </ul> <p>In addition to the process gap identified above, Internal Audit noted one (1) gift selection totaling <b>\$332</b> was not appropriately included in the recipient’s taxable income as the employee who submitted the expense did not include the recipient’s name within MySpend and did not submit the required manual forms to Payroll.</p> <p><b>Risk/Impact:</b> Improper review of taxable expenses leaves the risk that taxable expenses are not properly included in income as required by IRS reporting requirements</p>	
<p><b>Recommendation:</b> Accounts Payable, Tax, and Payroll should establish processes to ensure any expenses with tax implications are properly included in employee income.</p>	
<p><b>Management Response:</b> Accounts Payable, Tax, and HR/Payroll have created a MySpend report that can be used to identify all transactions taxable to employees. This will be reviewed by Tax in the 4<sup>th</sup> quarter of every year (beginning in <b>Q4 2020</b>) and applied to income by Payroll. Gift cards/gift merchandise transactions will be applied to employee income monthly when Payroll pulls the MySpend report. Taxable Travel and Meals-Self Non Travel-Taxable to Employee expense types have been removed from MySpend as of July 8, 2020. (Total spend in these categories to date has been \$1,959, which will be included in income for 2020 if applicable). Going forward employees will be directed to identify those transactions as “personal” within MySpend.</p>	

## Findings (Cont'd)

<p><b>Objective 3, Procedure #3:</b> Using a risk-based approach, make a selection of no less than 40 transactions from the MySpend audit population. Review selected transactions and evaluate their compliance with Corporate Policies.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #4:</b> PAC expenses incurred deviated from established policy requirements.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center), Jennifer Harding (Director Income Tax Operations)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p>
	<p><b>Q4 2020</b></p>
<p><b>Observation:</b></p> <p><b>Criteria:</b> Any expense related to NiSource's Political Action Committee (PAC) must use the "PAC / Lobbying" expense type. Expenses can include but are not limited to dues, memberships, meeting expenses, supplies, meals, entertainment, etc. Additionally, any PAC expense should be charged to the code 42640000 - Other Income &amp; Expense Political Contributions.</p> <p><b>Condition:</b> Two (2) selections reviewed by Internal Audit related to expenses incurred for the benefit of NIPAC. Internal Audit noted that both selections were not appropriately classified using the NIPAC expense type. Additionally, one (1) selection was charged to the incorrect accounting code.</p> <p>To determine the prevalence of these errors within the complete expense population, Internal Audit analyzed all expenses which referenced PAC in the Transaction Business Purpose within MySpend to determine whether they were utilizing the proper expense type and were charged to the correct accounting code, noting the following inconsistencies:</p> <ul style="list-style-type: none"> <li>• <b>360</b> transactions totaling <b>~\$46K</b> referenced PAC.             <ul style="list-style-type: none"> <li>• <b>26</b> transactions (from the population above) totaling <b>~\$5K</b> were classified the PAC expense type.</li> <li>• <b>17</b> transactions (from the population above) totaling <b>~\$3K</b> were properly charged to the correct accounting code.</li> </ul> </li> </ul> <p><b>Risk/Impact:</b> PAC expenses are non-deductible for tax purposes. PAC related expenses not properly charged to the correct account codes may be included as deductible business expenses.</p>	
<p><b>Recommendation:</b> As NIPAC expenses have different tax implications than other expenses, a process should be put in place to ensure any transactions that relate to PAC expenses are properly identified and charged to the correct expense type/accounting code. There should be more guidance in the policy as to which PAC expenses need to be charged to the PAC code.</p>	
<p><b>Management Response:</b> Tax has confirmed that PAC transactions should be classified in specific categories. Accounts Payable will work with PAC team to send a targeted email to employees submitting PAC expenses to provide additional training for correct MySpend Expense Types. We have also added 'Travel' to the PAC/Lobbying-Meals and Entertainment. These efforts will be completed by <b>December 31, 2020.</b></p>	

## Findings (Cont'd)

<p><b>Objective 3, Procedure #3:</b> Using a risk-based approach, make a selection of no less than 40 transactions from the MySpend audit population. Review selected transactions and evaluate their compliance with Corporate Policies.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #5:</b> Expenses incurred deviated from established policy requirements.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q4 2020</b></p>
<p><b>Observation:</b></p> <p><b>Criteria:</b> Each business expense must have a valid business purpose, correct expense type, correct accounting, attendees listed (when required), and any other necessary information as required per the policy to ensure that reviewers, approvers, and auditors (internal or external) understand the circumstances under which a purchase is made and why it was necessary.</p> <p>If excess and/or inappropriate expenses are submitted and reimbursed, the employee must repay NiSource by writing a check or money order payable to the company by which he/she is employed.</p> <p><b>Condition:</b> As a result of reviewing <b>54</b> selections (Refer to <b>Appendix B</b> for further detail on the selection process), Internal Audit identified the following deviations from the established policy requirements:</p> <ul style="list-style-type: none"> <li>• <b>1</b> transaction related to an employee who made a personal purchase with their One Card and did not mark it as a personal expense within the MySpend reporting system, resulting in the amount of the expense (<b>\$164</b>) being improperly paid by the company.</li> <li>• <b>2</b> transactions totaling (<b>\$1,897</b>) were charged to the incorrect accounting code based on the nature of the expenses.       <ul style="list-style-type: none"> <li>• Both expenses were charged to the accounting code 92100000 for Office Supplies and Expenses even though the expenses were classified as Special Event/Season Tickets/Golf and General Entertainment, respectively.</li> </ul> </li> </ul> <p>Additional Items to Note:</p> <ul style="list-style-type: none"> <li>• <b>14</b> transactions did not provide the level of detail required by policy in the supporting documentation uploaded to MySpend. See <b>Appendix C</b> for further detail.</li> <li>• <b>16</b> transactions were misclassified in the Expense Types field available within MySpend. In some cases, these misclassifications would impact our ability to comply with IRS regulations. See <b>Appendix D</b>.</li> </ul> <p><b>Risk/Impact:</b> The accuracy of the expense type classification and coding impact the business' ability to analyze expenses (e.g. identify average cost per person, transaction, and/or day) and make policy decisions. Inaccurate expense types and coding also lead to inaccurate representation of expenses on financial statements. Additionally, business expenses that lack required documentation make it difficult for reviewers, approvers, and auditors to ensure expenses were necessary and in compliance with tax requirements.</p>	

## Findings (Cont'd)

<p><b>Objective 3, Procedure #3:</b> Using a risk-based approach, make a selection of no less than 40 transactions from the MySpend audit population. Review selected transactions and evaluate their compliance with Corporate Policies.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #5:</b> Expenses incurred deviated from established policy requirements.</p>	<p><b>Moderate</b></p>
<p><b>Process Owner(s):</b> Adolfo Acevedo (Director Shared Services Center)</p> <p><b>Executive Council Members Responsible:</b> Donald Brown (Chief Financial Officer)</p>	<p><b>Target Plan Date:</b></p> <p><b>Q4 2020</b></p>
<p><b>Recommendation:</b> Based on the policy deviations identified, Internal Audit notes that the policy enhancements proposed by Accounts Payable on <b>Slide 10</b> would help establish a culture of accountability, alleviate risk to the company and increase compliance with tax laws and IRS regulations.</p>	
<p><b>Management Response:</b></p> <p>Accounts Payable is working on several items to help guide employee selections, including the following: Policy recommendations to better direct employees, required yearly training, and MySpend audit rules to require specific accounts be used. These efforts will be completed by <b>December 31, 2020</b>.</p>	

## Report Distribution

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Deloitte & Touche

# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response</i></p> <p><u><i>Internal Audit typically does not perform follow-up review procedures on low risk findings.</i></u></p>

Using a risk-based approach, Internal Audit selected a total of **54** selections, representing **~\$124K** of the total **\$44.6M**, for compliance with corporate policy and treatment for tax purposes. The following criteria risk factors were considered when making selections:

Criteria:	Definition:	# of Selections
High Risk Expense Types	Expense types with past audit issues, higher potential for fraud, misclassification, or tax impacts such as Gifts, Entertainment, & Other	24
Amount	High dollar spend, or high spend per nights stay, rental days, or attendees; spend just under receipt requirements or other thresholds	6
Payment Type	Cash reimbursements in unexpected expense types	2
Vendor	Unusual vendors	6
Business Purpose	Transactions without sufficient detail in the business purpose (e.g. March Expenses) or transactions which indicate a purpose related to NIPAC	12
Fraud Risk Factors	Transactions incurred on weekends or holidays, round dollar amounts, spend just below policy limits, etc.	4
<b>TOTAL SELECTIONS</b>		<b>54</b>

**Note:** Internal Audit reviewed the expenses incurred by employees as a result of the Columbia Gas Massachusetts' GLI, noting total related spend of **\$4.4M** (~10% of the total **\$44.6M** employee spend) in 2019 vs. **\$27M** (~54% of the total **\$50.4M** employee spend) in 2018. (Refer to **Appendix F**). As GLI related expenses decreased significantly in 2019, Internal Audit did identify GLI related transactions as a risk factor and did not sample from that population specifically. However, all GLI related expenses were subject to selection through the process noted above.

## Appendix C – Selections Exceptions: Lack of Required Detail

The following are the expense types of our selections that did not provide the level of detail required by policy:

Expense Types	Policy Deviation	Issues	# of selections
Entertainment Meals	<b>Attendees not provided</b>	Unable to determine cost per person Analytics are skewed when assessing trends in spend	<b>5</b>
Employee Merchandise	<b>Recipients not provided</b>	Unable to determine tax implications.	<b>1</b>
Entertainment Gifts Meals Service Repairs/ Other	<b>Unclear business purpose</b>	Unable to determine why expense was necessary	<b>7</b>
Meals – Non-travel	<b>Unclear business purpose</b>	Unable to determine correct expense category	<b>1</b>
<b>Total</b>			<b>14</b>



# Appendix D – Selection Exceptions: Category Deviations

Recorded Expense Type	Recommended Expense Type	Reasoning	Instances
Employee - Gift Card	<i>Employee Gift - Merchandise</i>	Employee Gift Cards have different tax implications than employee merchandise	<b>2</b>
Employee - Gift Card	<i>No - Should be under Employee – Retirement Gift Card / Certificate</i>	Retirement Gift Cards have different tax implications than Employee Gift Cards	<b>1</b>
Employee – Merchandise	<i>Non-Employee Merchandise</i>	Employee merchandise has different tax implications than non-employee merchandise	<b>1</b>
Employee / Non-Employee (General Entertainment)	<i>Employee – NiSource Sponsored Raffle</i>	Raffles are considered a gift and can be taxable depending on the circumstance	<b>1</b>
Employee / Non-Employee (General Entertainment)	<i>Special Event / Season Tickets / Golf</i>	General entertainment is to be used only if another expense type is not applicable. A comment is required as to why this was used. In this case, the purchase was for tickets which has it's own category	<b>1</b>
Employee / Non-Employee (General Entertainment)	<i>Entertainment Suite Expenses</i>	General entertainment is to be used only if another expense type is not applicable. A comment is required as to why this was used. In this case, purchase was for a suite rental which has it's own category	<b>1</b>
Entertaining - Other	<i>Gift (Flowers or Merchandise)</i>	Flowers for employees are considered a gift and can be taxable depending on the circumstance	<b>1</b>
Meals - Self Only - Not On Travel Status (Taxable To Employee)	<i>Unclear</i>	Not enough information to conclude, however expense was not taxed to employee	<b>1</b>
Meals - Work Late/Snacks/Celebrations, etc.	<i>Entertainment Suite Expenses</i>	Expense was for CBJ Suites & Playoffs. A different level of detail is required for Entertainment Suite Expenses - expenses are to be infrequent in nature and should be submitted by the most senior person of the hosting department	<b>1</b>
Miscellaneous	<i>Catering</i>	Miscellaneous should only be used when there is no other option, this was for a catering which has it's own category	<b>1</b>
Mobile Device / Accessories (Cell Phone, Tablet, etc.)	<i>Should not have used MySpend</i>	Expense was for IT Hardware, all IT Hardware/Software expenses should be purchased using ServiceNow / TechDesk	<b>1</b>
Mobile Device / Accessories (Cell Phone, Tablet, etc.)	<i>Company Vehicle</i>	Expense was for a GPS for a company truck which better fits under the category Company Vehicle	<b>1</b>
Non Employees – Merchandise	<i>Charitable Contributions / Donations</i>	Purchase was for donations to a Non-Profit which could have tax implications	<b>1</b>
Hotel/Non-Room Expense	<i>Conference Room Rentals</i>	Offsite Conference Room Rental or deposit should be itemized by day and by conference room. Itemizations are required	<b>2</b>
<b>Total</b>			<b>16</b>

## Appendix E – 2019 MySpend Categories

<b>2019 Total MySpend Expenses</b>			
<b>Expense Categories</b>	<b>Non - GLI (\$)</b>	<b>GLI</b>	<b>Total Spend</b>
<b>Hotel Services</b>	6,317,778	2,513,787	<b>8,831,565</b>
<b>Field</b>	6,373,619	267,888	<b>6,641,508</b>
<b>Meals</b>	5,858,727	314,043	<b>6,172,770</b>
<b>Ground Transportation</b>	4,505,436	213,449	<b>4,718,886</b>
<b>Office</b>	3,412,749	39,910	<b>3,452,659</b>
<b>Safety/Clothing</b>	3,319,963	15,882	<b>3,335,845</b>
<b>Company Vehicles</b>	3,268,991	458	<b>3,269,449</b>
<b>Air Transportation</b>	2,664,743	126,182	<b>2,790,925</b>
<b>Training, Dues &amp; Memberships</b>	1,850,602	583	<b>1,851,185</b>
<b>Meetings</b>	1,359,786	166,948	<b>1,526,734</b>
<b>Other</b>	472,641	825,519	<b>1,298,160</b>
<b>Entertainment</b>	310,054	111	<b>310,167</b>
<b>Gifts &amp; Awards</b>	297,689	2,018	<b>299,707</b>
<b>Communications</b>	144,191	519	<b>144,710</b>
<b>PAC</b>	4,935	433	<b>5,368</b>
<b>Total</b>	<b>40,161,907</b>	<b>4,487,731</b>	<b>44,649,637 *</b>

\* Refer to **Slide 2** for how the total spend processed through MySpend compares to spend incurred through other corporate cards.

## Appendix F – 2019 vs 2018 MySpend Comparisons

The charts below display total expenses processed through MySpend for both 2018 and 2019, with GLI spend broken out.

**NOTE:** A large volume of 2018 spend (~\$27.7M) was incurred on Purchase Cards which did not provide the ability to classify expenses by type/category and would not be included in the 2018 totals below. As such, the fluxes in the year over year change in MySpend expenses by category may not represent valid increases or decreases – those would have to be analyzed in total as displayed on **Slide 2**. However, Internal Audit noted that the categories with large MySpend fluxes from 2018 (e.g. Field, Office, Safety/Clothing, and Company Vehicles) aligned with our expectations of the types of spend that would have most likely been incurred on Purchase Cards during 2018.

GLI Spend				Non-GLI Spend			
Expense Categories	GLI 2018	GLI 2019	Change	Expense Categories	2018	2019	Change
Hotel Services	17,734,866	2,513,787	(15,221,079)	Hotel Services	5,236,230	6,317,778	1,081,548
Field	740,118	267,888	(472,230)	Field	1,186,886	6,373,619	5,186,733
Meals	3,043,959	314,043	(2,729,916)	Meals	5,337,096	5,858,727	521,631
Ground Transportation	951,057	213,449	(737,608)	Ground Transportation	3,518,366	4,505,436	987,070
Office	320,446	39,910	(280,536)	Office	1,072,542	3,412,749	2,340,197
Safety/Clothing	29,946	15,882	(14,064)	Safety/Clothing	362,491	3,319,963	2,957,472
Company Vehicles	2,937	458	(2,479)	Company Vehicles	876,393	3,268,991	2,392,598
Air Transportation	943,549	126,182	(817,377)	Air Transportation	2,368,988	2,665,345	296,357
Training, Dues & Mem	6,162	583	(5,579)	Training, Dues & Mem	1,545,232	1,850,602	305,370
Meetings	27,479	166,948	139,469	Meetings	325,584	1,359,786	1,034,202
Other	3,257,740	825,519	(2,432,221)	Other	903,658	472,039	(431,619)
Entertainment	219	111	(108)	Entertainment	316,569	310,054	(6,514)
Gifts & Awards	7,061	2,018	(5,043)	Gifts & Awards	232,356	297,689	65,333
Communications	13,469	519	(12,950)	Communications	46,162	144,191	98,029
PAC	-	433	433	PAC	4,091	4,935	844
<b>Total</b>	<b>27,079,018</b>	<b>4,487,731</b>	<b>(22,591,287)</b>	<b>Total</b>	<b>23,334,672</b>	<b>40,163,926</b>	<b>16,829,253</b>

## Appendix G – Spend Analysis by Employee Level

The chart below displays average and total spend by Expense Types processed through MySpend with break outs by the employee manager level (pulled from PeopleSoft HR tables). All averages are calculated using transaction count.

**Note:** Meal and Entertainment expenses are shown as average **per attendee** and Hotel Spend is shown as average **per night**. Additionally, expense types are breakouts of the total expense categories displayed in the MySpend charts in Appendix E and F and will not tie in total.

	Car Rental		Hotel Spend Per Night		Meals Self Only		Meals w/Attendee		Meals - Snacks/Celebrations		Air Fare		Entertainment	
	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total
<b>Overall Category Average</b>	\$ 187		\$ 188		\$ 17		\$ 23		\$ 244		\$ 239		\$ 105	
<b>Employee Manager Level</b>	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total	Avg	Total
CEO & Senior Officer	195	5,265	273	93,363	24	7,603	38	109,607	212	5,507	220	50,535	59	1,755
President COO CFO	130	3,118	412	46,142	14	3,062	27	42,308	1,134	7,938	277	17,458	386	10,910
Senior Vice-President	99	3,870	213	37,002	22	5,349	36	50,794	628	5,654	307	59,298	55	2,113
Vice President	227	75,361	189	279,546	20	48,547	31	149,570	298	20,885	287	310,135	70	13,275
Director	167	117,049	175	508,972	17	87,071	27	334,980	209	56,399	287	528,258	88	33,283
Director - Special	141	141	140	1,823	6	12	13	5,470	32	64	98	98	34	409
Mgr Level	229	296,727	152	945,132	17	175,000	21	710,224	77	74,322	271	680,964	45	63,674
Supv - Supervisor	182	72,735	148	336,729	15	59,125	17	205,219	76	26,352	239	194,940	62	4,322
Supv - Front Line Leader	388	116,319	133	529,444	18	77,712	15	846,607	58	153,071	234	107,418	29	23,643
Non-Manager Engineer	144	54,587	141	319,126	16	68,557	16	127,887	23	6,920	276	114,456	82	2,701
Non-Manager	200	425,814	133	2,709,237	18	583,205	19	1,308,610	173	807,966	242	726,964	243	154,081
Non-Manager Intern	144	288	147	3,226	14	1,040	10	78	5	51	134	401	-	-
<b>Total</b>	\$ 1,171,274		\$ 5,809,742		\$ 1,116,285		\$ 3,891,355		\$ 1,165,130		\$ 2,790,925		\$ 310,167	

# Appendix H – 2019 Top 30 MySpend Vendors

#	Vendor	Total	Category
1	TYNDALE COMPANY INC	1,823,718	Safety Equipment/Attire
2	HOLIDAY INN	1,672,471	Hotel Services
3	SOUTHWEST AIRLINES	1,562,676	Air Transportation
4	HILTON HOTELS	1,507,422	Hotel Services
5	STAPLES	1,241,021	Office Supplies
6	DOUBLE TREE	1,186,310	Hotel Services
7	ENTERPRISE RENT-A-CAR	1,047,495	Ground Transportation
8	MARRIOTT HOTELS	817,483	Hotel Services
9	HAMPTON INNS	768,164	Hotel Services
10	AMAZON *	703,911	Other/Miscellaneous
11	ORR SAFETY	619,935	Safety Equipment/Attire
12	HOMEWOOD SUITES	505,684	Hotel Services
13	RESIDENCE INNS	497,809	Hotel Services
14	DUPLI ENVELOPE & GRAPH	491,432	Office Supplies
15	DELTA AIR LINES	475,867	Air Transportation
16	HYATT HOTELS	471,508	Hotel Services
17	LOWES	465,261	Construction Equipment/Materials
18	AMERICAN AIR	452,682	Air Transportation
19	THE HOME DEPOT	433,845	Construction Equipment/Materials
20	EGENCIA	398,700	Travel
21	MENARDS	340,531	Construction Equipment/Materials
22	PREFERRED CORP. HOUSING	337,789	Construction Equipment/Materials
23	EMBASSY SUITES	322,768	Hotel Services
24	SPRINGHILL SUITES	308,251	Hotel Services
25	NISOURCE	303,930	Meals
26	United Airlines	289,195	Air Transportation
27	PANERA BREAD	236,239	Meals
28	PAYPAL *	230,751	Other/Miscellaneous
29	NAPA	219,456	Car Parts
30	TEREX SERVICES	217,388	Construction Equipment/Materials

Sum of top 30 Vendors	\$ 19,949,692
Total 2019 MySpend	\$ 44,649,637
Percent of Spend	45%

\* Amazon and Paypal were part of the top 30 vendors. Internal Audit noted there have been confirmed cases of employee fraud through expense submissions with these vendors and there is an increased risk in these vendors since receipts may not be required and there is a wide range of items that can be purchased through these vendors.

## Appendix I – Mileage Analysis

### 2018 vs 2019 MySpend Mileage Submissions

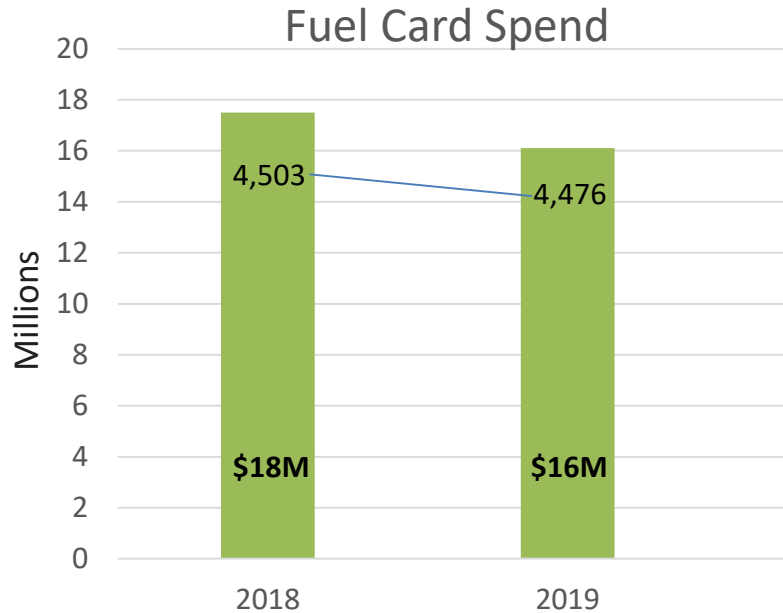
Miles Submitted for Reimbursement	2018	2019	% of Chg	Change
	# of Employees	# of Employees		
1 - 100	126	152	21%	26
101 - 500	530	525	-1%	-5
501 - 1,000	308	336	9%	28
1,001 - 5,000	719	777	8%	58
5,001 - 14,000	184	206	12%	22
> 14,000 *	9	15	67%	6
<b>Total number of Employees Submitting Mileage</b>	<b>1,876</b>	<b>2,011</b>	<b>7%</b>	<b>135</b>

\* The Vehicle Policy states “An employee **may be eligible** to be assigned a Company vehicle if such employee’s job function requires a vehicle to perform the job function and the employee will travel at least **14,000** business miles on an annual basis.” Internal Audit provided a list of fifteen (**15**) employees noted above who submitted more than 14,000 miles to Fleet Management to determine eligibility for a fleet vehicle. Five (**5**) out of the 15 employees also travelled more than 14,000 miles in 2018.

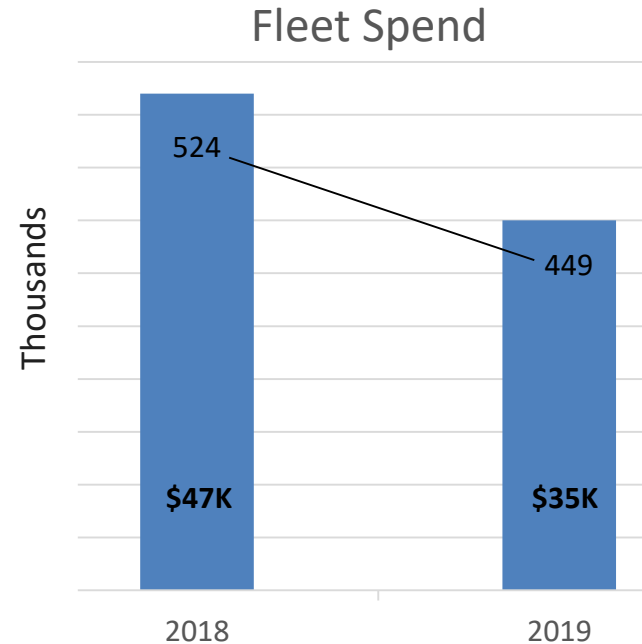
- **Note:** Internal Audit noted that employee travel has decreased significantly due to impacts of the COVID-19 pandemic; thus use of fleet vehicles for these employees may not be necessary at this time.

# Appendix J – Fuel and Fleet Card Analysis

## NiSource Fuel Card and Fleet Card Expenses 2018-2019



Overall total Fuel Card Expense spending decreased ~8% from 2018 to 2019. The total number of employees submitting expenses decreased by ~ 1% during 2019 (4,503 – 4,476).



Overall total Fleet (incidental) spending decreased ~26% from 2018 to 2019. The total number of employees submitting expenses decreased by ~ 4% during 2019 (524 - 447).



## IT Modernization – Human Capital Management SDLC (Design and Build Phases)

To: Steve Brown, Manager – IT Portfolio (Corporate)  
Walt Wojcik, Director – IT Portfolio (Corporate)

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

July 28, 2020





NiSource IT Audit is conducting an ongoing System Development Lifecycle (SDLC) design and build assessment over NiSource's Human Capital Management (HCM) Workday program between January 2020 and December 2020 to provide an independent perspective around program governance, delivery service activities and inclusion of relevant solution control considerations. This opening SDLC review is centered around the program's initial Design & Build phases and will be directly followed by a Test & Deployment phase assessment that will provide a perspective on the program's testing execution, deployment activities and post-implementation closure actions.

IT Audit's HCM Workday Design & Build phase assessment resulted in zero (0) findings and noted the following:

- **Project delivery processes (and applicable controls) regarding scope, cost, schedule, quality, and communications are designed and in place.**
- **Project user acceptance practices, supportive approval structures, and third-party provider management activities are designed and in place.**
- **Business process (SOX) controls, both automated and manual, are being included in the HCM program's development, testing and deployment processes.**
- **IT General Computing Controls (GCC) are being included in the HCM program's development, testing and deployment processes.**
- **Interface, data conversion and reporting controls (where applicable) are being considered and included in solution deployment processes.**
- **Program Team conduct and governance appears adequate to help achieve program objectives.**

*This audit conforms with the International Standards for the Professional Practice of Internal Auditing, whereby a summary of HIGH and/or MODERATE findings will be provided to the NiSource Audit Committee. NiSource IT Audit would like to thank both HCM Program Management and the NiSource IT PMO for their cooperation and time in supporting this effort*

As part of NiSource enterprise IT Modernization activities that were commenced in 2019, NiSource's IT and Human Capital Management teams co-developed and approved a business case supported initiative to replace the current, legacy HCM systems stack with a more modern, scalable Software-as-a-Service (SaaS) solution in Workday. Post approval, NiSource engaged leading HCM software implementers in a managed RFP process to select a System Implementer (SI) for the Workday release effort. After choosing KPMG as the primary SI entity in January 2020, NiSource commenced an internal program to focus on the deployment of the following Workday enabled processes and solution components for use by January 2021:

- Human Capital Management (HCM) Core – Worker Data
- Core Compensation – Compensation Plans & Grades
- Advanced Compensation – Annual Compensation Processes
- Position Management
- Absence Management
- U.S.A. Payroll
- Recruiting – Job Requisitions & Prospect Data
- Self-Service – Employee and Manager
- Contingent Worker
- Onboarding/Offboarding
- SOX Controls (Design and Enablement)
- Standard Reporting
- PRISM Analytics ( Data Analytics)
- Mobile Application activation

NiSource's Human Capital Management initiative has the following goals over the program lifecycle:

- Simplify Existing Technologies and Process
- Accelerate Value and Effectiveness
- Empower Continuous Improvement

As part of the implementation effort, the NiSource HCM program is relying on KPMG's proven Workday System Implementation methodology and has collaborated with the NiSource IT Project Management Office (PMO) and relevant IT management personnel to gain both the proper waivers and alignment with the current NiSource IT Project Management Methodology (PMM) for the duration of the project.

# Audit Scope and Approach

IT Audit aligned with the HCM Program Team, the NiSource IT Project Management Office (PMO), and other HCM program stakeholders to review evidence on the setup of processes, procedures, and controls used to manage HCM program execution. 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.

IT Audit review procedures included the following objective(s) and associated action steps listed below:

<b>Objective 1: Review program delivery-based control design and execution to provide a perspective on organizational risk inherent in HCM solution delivery.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary (Refer to Appendix A for rating scale)</b>
1	Assess the HCM Program governance model over project delivery activities. Assess whether planned/defined project scope, cost and schedule practices are in place and compliant with either NiSource's IT Project Management Methodology (PMM) or a secondary System Integrator methodology that has been aligned with NiSource's IT PMM.	<b>No Findings Noted</b>
2	Assess project/program risk and issue management processes for accountability and inclusion of appropriate parties.	<b>No Findings Noted</b>
3	Assess whether quality controls over solution conformance to requirements are in place and are operating as designed.	<b>No Findings Noted</b>
4	Assess whether controls over communications and stakeholder alignment are in place and operating as designed.	<b>No Findings Noted</b>
5	Review whether (and/or how) legacy IT Audit findings being tracked as IT risks by NiSource IT Governance Risk and Compliance (GRC) are being addressed by the Human Capital Management (HCM) program.	<b>No Findings Noted</b>

## Audit Scope and Approach (cont'd)

**Objective 2:** Review program solution-based control design and execution to provide a perspective on any nonconformance risks associated with corporate control requirements.

#	Procedures	Findings Summary (Refer to Appendix A for rating scale)
1	Assess whether business process controls (automated and manual) were included in the solution development, testing and deployment processes.	<b>No Findings Noted</b>
2	Assess whether interface, required report generation, and data conversion controls were considered and included in solution development, test and deployment processes.	<b>No Findings Noted</b>
3	Assess whether IT general computing controls (ITGCC) were considered and included in the solution planning, development, test and deployment processes for the Human Capital Management (HCM) program.	<b>No Findings Noted</b>
4	Assess whether User Control Considerations residing within the service entity's System and Organization Controls (SOC) report have been formally dispositioned between NiSource HCM and IT management and assigned steady-state operational responsibility.	<b>No Findings Noted</b>

# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
<b>Moderate</b>	<p>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.</p> <p><i>Moderate risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform an independent process design review of a Management remediated, moderate risk finding prior to official closure.</i></u></p>
<b>Low</b>	<p>Requires minimal attention: no material financial or operational impact; low probability of residual risk; process/controls operating below optimal levels.</p> <p><i>Low risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit does not perform follow-up review procedures on low risk findings.</i></u></p>

# Report Distribution



July 29, 2020

To: Jillian Hansen, Director Benefits

From: Tammy Frazier, Lead Internal Auditor  
Lin Koh, Director of Internal Audit

Dear Jillian,

Internal Audit performed a follow-up review over the finding identified in the Pension Trust and Benefits Audit issued in 2019. The review included an assessment of the progress made over the remediation plan as provided in management's response to address the finding. The following moderate risk finding was reviewed during this follow-up:

**Moderate Risk Finding:** (Target Remediation: March 31, 2020 – Closed)

A small portion of one participant's benefit payment, out of a sample of 24, was incorrectly paid out from the qualified rather than the non-qualified account.

There was an error in Alight Solutions' qualified vs. nonqualified account balance calculation. This resulted in approximately \$1500 of the participant's benefit (\$1.3M total) being incorrectly paid out of the qualified rather than non-qualified account. The error was a result of the February 2011 deferred performance based pay not being recorded in Alight's system for this participant. A reconciliation between PeopleSoft and Alight for all other participants with deferred performance based pay for February 2011 was performed and no additional discrepancies were noted.

**Management Response:**

The error made in the qualified vs. non-qualified balance of the participant in question was made back in 2011, prior to the implementation of an annual audit process of the non-qualified pension benefit which commenced around the 2015 time frame. The audit on the non-qualified pension benefit occurs annually and ensures the participant's deferred compensation for said year is accurately reflected in Alight's system. Additionally as a result of this issue, a further review of the deferred compensation was recently added to the monthly Retirement/Earnings review to ensure all deferred compensation is accurately reflected at commencement. A comprehensive review of all participants with an outstanding non-qualified benefit (approximately 100 participants) will be completed by March 31, 2020.

**Resolution:**

Management has added a review of deferred compensation to the monthly Retirement/Earnings review process. Additionally management completed a comprehensive review of all participants with an outstanding non-qualified benefit in February 2020. All variances between deferred compensation recorded in PeopleSoft through December 31, 2019 and deferred compensation reported by Alight Solutions were identified and resolved.

Based on the follow up, Internal Audit determined that management has addressed the finding and completed the management response. The finding will be closed.

CC: P. Disser, K. Keener



## 2019 Pension Trust and Benefits

July 30, 2020

To: Jillian Hansen, Director of Benefits

From: Tammy Frazier, Internal Audit Lead  
Lin Koh, Director Internal Audit





## Executive Summary

Internal Audit performed an audit to assess the accuracy and completeness of pension plan information and payments for the period from January 1, 2019 through December 31, 2019.

Based on procedures performed, Internal Audit noted one low risk finding:

- For two NiSource participants, there were errors in Alight Solutions' manual documentation of Final Average Pay (FAP) protected benefit calculations. These errors were not systemic errors and did not impact payments made to the participants.

### Separation of Columbia Gas of Massachusetts Pension Data

On February 26, 2020, NiSource announced an agreement in which Eversource Energy will acquire Columbia Gas of Massachusetts (CMA). Eversource and NiSource has submitted a filing with the Massachusetts Department of Public Utilities (DPU) seeking approval of the transaction along with a joint settlement with the Massachusetts Attorney General, the Department of Energy Resources, and the Low-Income Weatherization and Fuel Assistance Program Network that addresses all key aspects of the filing. NiSource is currently asking the DPU to approve the transaction by September 30, 2020, and is currently on track to close the transaction soon after approval. Information related to the sale of CMA is as of the date of this report; however, is subject to change as the terms of the agreement are finalized. As part of the sale, Eversource will take over plan sponsorship and administration of the Bay State Union Pension Plan and the Bay State Gas Company Pension Plan effective October 1, 2020. As is the case with NiSource, Alight Solutions will be the third party administrator of the plans for Eversource. In accordance with the proposed transition service agreement, currently still in negotiations, NiSource will maintain time and labor and payroll records for CMA for the last three months of 2020, and will be responsible for providing all applicable data elements necessary to administer the plans in accordance with terms to Alight. Eversource will have access to all historical participant and plan data, dating back to 2003, maintained by Alight Solutions.

*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. During this year's review, our work was designed to assess the accuracy of plan benefit payments as well as demographic data for the period under review.

Pension benefits are maintained by Alight Solutions, an outside provider. There were no significant changes in how pension benefits are managed and maintained for NiSource during 2019.

For NiSource participants that are currently participating in an Account Balance (AB) plan but previously participated in a Final Average Pay (FAP) plan, the plan may also consider a "Protected Benefit" in calculating retirement benefits. The Protected Benefit provision guarantees that a participant's benefit under the Account Balance Plan is not less than the lump sum actuarial equivalent of their accrued benefit under the FAP Benefit at their conversion date (Protected Benefit) plus applicable pay and interest credits from their conversion date through termination of employment. Both an AB and FAP benefit calculation must be performed for these participants to determine the winning benefit (greatest benefit for participant).

Internal Audit testing was based on the following samples selected by Deloitte & Touche:

Sample Selection	Total Participants
Lump sum benefit calculations	8
Annuity benefit calculations	8
Demographic data testing – Bay State only	6

## Audit Scope and Approach

The purpose of this audit was to assess the accuracy of the plan benefit payments for the period from January 1, 2019 through December 31, 2019.

<b>Business Objective 1: Assess the accuracy of the benefit payments for the period under review.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary</b> (Refer to Appendix A for rating scale)
1	Perform a benefit payment recalculation on a sample selected by Deloitte & Touche.	<b>Finding #1 – See Page 6</b>
2	Review the accuracy of prior year annuity payments.	<b>No Findings Noted</b>

## Audit Scope and Approach

The purpose of this audit was to assess the accuracy of the plan benefit payments for the period from January 1, 2019 through December 31, 2019.

<b>Business Objective 2: Validation of Information through Demographic Testing</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary</b> (Refer to Appendix A for rating scale)
1	Validate participant's demographic information by comparing information provided by Hewitt to PeopleSoft.	<b>No Findings Noted</b>

## Audit Scope and Approach

The purpose of this audit was to assess the accuracy of the plan benefit payments for the period from January 1, 2019 through December 31, 2019.

<b>Business Objective 3: Gain an understanding of CMA work streams for transition activities related to pension benefits.</b>		
<b>#</b>	<b>Procedures</b>	<b>Findings Summary</b> (Refer to Appendix A for rating scale)
1	Inquire of Human Resources and Benefits Departments regarding procedures associated with the sale of Colombia Gas of Massachusetts to Eversource Energy.	<b>No Findings Noted</b>

# Findings

<p><b>Objective 1:</b> Perform a benefit payment recalculation on a sample selected by Deloitte &amp; Touche.</p>	<p><b>Risk Rating</b></p>
<p><b>Finding #1:</b> Alight used incorrect factors in audit work-papers when documenting two participant's FAP total protected benefit calculations:</p> <ul style="list-style-type: none"> <li>• 1 calculation used the incorrect lump sum factor table. The participant's benefit commencement date was 12/1/18 therefore the 2018, not the 2019 factor table should have been used.</li> <li>• 1 annuity calculation used an incorrect early retirement factor. The participant's benefit should not have been reduced.</li> </ul> <p>In both instances, the FAP total protected benefit was not the winning benefit for the participants. However, incorrect calculations could result in under/over payments to participants in the event of winning benefits.</p>	<p><b>Low</b></p>
<p><b>Process Owner(s):</b> Jillian Hansen, Director of Benefits</p>	
<p><b>Observation</b></p> <p><b>Criteria:</b> Pension benefits are calculated with complete and accurate information and are paid accordingly.</p> <p><b>Condition:</b> Incorrect lump sum and retirement factors were used by Alight in audit work-papers when documenting the FAP benefit calculations for two participants. However, the correct lump sum and retirement factors were used in Alight's automated system, TBA.</p> <p><b>Risk/Impact:</b> Incorrect or incomplete benefit calculations could result in under/over payment of benefits to participants.</p>	
<p><b>Recommendation</b></p> <p>Management should communicate to Alight the importance of ensuring all benefit calculations, including those that do not result in the winning benefit, are complete and accurate.</p>	
<p><b>Management Response</b></p> <p>The Benefits department understands the importance of accurate documentation to support audit requests and has scheduled a meeting with Alight to discuss the necessity to document all benefit calculations completely and accurately, for both the winning and non-winning benefit. While the calculations are manually documented for this audit, the documentation needs to reflect data in Alight's TBA system accurately.</p>	

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# Appendix A

Rating Scale for Audit Findings	
<b>High</b>	<p>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.</p> <p><i>High risk findings require an auditee Management Response coupled with a Target Implementation Date for remediation.</i></p> <p><u><i>Internal Audit is required to perform independent effectiveness validation testing of a Management remediated, high risk finding prior to official closure.</i></u></p>
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# VULNERABILITY MANAGEMENT

## Advisory Review

November 2020

### Distribution

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Deloitte & Touche  
Audit Committee



Big Thinking. Personal Focus.

*This report has been prepared for use by NiSource management only and is not to be distributed outside NiSource without permission from Schneider Downs & Co., Inc.*

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## Executive Summary

The services of Schneider Downs & Co, Inc. were retained by NiSource, Inc. to perform an advisory review of key cybersecurity initiatives and provide a secondary opinion on the current-state design, and where applicable, operating effectiveness of NiSource's Vulnerability Management Program. NiSource Inc. (NiSource) Internal Audit selected the NiSource Vulnerability Management Program for analysis based on the criticality of the area related to the company's cybersecurity posture, coupled with the program's maturity status within the broader NiSource cybersecurity roadmap. Schneider Downs' assessment occurred during August and September 2020.

For the purpose of this review, *vulnerability management* refers to:

- Identification of flaws, weaknesses, or misconfigurations of information systems that may be exploited by a bad actor
- Preventative maintenance in the form of the regular application of manufacturer software and firmware patches
- Change management processes as they relate to the remediation of system vulnerabilities
- Metrics, alerting, and reporting used to communicate identified vulnerabilities to stakeholder groups within the organization
- Analysis, acceptance, and tracking of organizational risk exposure due to vulnerable information systems
- The automated tools and manual processes implemented to support these activities

In order to assess the maturity of the NiSource Vulnerability Management Program against industry best practices, Schneider Downs utilized the SANS Vulnerability Management Maturity Model (VMMM), which is comprised of five *domains* and twelve *subdomains*, each with five maturity levels. A complete description of the activities expected at each of the maturity levels is provided in Appendix A: SANS Vulnerability Management Maturity Model.

## Background

Vulnerability Management functions at NiSource, including the administration of the vulnerability management platform (Qualys), workflows, configuration and execution of scans, vulnerability reports, and compliance, were previously outsourced to Verizon Communications Inc. (Verizon) from Q4 2017 until Q2 2020. In the months prior to this review, NiSource Information Technology (IT) hired internal staff and developed internal processes for the steady-state operation of vulnerability management. Currently, NiSource IT Security Operations is responsible for most vulnerability management duties, including vulnerability monitoring/scanning/reporting, vulnerability risk assessment, and coordination among stakeholders. However, NiSource third party service providers Wipro Limited (Wipro) and Verizon are responsible for patching and vulnerability remediation.

The observations in this report were compiled based on inquiry with NiSource IT staff members who perform various roles within the Vulnerability Management Program, as well as through selected tests of the operating effectiveness of implemented processes. A full listing of individuals interviewed as part of this review may be found in Appendix C: Vulnerability Management Program Organization Chart.

## Observed Strengths

In consideration of how recently the NiSource IT Security Operations team assumed responsibility for vulnerability management activities, Schneider Downs assesses that the company's Vulnerability Management Program is at or above the expected level of maturity. An increase in dedicated NiSource IT security team resources has enabled more focus on vulnerability management tasks and priorities and contributed to the upward maturity trend.

## Key Recommendations

### **1. Vulnerability Management Roadmap**

While the organization has made significant progress implementing the Vulnerability Management Program, plans have not been formally developed to address a number of identified issues (e.g., incomplete or inaccurate asset inventories, technical issues with authenticated scanning, conflicting priorities between IT service provider SLAs and vulnerability remediation timeframes, etc.).

Schneider Downs recommends the NiSource IT Security Operations team adopt a specific Vulnerability Management roadmap to further enable increased program maturity within a defined timeframe. This roadmap should conform to an industry standard(s) such as SANS VMMM, NIST Cyber Security Framework (CSF), or Cybersecurity Capability Maturity Model for the Oil and Natural Gas Subsector (ONG-C2M2). This will guide development of time-bound future state milestones selected based on the organization's risk threshold and the alignment of required resources to perform activities on the Vulnerability Management roadmap.

### **2. Asset Management & Discovery**

While asset management is not a function of the Vulnerability Management Program, the program's effectiveness is reliant on accurate asset information. Attributes critical to vulnerability management include:

- a. Asset ownership
- b. Data type(s) stored or processed
- c. Operating system
- d. Service(s) supported

Schneider Downs noted NiSource IT is using multiple technology tools, including ServiceNow and Qualys, to discover and store IT asset information. Although the use of multiple tools for asset discovery and information storage is common, NiSource IT does not reconcile the information obtained by and stored within each of the individual tools being leveraged. Schneider Downs recommends that NiSource IT develop a process to review and reconcile data being produced between the tools in order to reduce or eliminate inconsistent or duplicate information as inconsistent/duplicate information may impair effective vulnerability management.

Schneider Downs further recommends the use of authenticated vulnerability scanning for all assets, when possible, to ensure all asset attributes are collected. Authenticated scans were observed to be configured, but the scans were failing due to technical issues. Data collected from authenticated scanning can effectively assist in aligning technology inventory databases through available integrations between Qualys and ServiceNow or via custom/manual processes.

**3. Risk Tracking**

Schneider Downs found a number of vulnerabilities that had exceeded acceptable remediation timeframes per NiSource's policy. Schneider Downs recommends NiSource risk management team members, whether IT Risk Management and/or Enterprise Risk Management, be integrated into the vulnerability resolution process or systematically notified when an identified vulnerability has not been resolved within the established timeframe. Where possible, specific alerts or reports should be developed to ensure the following are monitored:

- a. New and high risk vulnerabilities
- b. Vulnerabilities that are not resolved within established remediation timeframes
- c. Vulnerabilities excluded/exempted from scan reports

**4. Vulnerability Remediation Execution**

Schneider Downs observed a number of lower criticality vulnerabilities that were prioritized for remediation ahead of higher-risk vulnerabilities and recommends NiSource IT Infrastructure re-evaluate and, if needed, update the established criteria for prioritizing vulnerability remediation to ensure the prioritization methodology drives towards the desired risk profile. Proper alignment of service level agreements and remediation timeframes within risk thresholds ensures that resources are directed first at mitigating the vulnerabilities posing the highest risk to the organization before addressing those with a lesser potential impact. This should include:

- a. Increasing focus on key factors such as access vector, access complexity, and contextual criteria about the assets impacted
- b. Remediation timeframes for lower criticality vulnerabilities be extended to allow focus on higher risk items
- c. Incorporation of threat intelligence data into the identification and prioritization of vulnerabilities, especially zero-day vulnerabilities that are not yet noted in Qualys

**5. External Vulnerability Reporting**

NiSource does not currently utilize a single process for the intake and management of vulnerabilities identified by external sources, such as unsolicited vendor scan reports. Schneider Downs recommends that IT Security Operations establish a single intake process to ensure appropriate routing of these reports. This process should include:

- a. A standardized approach for external vulnerability scanning, including the regular use of a third-party scanning provider and/or increased levels of scanning
- b. A publicly available means to report vulnerabilities, such as an email address or contact form
- c. A published Vulnerability Disclosure Policy (VDP) addressing how external parties should communicate with NiSource regarding vulnerabilities
- d. An internal procedure for incorporating externally identified vulnerabilities into the existing vulnerability management processes

### Management Response to Recommendations

NiSource IT agrees with the recommendations in the Advisory Memo and will incorporate the recommended items into our 2021 initiatives. This is especially timely given the recent insourcing of this function and the need to further define and build out processes as we continue to mature the program. We specifically will further define our vulnerability management roadmap, document and reconcile tools used in vulnerability management, determine the appropriate risk tracking processes, and ensure timeframes and remediation efforts are appropriately focused on risk. We will track issues in our Risk Register assigning ownership and remediation timeframes until items are brought to closure.

\*\*\*\*\* End of Executive Summary \*\*\*\*\*

# Detailed Report

## SANS Vulnerability Management Maturity Model Assessment

To perform the assessment, Schneider Downs utilized the SANS Vulnerability Management Model (VMMM), a tool which helps evaluate the maturity of a Vulnerability Management Program by benchmarking against five Domains and 12 Subdomains. The Domains and Subdomains appear in the table below.

Domain	Subdomains		
<b>Prepare</b>	Policy & Standards		Context
<b>Identify</b>	Automated	Manual	External
<b>Analyze</b>	Prioritization		Root Cause Analysis
<b>Communicate</b>	Metrics & Reporting		Alerting
<b>Treat</b>	Change Management	Patch Management	Configuration Management

### Current State

Schneider Downs assessed the current state of the NiSource Vulnerability Management Program by evaluating the percentage of activities being performed at each of the prescribed maturity levels. The heat map below shows the areas of the Program that are established, as well as those that are currently undefined or underperformed. The following sections describe in detail the maturity assessment for each of the subdomains of the SANS VMMM, and include specific recommendations and risk metrics.

Activities Performed
100%
75%
50%
25%
None

Domain	Subdomain	Level 1	Level 2	Level 3	Level 4	Level 5
Prepare	Policy & Standards	100%		75%	50%	None
	Context	50%	50%	50%	50%	None
Identify	Automated	50%	50%	50%	25%	None
	Manual	100%		50%	None	
	External	50%	None			
Analyze	Prioritization	50%	50%	50%	25%	None
	Root Cause Analysis	50%	50%	50%	50%	None
Communicate	Metrics & Reporting	75%	75%	75%	50%	25%
	Alerting	None				
Treat	Change Management	100%			50%	None
	Patch Management	75%	75%	50%	50%	None
	Configuration Management	100%		50%	50%	None

◇ denotes areas addressed by recommendations in this report



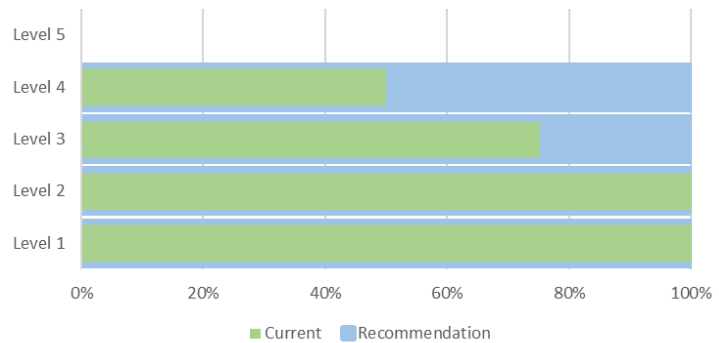
## Prepare

### Policy & Standards

#### Description

The Policy & Standards subdomain encompasses the written governance for vulnerability management. Key areas considered in this subdomain include the establishment, measurement, and maintenance of the vulnerability management program.

### Subdomain Maturity



#### Maturity Level & Recommendations

Schneider Downs recommends NiSource continue its annual review of IT policies and procedures while developing a process to incorporate stakeholder feedback into the review. Additionally, stakeholder groups should receive training on policies specific to their roles and metrics for compliance to policies be developed. These recommendations address Levels three and four of the subdomain.

Level	Description	Conformity
1	Policy and standards are undocumented or in a state of change.	Generally Conforms
2	Policy and standards are defined in specific areas as a result of a negative impact to the program rather than based on a deliberate selection of best practices or standards from recognized frameworks.	Generally Conforms
3	Policy and standards have been carefully selected based on best practices and recognized security frameworks and are updated as needed to fulfill the program's mission. Employees are made aware of standards and training on requirements is available.	Partially Conforms
4	Adherence to defined policy and standards is tracked and deviations are highlighted. Training of personnel on requirements is required at least annually.	Partially Conforms
5	Automated, proactive controls enforce policy and standards and provide input to regular updates and training requirements.	Does Not Conform

#### Observations

There are four NiSource IT policy documents that are based on the NIST Cybersecurity Framework with standards covering portions of the NiSource Vulnerability Management Program:

- IT Vulnerability Management Policy
- IT Vulnerability Management Scanning Standard
- IT Endpoint Security and Patching Standards
- IT Protection from Malicious Software Standard

These IT policies were published in February/March 2020, are reviewed annually, and were recently updated to align with new Vulnerability Management program documentation. However, NiSource IT management does not track and monitor employees', contractors' and service providers' adherence to

the policies, and training regarding policy adherence and consequences of non-compliance is not currently provided.

Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

- IT policies and procedures are not reviewed on an annual basis
- Stakeholders are unaware of their responsibilities as assigned by policy and procedure
- Training is not delivered or does not reflect current policies and procedures

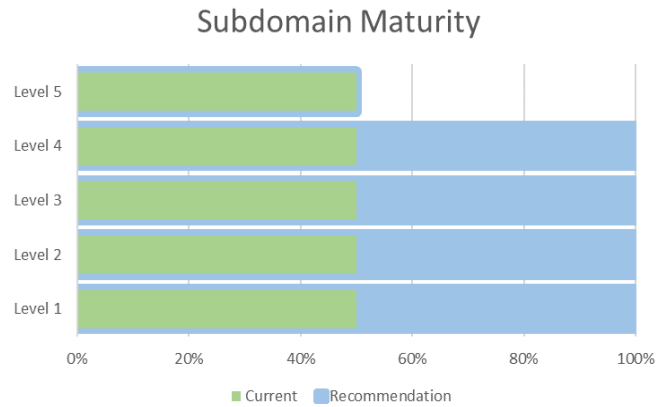
**Context**

Description

The Context subdomain describes key activities regarding asset tracking as they pertain to vulnerability management. Examples include asset discovery, ownership, and criticality as determined by underlying data type or operational function.

Maturity Level & Recommendations

Schneider Downs has noted its recommendations under the Key Recommendations section as recommendation #2. These recommendations address multiple levels of the subdomain maturity.



Level	Description	Conformity
1	Contextual data (e.g., asset details, ownership, relationships) are available from multiple data sources with varying degrees of accuracy.	Partially Conforms
2	There is a central repository of contextual data that has some data for most systems and applications.	Partially Conforms
3	The central repository requires that certain contextual information be tracked and updated for each system and that it is based on program needs.	Partially Conforms
4	Reports show compliance with contextual information requirements and processes are in place to identify non-compliant, missing, or retired systems and applications.	Partially Conforms
5	Automated or technology-assisted processes and procedures exist to both create and remove systems and applications and associated attributes from the central repository, or data is correlated and reconciled with other systems that contain information about tracked systems and applications.	Partially Conforms

Observations

Qualys mapping and discovery scans are run bi-weekly, however blind spots are difficult to quantify because the Qualys scanners can only identify the presence of devices. Root causes for these issues are detailed further in the Technical Assessment section of this report.

Additionally, based on inquiry with multiple NiSource IT Security Operations personnel, it was noted that the ServiceNow Configuration Management Database (CMDB) is unreliable and data accuracy is an issue. Management is aware and working to mature asset management processes.

Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

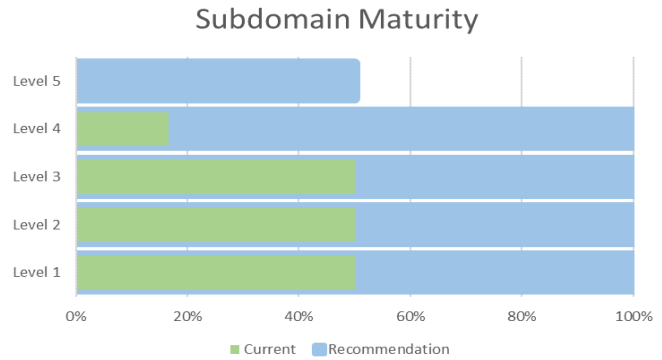
- High count of assets in the ServiceNow CMDB that do not have all required attributes to support vulnerability management
- High count of assets that appear in other asset inventories but not Qualys

## Identify

### Automated

#### Description

The Automated subdomain outlines all of the activities performed to support the detection of vulnerabilities through scanning tools. This function may range from ad hoc to fully integrated into system design processes.



#### Maturity Level & Recommendations

Schneider Downs recommends prioritizing the use of authenticated vulnerability scanning as captured in Recommendation #2 of the Key Recommendations. These recommendations address many of the subdomain maturity levels.

Level	Description	Conformity
1	Infrastructure and applications are scanned ad-hoc or irregularly for vulnerability details, or vulnerability details are acquired from existing data repositories or from the systems themselves as time permits.	Partially Conforms
2	The process, configuration, and schedule for scanning infrastructure and applications is defined and followed for certain departments or divisions within the organization. Available technology may vary throughout the organization.	Partially Conforms
3	There are defined and mandated organization wide scanning requirements and configurations for infrastructure and applications that set a minimum threshold for all departments or divisions. Technology is made available throughout the organization through enterprise licensing agreements or as a service.	Partially Conforms
4	Scanning coverage is measured and includes the measurement of authenticated vs. unauthenticated scanning (where applicable), the types of automated testing employed, false positive rates, and vulnerability escape rates.	Partially Conforms
5	Scanning is integrated into build-and-release processes and procedures and happens automatically in accordance with requirements. Scanning configurations and rules are updated based on previous measurements.	Does Not Conform

#### Observations

Qualys is utilized for vulnerability scanning, however most scans are currently performed in an *unauthenticated* manner, which means the scanner runs anonymously and does not have full access to the asset configuration. Because known issues exist with performing *authenticated*, as noted in the Technical Assessment section, most scans are reverting back to being run as unauthenticated. Authenticated scanning should be used whenever possible to gain full visibility over existing vulnerabilities.

Because NiSource does not have a comprehensive asset inventory to compare the Qualys inventory against, the coverage for vulnerability scanning is not measured and reported to management. As the ServiceNow CMDB has been selected as the “source of truth” at NiSource, use of available integrations between ServiceNow and Qualys or a combination of custom and manual methods would provide the capability to reconcile these two asset databases.

CrowdStrike, an endpoint security, threat intelligence and cyberattack response tool, will be considered as a potential source for cross-referencing vulnerability data in the future, pending internal approval.

#### Key Risk Indicators

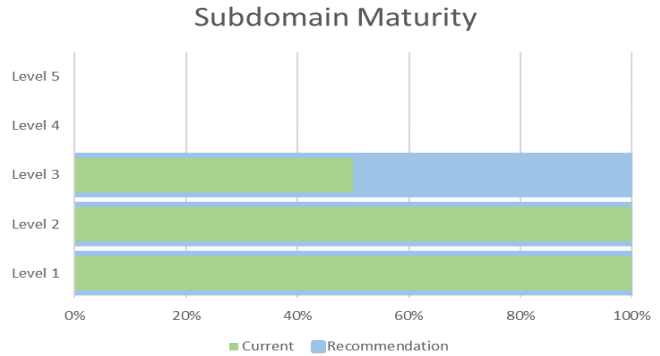
The following metrics may indicate the failure of controls or processes in this subdomain:

- Low ratio of authenticated to unauthenticated vulnerability scans
- High count of devices appearing in the ServiceNow CMDB or other asset databases that do not appear in the Qualys inventory

## Manual

### Description

The Manual subdomain provides guidance on activities for the manual triage and assessment of vulnerabilities. Initial manual review processes may materialize as a service performed at request while a mature manual review process will consider historic risks.



### Maturity Level & Recommendations

Schneider Downs recommends guidelines be established to trigger the manual review of a given vulnerability (e.g., at system owner request, identified out of cycle, impact to key systems, etc.). This recommendation addresses Level three of the subdomain maturity.

Level	Description	Conformity
1	Manual testing or review occurs when specifically required or requested.	Generally Conforms
2	Manual testing or review processes are established and some departments and divisions have defined requirements.	Generally Conforms
3	Manual testing or review occurs based on reasonable policy-defined requirements that apply to the entire organization and is available as a service where not specifically required by policy.	Partially Conforms
4	Deviations from manual testing or review requirements are tracked and reported.	Does Not Conform
5	Manual testing or review processes include focused testing based on historical test data and commonalities or threat intelligence.	Does Not Conform

### Observations

Weekly meetings are held to discuss the “Top 10” and “Severity 5” vulnerabilities. These meetings are followed by weekly action planning sessions.

Stand-up calls are held daily where management uses a feedback loop from UNITE and E-ISAC identifying threats to peer organizations, along with open source intelligence, to identify vulnerabilities that need to be prioritized outside of the standard process.

However, manual testing and review of vulnerabilities is not available as an optional service, and deviations are not tracked and reported to management.

From the Top 75 Weekly Reports, Schneider Downs noted the following:

- 114 vulnerabilities appeared on at least five of the reports, meaning the vulnerabilities remained open for at least five weeks. This is over the 30-day remediation timeline defined for all medium and above vulnerabilities in the IT Vulnerability Management Program
- Schneider Downs sampled 15 of the 114 vulnerabilities that appeared on at least five of the weekly reports, noting that:

1. Ten (of 15) vulnerabilities appeared on the most recent (8/18/2020) "Top 75" weekly report and therefore have not been remediated to date
2. Five (of 15) vulnerabilities did not have a change ticket documented
3. Twelve (of 15) vulnerabilities resulted in an increase of affected assets compared to the prior week's report

From the Severity (Sev) 5 Weekly Reports, Schneider Downs noted the following:

- 178 vulnerabilities appeared on at least five of the reports, meaning the vulnerabilities remained open for at least five weeks; this is over the 30-day remediation timeline defined for all medium and above vulnerabilities in the IT Vulnerability Management Program
- Schneider Downs sampled 15 of the 178 vulnerabilities that appeared on at least five of the reports, noting that:
  1. All 15 vulnerabilities in the sample appeared on the most recent (8/18/2020) Sev 5 weekly report and therefore have not been remediated to date
  2. All 15 vulnerabilities in the sample did not have a change ticket documented
  3. Four (of 15) vulnerabilities resulted in an increase of affected assets compared to the prior week's report

#### Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

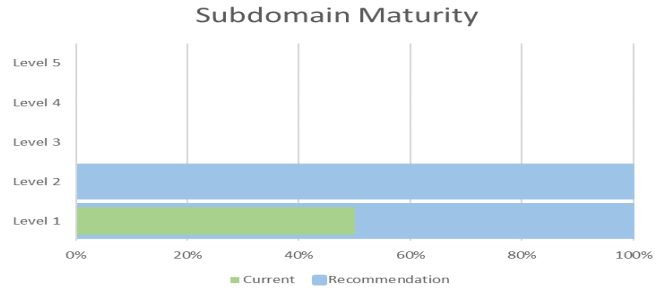
- High ratio of vulnerabilities that exceed mitigation timeframes without manual review
- High count of vulnerabilities that have been both:
  1. Accepted as risk items
  2. Exceeded their risk review period without manual review by a member of the vulnerability management team



External

Description

Activities that fall under the External subdomain include all those related to the intake and review of external vulnerability scans and/or research.



Maturity Level & Recommendations

Schneider Downs has noted its recommendations under the Key Recommendations section as recommendation #5. These recommendations address multiple levels of the subdomain maturity.

Level	Description	Conformity
1	External vulnerability reports and disclosures are handled on a case-by-case basis.	Partially Conforms
2	Basic vulnerability disclosure policy (VDP) and contact information published, but backend processes and procedures not documented.	Does Not Conform
3	More comprehensive VDP in place, along with terms and conditions for external vendors and security researchers, that outlines rules of engagement, tracking, and feedback processes.	Does Not Conform
4	Compliance with VDP and terms and conditions is tracked and measured and information is used to streamline processes and evaluate vendors and researchers.	Does Not Conform
5	A mature external testing and research program is in place with specific goals and campaigns that may only be available to specific vendors or researchers.	Does Not Conform

Observations

NiSource performs their own internal scans, but also receives several scans from external scanning companies per year that are then tracked as risk items. These scans usually come in after publishing a Request for Proposal (RFP) or due to considering a product or service.

Some reports of external vulnerabilities have been submitted through standard customer service channels. It is unknown if any such reports have been incorrectly routed internally. NiSource has not published a policy for how external parties should interact with NiSource systems when performing security research or submit identified vulnerabilities to the NiSource team.

Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

- High ratio of externally reported vulnerabilities that arrive via unofficial channels

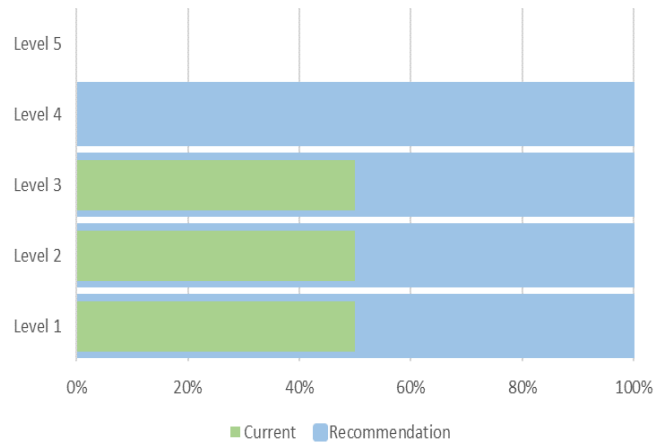
## Analyze

### Prioritization

#### Description

Processes supporting the assignment of a criticality score for individual vulnerabilities fall into the Prioritization subdomain. These processes typically utilize a combination of publicly available data, such as the Common Vulnerability Scoring System (CVSS) and NIST Common Vulnerabilities and Exposures (CVE) database, and contextual data gathered by the organization based on its established risk criteria.

### Subdomain Maturity



#### Maturity Level & Recommendations

Schneider Downs' recommendations for the Prioritization subdomain are addressed by Recommendation #3 in the Key Recommendations. These recommendations address multiple levels of subdomain maturity.

Level	Description	Conformity
1	Prioritization is performed based on CVSS/Severity designations provided by identification technology or indicated in reports.	Partially Conforms
2	Prioritization also includes analysis of other available fields such as whether or not exploits or malware exist or confidence scores.	Partially Conforms
3	Prioritization includes correlation with the affected asset, asset group, or application to account for its criticality in addition to the severity designation. This may require light to moderate customization depending on architecture and design.	Partially Conforms
4	Generic threat intelligence or other custom data, which may require additional products or services, are leveraged to perform prioritization.	Does Not Conform
5	Company-specific threat intelligence, or other information gathered from the operating environment, is leveraged to perform prioritization. This information may require human analysis or more extensive customization.	Does Not Conform

#### Observations

CVSS scores are incorporated into the Qualys scoring system, whereby NiSource has established a process to target the highest vulnerabilities based on Qualys scoring (Severity 5). Currently, contextual data is not factored into the prioritization process due to perceived inconsistencies within the ServiceNow CMDB. The only exception is the NiSource Call Center as the call center assets are prioritized over other systems due to uptime requirements.

Some vulnerabilities with known exploits are handled out of cycle, but Qualys reports are not specifically broken out by exploitability. For example, during the week of 8/17/2020, NiSource completed a "Patch

Now" remediation since they are able to escalate any CVSS score, or a score from a vendor, even if it was considered low.

Threat intelligence is not factored into severity scores, but is monitored to identify vulnerabilities that have not yet hit Qualys. No organization-specific feeds are implemented at this time, but research is performed in an ad hoc fashion from E-ISAC, Twitter, and other industry sources.

From the Top 75 Weekly Reports, Schneider Downs sampled 15 of the 114 vulnerabilities that appeared on at least five of the reports. Schneider Downs assessed that, based on the NIST CVE Base Scores (looking at the factors including Exploitability Scores, Access Vector, Access Complexity, and Authentication), five (or 33%) of the QID's (Qualys unique ID number assigned to a vulnerability) were lower risk vulnerabilities that received prioritization over higher risk vulnerabilities.

#### Key Risk Indicators

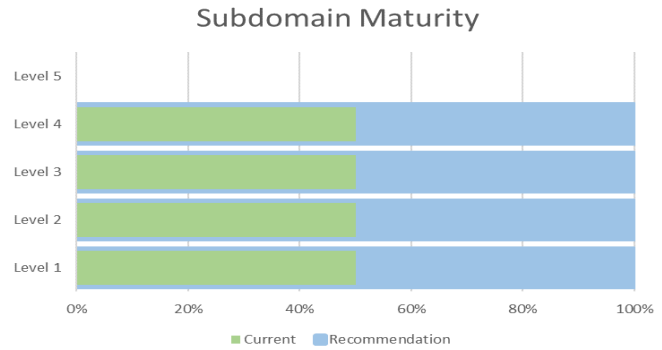
The following metrics may indicate the failure of controls or processes in this subdomain:

- Vulnerability closure rates that do not align with priority (i.e., low risk vulnerabilities are closed more quickly than high risk vulnerabilities)
- High count of vulnerabilities that exceed the remediation timeframe for their severity level

## Root Cause Analysis

### Description

Root Cause Analysis pertains to all activities that aid in the identification of underlying causes of persistent vulnerabilities. Examples are systems that are exempt from patching policies or gaps in patch management processes.



### Maturity Level & Recommendations

Schneider Downs recommends NiSource develop reporting specific to system owners, applications, infrastructure, departments, or other business-relevant classifications in order to identify potential root causes for areas with lagging vulnerability remediation. These recommendations address multiple levels of the subdomain maturity.

Level	Description	Conformity
1	Root cause analysis is performed based on out-of-the-box information such as standard remediation/patch reports or other categorized reports (e.g., OWASP Top 10 category).	Partially Conforms
2	Data is lightly customized to apply less granular or more meaningful groupings of data than CVE, CWE, or Top 10 identifiers to facilitate root cause analysis.	Partially Conforms
3	Data is also identified, grouped, and/or filtered by department or location to enable identification of location- or group-based deficiencies. This may require light to moderate customization depending on architecture and design.	Partially Conforms
4	Data is also identified, grouped, and/or filtered by owner or role. This may require more extensive customization and ongoing maintenance.	Partially Conforms
5	An executive dashboard is in place and includes the highest-risk root cause impediments, exclusions, project cost projections, etc. This will require more detailed analysis and customization to become meaningful and should integrate with existing executive business intelligence tools.	Does Not Conform

### Observations

Root cause is discussed on the weekly calls with Wipro where the “Top 10” (number of assets affected) and “Severity 5” vulnerabilities are reviewed. An IT security analyst pulls these reports from Qualys for the calls, then asks Wipro to put remediation dates in place including pilot and testing dates. Wipro also provides a root cause for monthly patching cycles when deployments do not meet SLAs. It takes a month to evaluate patches and note if the patches are actually remediating the vulnerabilities. While root cause analysis does track underlying system owners, it does not incorporate attributes that may aid in identifying true root cause such as operating system patching and/or software dependency. The root causes of delays in remediating identified vulnerabilities are not formally investigated, which may impair the effectiveness and efficiency of vulnerability remediation.

Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

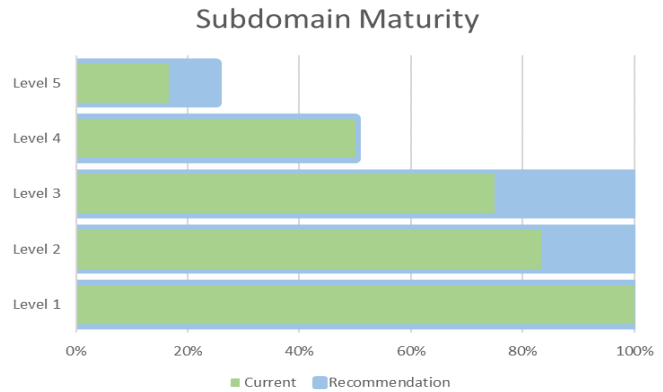
- Vulnerabilities sharing an owner, application, infrastructure, departments, etc. repeatedly exceed standard remediation timeframes

## Communicate

### Metrics & Reporting

#### Description

The performance of all other vulnerability management activities cannot be effectively reported to management without developing metrics that align with organizational objectives. Such metrics should be vetted with leadership and reviewed on a regular basis.



#### Maturity Level & Recommendations

Schneider Downs recommends formal key risk indicators and reports be developed for vulnerability management as outlined in Recommendation #2 in the Key Recommendations. These recommendations address multiple levels of the subdomain maturity and focus on metrics and reporting as a means of identifying and communicating risks that exceed the established risk appetite.

Level	Description	Conformity
1	Simple, point-in-time operational metrics are available primarily sourced from out of- the-box reports leveraging minimal customization or filtering.	Generally Conforms
2	Filtered reports are created to target specific groups or prioritize findings. Specific divisions or departments have defined their own reporting requirements, including both program and operational metrics, and generate and release the corresponding reports at a defined interval.	Partially Conforms
3	Reporting requirements, including all required program, operational, and executive metrics and trends, are well-defined and baseline reports are consistent throughout the organization and tailored or filtered to the individual departments or stakeholders.	Partially Conforms
4	Reports and metrics include an indication of compliance with defined policy and standards, treatment timelines, and bug bars. Correlation with other security or contextual data sources allows for more meaningful grouping, improves accuracy, and allows for identification of faulty or inefficient design patterns.	Partially Conforms
5	Custom reporting is available as a service or via self-service options, or feedback is regularly solicited and reports are updated to reflect changing needs. Automated outlier and trend analysis, along with exclusion tracking, is performed to identify high/low performers and highlight systemic issues/successes.	Partially Conforms

#### Observations

The reports coincide with weekly meetings and align with workstations, servers, and applications as well as an executive level report. Weekly reports sent to stakeholder groups are filtered down in Excel-format to the areas covered by each team. However, a specific feedback loop has not been developed to

ensure reporting provides all necessary information to stakeholders required to perform their roles in the process.

Reports can also be generated on an ad hoc basis, although NiSource's goal is to create automated reports that will be generated for users on a defined basis. This will allow for best allocation of resources given that generating ad hoc reports can be taxing on the system.

Remediation SLAs are handled outside of Qualys. Open vulnerabilities and the change in the overall numbers, as well as how long vulnerabilities have been open, are tracked during weekly meetings.

From the Top 75 Weekly Reports, Schneider Downs noted that a process to report/escalate risks when they reach a defined threshold; i.e., the vulnerabilities that had not been remediated for over 30 days did not make it to the IT risk register either in an individual or aggregate form.

Also, during the transition of the reporting process from Verizon to NiSource (in-house), there was a 26-week gap in the available reports between 1/3/2020 and 8/18/2020.

However, Schneider Downs did note that, after assuming the reporting processes from Verizon, NiSource began tracking the Severity (Sev) 5 vulnerabilities on a weekly basis in addition to the Top 75 Vulnerabilities, and the average time to remediate Sev 5 vulnerabilities has decreased.

#### Key Risk Indicators

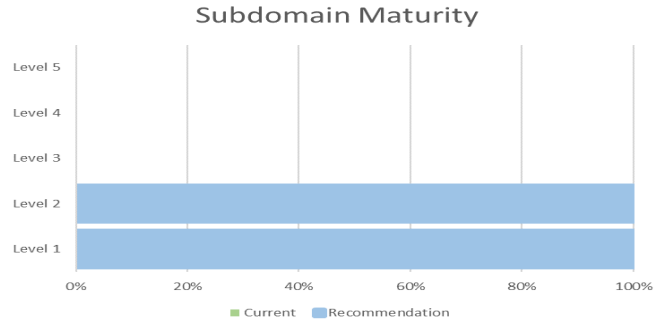
The following metrics may indicate the failure of controls or processes in this subdomain:

- High count of vulnerabilities that exceed their defined remediation timeline thresholds are not reported to Risk Management
- Reporting does not enable relevant business risk decisions

## Alerting

### Description

Alerts communicate either new vulnerabilities as they are discovered or existing vulnerabilities when they exceed remediation timeframes to the appropriate stakeholder groups.



### Maturity Level & Recommendations

Schneider Downs recommends implementing stakeholder alerts for newly discovered, high-risk vulnerabilities and for vulnerabilities that have exceeded their accepted mitigation timeframes. This recommendation addresses Levels one and two of the subdomain maturity.

Level	Description	Conformity
1	Alerting is either not available or only available within security-specific technologies.	Does Not Conform
2	Integrations exist and alerts are being sent for specific divisions or departments or for users of specific non-security technologies already being leveraged by some stakeholders.	Does Not Conform
3	Alerting is available for most stakeholders in their technology of choice.	Does Not Conform
4	Visibility and both timing and detail of response to alerts is measured and tracked.	Does Not Conform
5	Data is analyzed to develop a standard or automated response to alerts for common issues that can be tied to a common response.	Does Not Conform

### Observations

The only alerts currently in use by NiSource are on scan start and completion. The company has not yet explored other alerting functions available in Qualys.

Reports are sent out following scans for each of the stakeholder groups, but this is driven by the Vulnerability Management team versus the stakeholders subscribing to alerts or reports. The company's Vulnerability Management Program could be further improved by stakeholders proactively researching alerts published by manufacturers and industry resources rather than waiting for scans results.

### Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

- High count of delivered alerts that are not acted upon
- High count of alerts that require escalation or reassignment

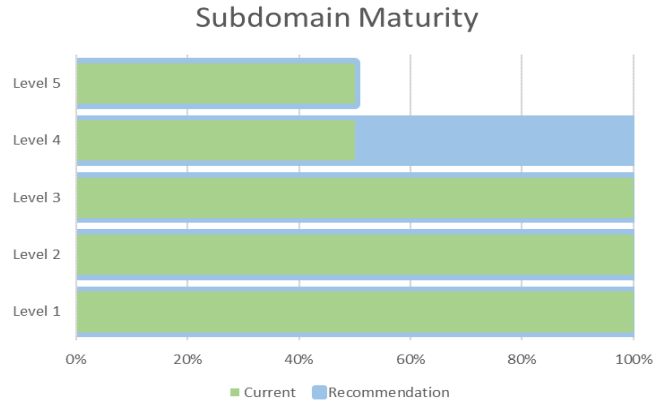


Treat

Change Management

Description

To balance operational and security priorities, organizations should establish healthy Change Management processes. These processes allow for approval from stakeholders across the organization prior to the deployment of patches or configuration changes.



Maturity Level & Recommendations

Schneider Downs identified instances where change tickets were closed prior to vulnerability remediation and recommends the Segregation of Duties for Change Management be realigned to ensure that changes are closed only after the vulnerability has been sufficiently remediated. Schneider Downs further recommends tracking closure metrics for Change Management activities to identify root causes for other potential process failures.

Level	Description	Conformity
1	Changes related to vulnerability management activities pass through the same workflow as any other change.	Generally Conforms
2	Some changes related to vulnerability management activities have a custom workflow or are treated as standard changes.	Generally Conforms
3	Most changes related to vulnerability management activities follow a custom workflow or are treated as standard changes.	Generally Conforms
4	Changes related to vulnerability management activities, along with success rates, are tracked. Timing is also measured for different stages of the change or subtasks related to the change.	Partially Conforms
5	Metrics from vulnerability management change activities are used to modify requirements or streamline future change requests. At least some standard changes are automated.	Partially Conforms

Observations

Wipro follows a change management workflow during the remediation process. However, some of the sampled change requests were observed to be closed prior to all systems being remediated. When an IT service provider opens a change, they are able to close the change prior to the vulnerability being fully addressed. The current agreements define Service Level expectations for patching, but are unclear on vulnerability remediation expectations.

There are custom workflows in the ServiceNow Change Management module for each level of change. For instance, a "Patch Now" would be considered an emergency change.

Changes related to vulnerability management are tracked and success rates are reported to management monthly. Items that fail, including patching, are tracked weekly and a feedback loop exists for improving future deployments.

From the Top 75 Weekly Reports, Schneider Downs noted that 114 vulnerabilities appeared on at least five of the reports, meaning those vulnerabilities remained open for at least five weeks. Schneider Downs evaluated 15 of those 114 vulnerabilities and noted that only 10 (of 15) of the vulnerabilities was associated with at least one open change ticket. Schneider Downs reviewed change ticket details for 14 change tickets associated with the 10 vulnerabilities. Of these 14 change tickets, Schneider Downs noted that:

- Change management duties were not appropriately segregated for eight change tickets, meaning that the Requestor, Tester, and/or Approver was the same person
- Six change tickets were closed at least 25 days before the associated QID was last reported on the Top 75 Weekly Status Reports (i.e., changes were closed early)

However, across the entire population of Top 75 Weekly Reports, Schneider Downs noted that the average remediation timeframe decreased to 20 days (from a previous 23 day average) after NiSource assumed vulnerability management responsibilities from Verizon.

#### Key Risk Indicators

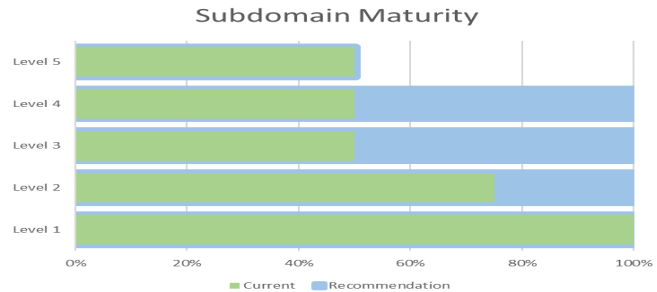
The following metrics may indicate the failure of controls or processes in this subdomain:

- High ratio of tickets with segregation of duties conflicts between requestor, approver, and worker roles
- High count of tickets that are closed prior to remediation of the applicable vulnerabilities
- High ratio of tickets that exceed Service Level Agreements for vulnerability mitigation

## Patch Management

### Description

The regular application of operating system and application updates, and measurement thereof, comprise the Patch Management subdomain.



### Maturity Level & Recommendations

Schneider Downs recommends NiSource create formal thresholds for tracking failed/missed patches as risk items. These recommendations address Levels four and five of the subdomain maturity.

Level	Description	Conformity
1	Patches are applied manually or scheduled by admins and end-users.	Generally Conforms
2	There is a standard schedule defined and technology is available for some divisions or departments or for some platforms to automate patch testing and deployment.	Partially Conforms
3	All departments are required to patch within a certain timeframe and technologies are available to assist with testing and applying patches for all approved platforms.	Partially Conforms
4	Patch management activities are tracked along with compliance with remediation timelines and the success rate.	Partially Conforms
5	Data from patch management activities, security incidents, and threat intelligence are used to right-size remediation timelines and identify process or technology changes.	Partially Conforms

### Observations

Monthly patching processes are considered standard changes within the ServiceNow Change Management module. There is a schedule for monthly patching that is aligned with "Patch Tuesday". By design, NiSource remains one month behind for the monthly patches. Because this practice is established in policy and conforms to industry standards, the one month delay is an accepted risk. However, there is not a formal process in place to monitor when patches exceed established lag times.

Patching statistics are reported through the CISO. Wipro provides their metrics/statistics around patching and vulnerability information. In addition, NiSource IT Security is able to perform vulnerability reporting out of Qualys and is looking to enhance the tool's statistical capabilities in 2021.

### Key Risk Indicators

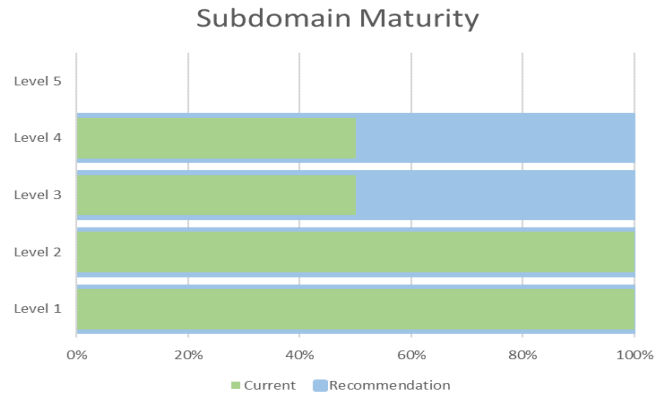
The following metrics may indicate the failure of controls or processes in this subdomain:

- High ratio of failed patch deployments

## Configuration Management

### Description

Configuration Management refers to the establishment, deployment, and measurement of standards for information systems in regards to cybersecurity. Examples include minimum software versions that may be deployed or protocols that must be enabled or disabled to enforce appropriate security controls.



### Maturity Level & Recommendations

Schneider Downs recommends NiSource continue expanding coverage using the CIS Benchmarks and Qualys Policy Compliance. This recommendation addresses Levels four and five of the subdomain maturity.

Level	Description	Conformity
1	Configuration requirements are not well-defined and changes are either applied manually or the automatic application of configurations is only available for a subset of platforms.	Generally Conforms
2	Configurations are defined for some divisions or departments or for specific platforms.	Generally Conforms
3	Configurations are defined for all supported platforms and technologies are available to automate or validate configuration changes for all platforms.	Partially Conforms
4	Deviations from configuration requirements and associated service impacts are measured and tracked.	Partially Conforms
5	Data from the configuration process along with security incidents and threat intelligence are leveraged to strengthen or relax requirements as needed.	Does Not Conform

### Observations

Policies are in place for standard configurations. Security technical specifications are being built for the entire environment. Build documents are in place for all systems. CIS Benchmarks were evaluated and adopted and the agreed upon values are being measured by the Qualys Policy Compliance tool. Wipro also measures compliance using their own tool.

Not all client machines are measured using Policy Compliance as Policy Compliance reporting is still in its infancy.

### Key Risk Indicators

The following metrics may indicate the failure of controls or processes in this subdomain:

- High count of devices that do not adhere to established secure configurations
- Low ratio of devices that are covered by an established secure configuration

## Technical Assessment

As part of this engagement, Schneider Downs reviewed the technical configuration of the Qualys platform as implemented at NiSource. During this review, the following observations were noted (recommendations are located in the corresponding subdomain section of this report).

### Observations

NiSource has deployed six internal scanning appliances as well as several external scanners. Scanning agents are deployed to many devices and are incorporated as part of the server build process. Scans are configured to be run from both a network and agent perspective.

Most scanning configurations were observed to be set to run as *authenticated*, but are defaulting to *unauthenticated* scanning due to issues with the authentication configuration. This creates an inability to correlate scanning data from the network and agent-based scans.

Scans that fail to execute are tracked and an informal root cause analysis is performed as time permits. Future goals include a formal auditing process to verify scan integrity and resolve any configuration issues.

Currently, Qualys reports roughly 14,183 assets in its scanning inventory. Asset criticality is not currently tracked. Regular discovery scans are only performed in the DMZ and only look at a defined range of 13 TCP ports. Internal discovery scans are not performed and there is no database of internal subnets to audit for scanning coverage. A process has not been formalized to validate that Qualys scanners have access to all network segments or that all devices are being discovered by Qualys. Scanning for rogue devices is a future state goal.

DMZ scanning is currently configured to “light” mode, which only scans 190 commonly used ports. For contrast, the “standard” scanning mode covers 1900 ports. DMZ scans are also performed from an internal versus external perspective.

## Appendix A: SANS Vulnerability Management Maturity Model

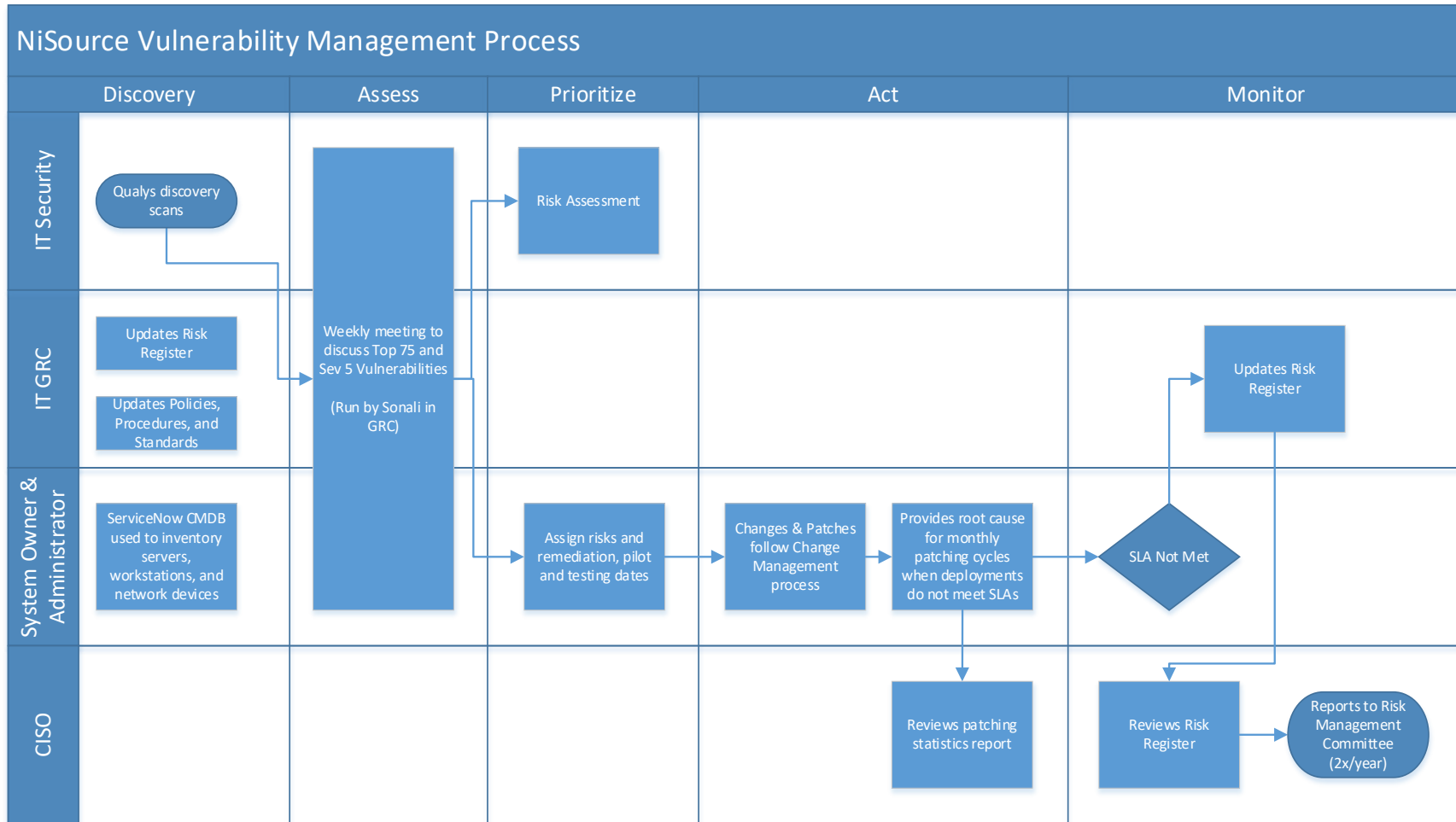
Domain	Subdomain	Level 1	Level 2	Level 3	Level 4	Level 5
<b>Prepare</b>	Policy & Standards	Policy and standards are undocumented or in a state of change.	Policy and standards are defined in specific areas as a result of a negative impact to the program rather than based on a deliberate selection of best practices or standards from recognized frameworks.	Policy and standards have been carefully selected based on best practices and recognized security frameworks and are updated as needed to fulfill the program's mission. Employees are made aware of standards and training on requirements is available.	Adherence to defined policy and standards is tracked and deviations are highlighted. Training of personnel on requirements is required at least annually.	Automated, proactive controls enforce policy and standards and provide input to regular updates and training requirements.
	Context	Contextual data (e.g., asset details, ownership, relationships) is available from multiple data sources with varying degrees of accuracy.	There is a central repository of contextual data that has some data for most systems and applications.	The central repository requires that certain contextual information be tracked and updated for each system and that it is based on program needs.	Reports show compliance with contextual information requirements and processes are in place to identify non-compliant, missing, or retired systems and applications.	Automated or technology-assisted processes and procedures exist to both create and remove systems and applications and associated attributes from the central repository, or data is correlated and reconciled with other systems that contain information about tracked systems and applications.
<b>Identify</b>	Automated	Infrastructure and applications are scanned ad-hoc or irregularly for vulnerability details, or vulnerability details are acquired from existing data repositories or from the systems themselves as time permits.	The process, configuration, and schedule for scanning infrastructure and applications is defined and followed for certain departments or divisions within the organization. Available technology may vary throughout the organization.	There are defined and mandated organization-wide scanning requirements and configurations for infrastructure and applications that set a minimum threshold for all departments or divisions. Technology is made available throughout the organization through enterprise licensing agreements or as a service.	Scanning coverage is measured and includes the measurement of authenticated vs. unauthenticated scanning (where applicable), the types of automated testing employed, false positive rates, and vulnerability escape rates.	Scanning is integrated into build-and-release processes and procedures and happens automatically in accordance with requirements. Scanning configurations and rules are updated based on previous measurements.

Domain	Subdomain	Level 1	Level 2	Level 3	Level 4	Level 5
	Manual	Manual testing or review occurs when specifically required or requested.	Manual testing or review processes are established and some departments and divisions have defined requirements.	Manual testing or review occurs based on reasonable policy-defined requirements that apply to the entire organization and is available as a service where not specifically required by policy.	Deviations from manual testing or review requirements are tracked and reported.	Manual testing or review processes include focused testing based on historical test data and commonalities or threat intelligence.
	External	External vulnerability reports and disclosures are handled on a case-by-case basis.	Basic vulnerability disclosure policy (VDP) and contact information published, but backend processes and procedures not documented.	More comprehensive VDP in place, along with terms and conditions for external vendors and security researchers, that outlines rules of engagement, tracking, and feedback processes.	Compliance with VDP and terms and conditions is tracked and measured and information is used to streamline processes and evaluate vendors and researchers.	A mature external testing and research program is in place with specific goals and campaigns that may only be available to specific vendors or researchers.
<b>Analyze</b>	Prioritization	Prioritization is performed based on CVSS/Severity designations provided by identification technology or indicated in reports.	Prioritization also includes analysis of other available fields such as whether or not exploits or malware exist or confidence scores.	Prioritization includes correlation with the affected asset, asset group, or application to account for its criticality in addition to the severity designation. This may require light to moderate customization depending on architecture and design.	Generic threat intelligence or other custom data, which may require additional products or services, are leveraged to perform prioritization.	Company-specific threat intelligence, or other information gathered from the operating environment, is leveraged to perform prioritization. This information may require human analysis or more extensive customization.
	Root Cause Analysis	Root cause analysis is performed based on out-of-the-box information such as standard remediation/patch reports or other categorized reports (e.g., OWASP Top 10 category).	Data is lightly customized to apply less granular or more meaningful groupings of data than CVE, CWE, or Top 10 identifiers to facilitate root cause analysis.	Data is also identified, grouped, and/or filtered by department or location to enable identification of location- or group-based deficiencies. This may require light to moderate customization depending on architecture and design.	Data is also identified, grouped, and/or filtered by owner or role. This may require more extensive customization and ongoing maintenance.	An executive dashboard is in place and includes the highest-risk root cause impediments, exclusions, project cost projections, etc. This will require more detailed analysis and customization to become meaningful and should integrate with existing executive business intelligence tools.

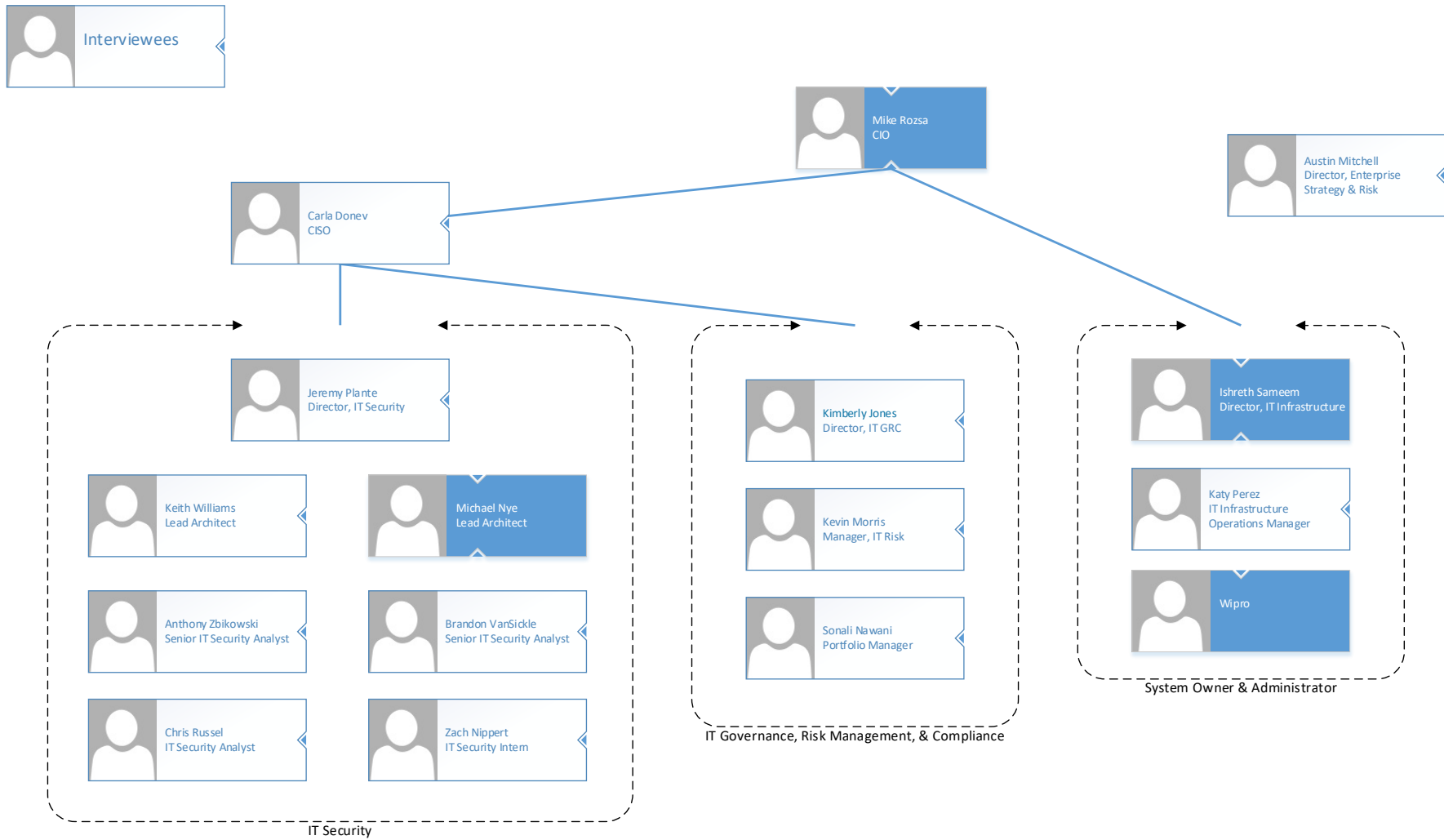
Domain	Subdomain	Level 1	Level 2	Level 3	Level 4	Level 5
<b>Communicate</b>	Metrics & Reporting	Simple, point-in-time operational metrics are available primarily sourced from out-of-the-box reports leveraging minimal customization or filtering.	Filtered reports are created to target specific groups or prioritize findings. Specific divisions or departments have defined their own reporting requirements, including both program and operational metrics, and generate and release the corresponding reports at a defined interval.	Reporting requirements, including all required program, operational, and executive metrics and trends, are well-defined and baseline reports are consistent throughout the organization and tailored or filtered to the individual departments or stakeholders.	Reports and metrics include an indication of compliance with defined policy and standards, treatment timelines, and bug bars. Correlation with other security or contextual data sources allows for more meaningful grouping, improves accuracy, and allows for identification of faulty or inefficient design patterns.	Custom reporting is available as a service or via self-service options, or feedback is regularly solicited and reports are updated to reflect changing needs. Automated outlier and trend analysis along with exclusion tracking is performed to identify high/low performers and highlight systemic issues/successes.
	Alerting	Alerting is either not available or only available within security-specific technologies.	Integrations exist and alerts are being sent for specific divisions or departments or for users of specific non-security technologies already being leveraged by some stakeholders.	Alerting is available for most stakeholders in their technology of choice.	Visibility and both timing and detail of response to alerts is measured and tracked.	Data is analyzed to develop a standard or automated response to alerts for common issues that can be tied to a common response.
<b>Treat</b>	Change Management	Changes related to vulnerability management activities pass through the same workflow as any other change.	Some changes related to vulnerability management activities have a custom workflow or are treated as standard changes.	Most changes related to vulnerability management activities follow a custom workflow or are treated as standard changes.	Changes related to vulnerability management activities along with success rates are tracked. Timing is also measured for different stages of the change or subtasks related to the change.	Metrics from vulnerability management change activities are used to modify requirements or streamline future change requests. At least some standard changes are automated.
	Patch Management	Patches are applied manually or scheduled by admins and end-users.	There is a standard schedule defined and technology is available for some divisions or departments or for some platforms to automate patch testing and deployment.	All departments are required to patch within a certain timeframe and technologies are available to assist with testing and applying patches for all approved platforms.	Patch management activities are tracked along with compliance with remediation timelines and the success rate.	Data from patch management activities, security incidents, and threat intelligence are used to right-size remediation timelines and identify process or technology changes.
	Configuration Management	Configuration requirements are not well defined and changes are either applied manually or the automatic application of configurations is only available for a subset of platforms.	Configurations are defined for some divisions or departments or for specific platforms.	Configurations are defined for all supported platforms and technologies are available to automate or validate configuration changes for all platforms.	Deviations from configuration requirements and associated service impacts are measured and tracked.	Data from the configuration process along with security incidents and threat intelligence are leveraged to strengthen or relax requirements as needed.



## Appendix B: NiSource Vulnerability Management Process Flow



## Appendix C: Vulnerability Management Program Organization Chart



## Appendix D: Summary of Recommendations

Recommendation	Risk & Observations	Recommendation	Owner/Dependencies	Related VMMM Subdomain(s)
<b>#1: Vulnerability Management Roadmap</b>	<p>Without a defined timeline for adopting or implementing program activities, there is risk of misalignment with management objectives.</p> <p>Schneider Downs observed during this assessment that a number of key activities have been implemented by NiSource IT management after the transition of the vulnerability management function from Verizon. While significant progress has been made in implementing the Vulnerability Management Program, a number of challenges identified by multiple stakeholder groups (e.g., incomplete or inaccurate asset inventories, technical issues with authenticated scanning, conflicting priorities between IT service provider SLAs and vulnerability remediation timeframes, etc.) do not have a defined plan in place for being addressed.</p>	<p>Schneider Downs recommends the adoption of a roadmap to address known issues and continue maturing the program within a defined timeframe. Areas for consideration include:</p> <ul style="list-style-type: none"> <li>a. Conformance to an industry standard(s) such as SANS VMMM, NIST Cyber Security Framework (CSF), and Cybersecurity Capability Maturity Model for the Oil and Natural Gas Subsector (ONG-C2M2)</li> <li>b. Time bound future state milestones selected based on the organization’s risk threshold</li> <li>c. Alignment of required resources to perform activities on the vulnerability management roadmap</li> </ul>	<p><b>Owner:</b> IT Security Operations</p> <p><b>Stakeholder Dependencies:</b> IT Tower Leadership</p>	<p>The roadmap does not address a specific domain but provides a timeline for implementing activities for each.</p>

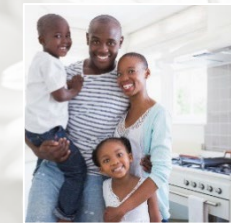
Recommendation	Risk & Observations	Recommendation	Owner/Dependencies	Related VMMM Subdomain(s)
<p><b>#2: Asset Management &amp; Discovery</b></p>	<p>Incomplete or inaccurate data regarding IT assets has downstream effects to the identification and prioritization of vulnerabilities. Without a complete IT asset inventory, there is risk that assets may be overlooked when performing vulnerability scans and without accurate information about each asset, vulnerability severity scoring may be inaccurate.</p> <p>Schneider Downs noted through inquiry that inconsistencies appear to exist between the ServiceNow CMDB and other inventory databases, including Qualys. Testing was not performed to quantify this observation.</p>	<p>Schneider Downs recommends NiSource continue to mature its steady-state operation of the ServiceNow CMDB with consideration for the attributes that support the prioritization or assessment of vulnerability exposure. Attributes critical to vulnerability management include:</p> <ul style="list-style-type: none"> <li>a. Asset ownership</li> <li>b. Data type(s) stored or processed</li> <li>c. Operating system</li> <li>d. Service(s) supported</li> </ul> <p>Schneider Downs further recommends the use of authenticated vulnerability scanning for all assets, when possible, to ensure all asset attributes are collected. Authenticated scans were observed to be configured but failing due to technical issues. Data collected from authenticated scanning can effectively assist in aligning inventory databases either through available integrations between Qualys and ServiceNow or via custom/manual processes.</p>	<p><b>Owner:</b> IT Infrastructure</p> <p><b>Stakeholder Dependencies:</b> IT Security Operations</p>	<p>Context – Levels 1-4</p>
<p><b>#3: Risk Tracking</b></p>	<p>Without tracking vulnerabilities that exceed the remediation time frames established by NiSource policy, management cannot reliably assign resources to manage the risk.</p> <p>Schneider Downs noted 178 severity level 5 vulnerabilities that had exceeded acceptable remediation timeframes per NiSource policy, but had not been tracked in the IT risk register or formally accepted as risks.</p>	<p>We recommend that NiSource risk management team members, whether IT Risk Management and/or ERM, be either integrated into the vulnerability resolution process or systematically notified when a vulnerability exceeds the established resolution timeframe. Where possible, specific alerts or reports should be developed to ensure the following are tracked within the risk management function:</p> <ul style="list-style-type: none"> <li>a. New, high risk vulnerabilities</li> <li>b. Vulnerabilities that exceed established remediation timeframes</li> <li>c. Vulnerabilities that have been accepted as risk items and exempted from scan reports</li> </ul>	<p><b>Owner:</b> IT Risk Management</p> <p><b>Stakeholder Dependencies:</b> Enterprise Risk Management (ERM)</p>	<p>Policy &amp; Standards – Levels 3-4  Alerting – Levels 1-2  Patch Management – Levels 2-4</p>

Recommendation	Risk & Observations	Recommendation	Owner/Dependencies	Related VMMM Subdomain(s)
<p><b>#4: Vulnerability Remediation Execution</b></p>	<p>Prioritization of lower risk vulnerabilities for remediation can lead to extended remediation times for higher risk vulnerabilities.</p> <p>Schneider Downs observed 33% of vulnerabilities sampled from “Top 75” reports were considered moderate risk based on their severity scores, as well as 178 severity level 5 vulnerabilities that exceeded acceptable remediation timeframes per NiSource policy, indicating a misalignment of resources to remediating lower risk vulnerabilities.</p>	<p>Schneider Downs recommends NiSource establish criteria for the prioritization of vulnerabilities that aligns with the organizational risk profile. Proper alignment of service level agreements and remediation timeframes with risk thresholds ensures that resources are directed first at mitigating the vulnerabilities posing the highest risk to the organization before addressing those with a lesser potential impact. This should include:</p> <ul style="list-style-type: none"> <li>a. Increasing focus on key factors such as access vector, access complexity, and contextual criteria about the assets impacted</li> <li>b. Remediation timeframes for lower criticality vulnerabilities be extended to allow focus on higher risk items</li> <li>c. Incorporation of threat intelligence data into the identification and prioritization of vulnerabilities, especially zero-day vulnerabilities that are not yet noted in Qualys</li> </ul>	<p><b>Owner:</b> IT Infrastructure</p> <p><b>Stakeholder Dependencies:</b> IT Security Operations</p>	<p>Policy &amp; Standards – Levels 3-4          Prioritization – Levels 1-4</p>
<p><b>#5: External Vulnerability Reporting</b></p>	<p>Externally facing assets are subjected to the greatest number of threats and thus any vulnerabilities present on these systems have a high likelihood of exploit.</p> <p>NiSource does not currently utilize a single process for managing vulnerabilities identified by external sources and runs its own scans of externally facing systems using the “light” mode in Qualys.</p>	<p>Schneider Downs recommends a single intake process be established to ensure appropriate routing of these reports. This process should include:</p> <ul style="list-style-type: none"> <li>a. A standardized approach for external vulnerability scanning, including the regular use of a third-party scanning provider and/or increased levels of Qualys scanning in the DMZ</li> <li>b. A publicly available means to report vulnerabilities, such as an email address or contact form</li> <li>c. A published Vulnerability Disclosure Policy (VDP) addressing how external parties should communicate with NiSource regarding vulnerabilities</li> <li>d. An internal procedure for incorporating externally identified vulnerabilities into the existing vulnerability management processes</li> </ul>	<p><b>Owner:</b> IT Security Operations</p> <p><b>Stakeholder Dependencies:</b> None</p>	<p>External – Levels 1-2</p>



# Identity and Access Management Maturity Advisory Report

February 5, 2021



## Background

NiSource Information Technology (IT) engaged with Accenture LLP in 2019 to design and implement an Identity and Access Management (IAM) solution by deploying the SailPoint IdentityIQ, CyberArk, and Ping applications. These solutions replaced NiSource’s legacy IAM application stack consisting of Hitachi ID Identity Manager, Hitachi ID Privileged Access Manager, IBM Security Access Manager (ISAM) and RSA, respectively. The technical IAM migration was performed by Accenture with NiSource IT management providing internal requirements, ongoing project management support and guidance. The objectives of this migration was to build the base SailPoint infrastructure and implement foundational SailPoint capabilities, set up the base infrastructure and build the foundation for CyberArk and Ping Services, and lastly extend the foundational capabilities and operationalize a factory model to onboard additional applications and accounts for all three capabilities. While the base infrastructure and foundation components for all three technologies were implemented by December 2020, the initial onboarding of applications continues to occur with scheduled completion targeted for mid-2021. The overall IAM project budget is expected to be \$10,516,000 with total spend through December 2020 being \$8,946,000.

Internal Audit conducted its advisory review of the NiSource IT IAM project to provide an independent evaluation of the adequacy, effectiveness, and efficiency of project delivery activities, solution-based practices, and to assess the project’s positioning for future steady state operational execution. The review period for this assessment was April 2020 through December 2020.

Objective 1: Review the base infrastructure build and implementation plans for SailPoint, CyberArk, and Ping Services.		
#	Procedures	Recommendations Summary
1	Verify the infrastructure builds are being performed in accordance with existing NiSource IT configuration baselines and that these builds do not have any known vulnerabilities and are appropriately patched before release.	<b>No Recommendations Noted</b>
2	Determine whether core NiSource IT Non-Functional Requirements (NFR’s) have been pre-identified and dispositioned for the IAM solution’s design and build phases, along with NFR’s being assigned to internal subject matter experts for requirement traceability.	<b>No Recommendations Noted</b>
3	Assess whether the IAM program will be adopting NiSource’s internal IT PMM (Project Management Methodology) structure or instead leveraging the IAM system integrator’s delivery methodology. If the IAM program is leveraging the system integrator’s (Accenture) delivery methodology, assess the NiSource alignment cadence between internal NiSource IT PMO and system integrator’s delivery standards/requirements.	<b>No Recommendations Noted</b>

## Advisory Scope and Approach (cont'd)

<b>Objective 2: Review the project's internal RAID (Risk, Assumptions, Issues, and Dependencies) log to determine how items make it onto the log and get dispositioned for action.</b>		
#	Procedures	Recommendations Summary
1	Verify how Risk and Issue items are assigned and provided a timeline/accountable owner for appropriate resolution.	<b>No Recommendations Noted</b>
2	Determine whether proper documentation and retained evidence exists to support the remediation of RAID items. Verify whether appropriate NiSource IT internal project resources have signed-off on RAID items as they are resolved.	<b>No Recommendations Noted</b>
<b>Objective 3: Review how Accenture and the NiSource IAM project team are performing QA and validation of project deliverables.</b>		
#	Procedures	Recommendations Summary
1	Determine how the IAM project team is validating the appropriateness of items such as, but not limited to, security set-up, custom code development, and phase or application turnover.	<b>No Recommendations Noted</b>
2	Review the planned testing approach to be performed by the IAM project team to understand the types of testing to be executed, the results of the testing and how issues and/or defects should be remediated and that appropriate executive sign-off for deliverables are being performed.	<b>No Recommendations Noted</b>
3	Review the deliverables from the Accenture Statement of Work (SOW) and ensure these deliverables are being met. Verify these deliverables are being created and presented to NiSource IT, ensure a resource within NiSource IT is responsible for review and sign-off, and what the overall plan for deliverable acceptance is.	<b>No Recommendations Noted</b>
<b>Objective 4: Determine what future state management controls Accenture will be assisting NiSource IT management in creating for steady state operation.</b>		
#	Procedures	Recommendations Summary
1	Determine who within NiSource IT will be responsible for performing steady state IAM IT non-SOX controls to ensure continued accuracy and completeness of the solution once it resides in production.	<b>No Recommendations Noted</b>
2	Validate how Accenture and the IAM Project team are going to align with NiSource IT management in the operationalization of the controls after IAM program go-live and hypercare closure. This could include operational run-books, procedure documents, suggested staffing / roles for the new system, etc.	<b>No Recommendations Noted</b>
3	Verify whether SOX General IT Controls (IT GCC's) have been designed within the project solution and tested, as needed, to ensure continued adherence to SOX Governance. Ensure accountable internal NiSource parties have been appropriately engaged in pre-deployment discussions and clearly understand IAM design considerations and go-forward execution responsibilities.	<b>No Recommendations Noted</b>





## Emergency Preparedness and Response Plan Follow Up Audit

**Lin Koh** to: Jake Upper

02/18/2021 11:49 AM

Douglas Flowers, Kevin Hankins, Justin Darling, Lauren Hauser,  
Cc: William Mojica, Eric Belle, Daniel Douglas, Pablo Vegas, Heidie  
Cotey, Harold Grounds

NiSource Leaders,

In 2019, Internal Audit performed a review over the new gas segment Emergency Preparedness and Response Plan (EPRP) that was created that same year. The audit focused on the state of readiness of the Incident Command System (ICS) framework as a standardized approach to command, control, and coordinate emergency response. During the 2019 audit, the following four (4) moderate risk findings were identified:

1. Some Incident Command Structure (ICS) roles are vacant or has only one designee with no backup.
2. Practical specific training or practical ICS training has not occurred.
3. Some command and general staff leaders have incomplete EPRP training.
4. A process for tracking or prioritizing required After Action Reviews (AARs) have not been completed.

During the 2020 follow up review, Internal Audit evaluated the effectiveness of management's remediation to address the above audit findings. Based on the audit procedures performed, Internal Audit has determined that management has implemented the necessary management action plans to address the prior audit findings and mitigate the identified risks. All audit findings have been fully remediated and closed.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please do not hesitate to reach out to us.

*Lin*

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**Lin Koh | Director Internal Audit |**

**NiSource Inc. | (NYSE: NI) 801 East 86<sup>th</sup> Avenue | Merrillville, IN 46410 |**

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# NiSource Corporate Services Company

## Cost Allocation Controls

### Internal Audit Report

#### **Distribution**

##### **Beneficiaries**

Brentley Archer	Kimra Cole	Michael Hooper
Mark Kempic	Vince Parisi	Gunnar Gode

##### **Other Key Personnel**

Adolfo Acevedo

##### **For Information**

Joe Hamrock  
Donald Brown  
Pablo Vegas  
Anne-Marie D'Angelo  
Violet Sistovaris  
Shawn Anderson  
Chuck Shafer

## **Internal Audit Report**

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### **Background**

NiSource Corporate Service Company (NCSC) is a wholly-owned subsidiary of NiSource Inc. (NiSource or “the Company”), an energy holding company whose primary subsidiaries are fully regulated natural gas and electric utility companies. NCSC incurs expenses that benefit the Company’s utility affiliate companies. NCSC maintains a cost allocation manual that defines the methodologies for assigning expenses to affiliate companies and classifying and disclosing expenses in the financial statements. Per Federal Energy Regulatory Commission (FERC) requirements, NCSC reports the expenses paid on behalf of each affiliate company in FERC Form 60 Financial, which NCSC files annually. Costs billed by NCSC to affiliate companies totaled approximately \$2 billion for 2019.

### **Audit Objective, Approach, and Coverage**

The objective of this risk-based internal audit was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of controls associated with the allocation, records management and reporting of NCSC costs to the applicable affiliate companies. At the beginning of our audit, we completed a risk assessment, and we conducted detailed process assessments and sample-based transactional testing in higher-risk areas. The review period for this audit was January 1, 2019 through December 31, 2019.

During the audit, we specifically evaluated:

- NCSC cost allocation, including proper calculation of allocation factors utilized
- Segregation of holding company costs
- Employee and executive time allocation
- FERC Form 60 Financial

### **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

“1” – Significant Improvement is Needed and Prompt Management Attention is Required

“2” – Improvement is Needed and Management Attention is Necessary

“3” – Some Improvement is Needed and Management Attention is Justified

“4” – Management Evaluation is Desirable

### **Internal Audit Conclusion and Summary of Observations**

We found that allocation factors were properly calculated. We also found that holding company costs were appropriately segregated and expenses paid on behalf of each company were accurately reported in the FERC Form 60 Financial Report. While the vast majority of expenses in our sample (including employee and executive time) were properly allocated, we identified some expenses related to environmental inspections that were not properly allocated. The errors were immaterial in total and for the individual affiliates (see the Internal Audit Findings Matrix in Appendix B).

**Management's Response**

As no findings rated "1" through "3" were identified, a management response was not requested.

**Internal Audit Follow Up**

We will evaluate the adequacy, effectiveness, and efficiency of controls associated with the allocation, records management and reporting of indirect costs during the 2021 Indirect Cost Allocation Internal Audit.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*

**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

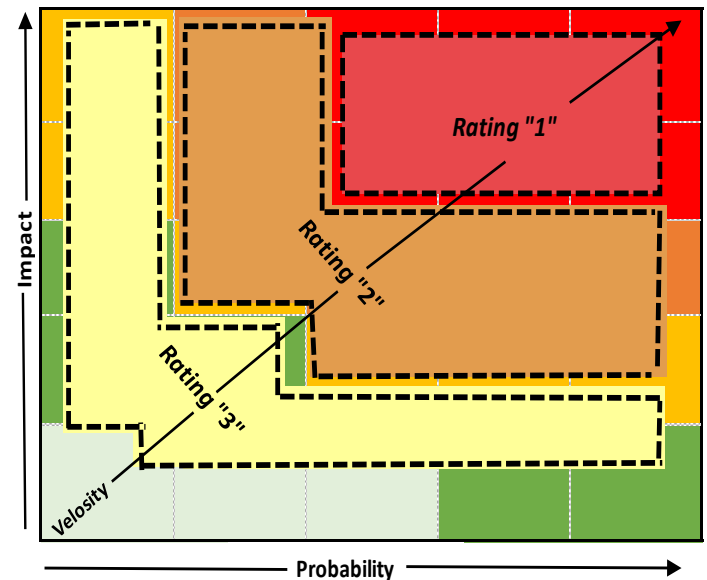
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



<b>1) <u>Processes to ensure that proper cost allocators are selected can be further improved.</u></b>	<b><u>Risk Rating: 4</u></b>
<p><b><u>Observation:</u></b> Proper allocation of expenses is dependent upon employees selecting the correct allocation factor when submitting expenses. Proper accounting classification (including the allocation factor) should be validated during the management review step, which occurs prior to payment. We evaluated a sample of expenses allocated by the NiSource Corporate Services Company (NCSC) to the various affiliate companies and identified one employee who utilized an improper allocation factor when submitting expenses related to environmental inspections. As a result, associated costs were incorrectly allocated to affiliates during 2019 and 2020. The errors were immaterial in total and for the individual affiliates.</p> <p><b><u>Criteria:</u></b> Employees are sufficiently trained and understand how to properly submit and approve expenses for payment, including the verification of accounting classification, which drives cost allocation.</p> <p><b><u>Risk:</u></b> Expenses are incorrectly allocated to affiliate companies, negatively impacting financial reporting and regulatory outcomes.</p>	<p><b><u>Management Action Plan:</u></b> As the error we identified had a limited impact, a management response was not requested. However, Internal Audit recommends that management:</p> <ul style="list-style-type: none"><li>• Provide the identified employee and supervisor with additional training over reviewing invoice support and processing invoices, including the selection of proper accounting classification</li><li>• Continue to communicate roles and responsibilities related to reviewing and approving invoices</li><li>• Consider the impact of the identified improper allocations to upcoming regulatory rate cases and make the correcting accounting adjustments as necessary</li></ul>

\*\*\*\*\* End of Report\*\*\*\*\*

# Columbia Gas Companies

## Pipeline Records and Electronic Maps

### Internal Audit Report

#### **Distribution**

##### **Respondents**

David Roy

##### **Beneficiaries**

Daniel Douglas	David Monte	William Mojica
James Zucal	Brentley Archer	Kimra Cole
Mark Kempic	Vince Parisi	

##### **Other Key Personnel**

Philip Wilson	Steven Sylvester	Michael Davidson
	Lisa Carmean	

##### **For Information**

Joe Hamrock  
Donald Brown  
Pablo Vegas  
Anne-Marie D'Angelo  
Violet Sistovaris  
Shawn Anderson  
Charles Shafer



## **Internal Audit Report**

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### **Background**

The Columbia Gas Companies, which are fully owned subsidiaries of NiSource Inc., own and operate over 36 thousand miles of distribution main pipeline serving over two million customers across five states. The Columbia Gas Companies utilize the Geographic Information System (GIS) to create electronic maps of natural gas mainline assets. Accurate GIS maps are necessary to ensuring safe and efficient distribution mainline maintenance, locate and emergency response activities.

Various departments across the company are responsible for ensuring that newly installed or replaced mainline assets are accurately reflected in company maps. Field Engineering designs mainline installations and both Operations and Construction groups perform job orders in the field to complete the installation projects. As part of the installation process, these teams also create records that capture key information about the assets, which is important to ensuring the assets are locatable and serviceable going forward. Upon project completion, Operations or Construction teams provide all relevant information in a job order packet to the Engineering Capital Close-Out team, who creates or updates GIS maps and closes the job order in the Work Management System (WMS).

### **Audit Objective, Approach, and Coverage**

The objective of this risk-based internal audit was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of controls associated with timely updating of distribution mainline maps and records. At the beginning of our audit, we completed a risk assessment, and we conducted detailed process assessments and data analytics in higher-risk areas. The map updating process was reviewed through June 4, 2020 for all job orders placed in-service during 2019.

During the audit, we specifically evaluated:

- WMS distribution mainline job order completion
- Manual records existence and completeness per Gas Distribution Standards requirements
- GIS electronic map update processes
- GIS electronic map correction processes

We did not evaluate service line records management processes because these processes were previously audited and management's actions to resolve open audit findings are still ongoing.

### **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

"1" – Significant Improvement is Needed and Prompt Management Attention is Required

"2" – Improvement is Needed and Management Attention is Necessary

"3" – Some Improvement is Needed and Management Attention is Justified

"4" – Management Evaluation is Desirable

### **Internal Audit Conclusion and Summary of Observations**

During the course of our review, we noted that processes related to submitting and responding to map corrections are formalized, controlled, and operating as intended. We also noted that key personnel involved in the close-out process for new mainline installs or replacements are working towards continuous improvement.

We did, however, note that there are opportunities to improve coordination and communication across the various teams involved in the records and mapping processes. In particular, we noted that the timeliness of mapping activities could be improved if job order packet quality assurance activities were implemented by the Operations and Construction organizations. We identified one finding where management's attention is required (Rating 2).

A summary of the risk-rated "1" through "3" audit findings follows (see the Internal Audit Findings Matrix in Appendix B):

1) **Job Order Packet Processes** (Rating 2)

Inaccurate GIS electronic maps of mainline assets increases the probability of operational errors and delayed emergency response and reduces operational efficiency. Procedures and controls associated with completing and submitting job order packets can be improved to facilitate timely updating of GIS electronic maps.

### **Management's Response**

NiSource management will establish a cross-functional team consisting of Construction, Operations, Engineering Capital Close-Out and other designated subject matter experts across NiSource to assess the procedures and controls associated with completing and submitting job order packets in order to improve the timeliness of updates to GIS electronic maps. The cross-functional team will be established by June 30, 2021 and the team will be responsible for developing detailed action plans by August 31, 2021 to address each component of the audit finding. Action plans which will reduce the risk identified by Internal Audit will be implemented by March 31, 2022.

### **Internal Audit Follow Up**

Management has provided action plans for all findings with a rating of "1", "2", or "3". We have reviewed management's action plans and believe that the action plans will adequately address the findings identified in this audit. We will track the progress of resolution and will conduct follow-up testing for all rated "1" audit findings and a sample of rated "2" and rated "3" audit findings.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*

**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

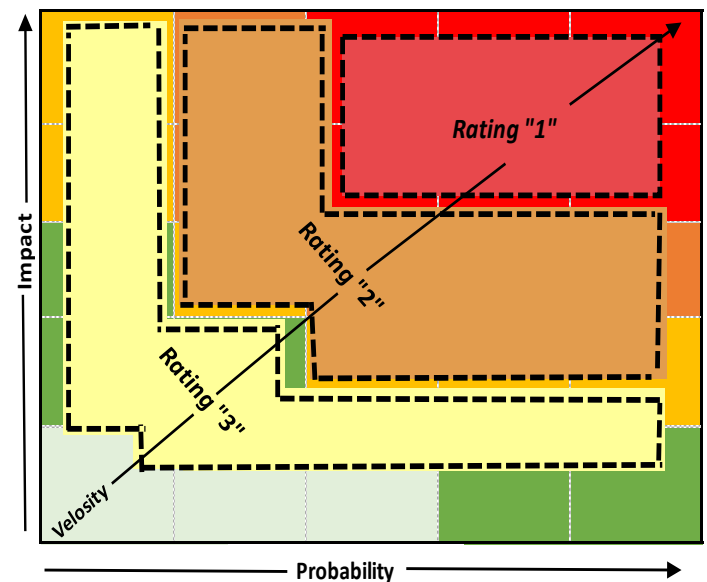
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



**1) Job Order Packet Processes**

**Risk Rating: 2**

**Observation:**

Inaccurate GIS electronic maps of mainline assets increase the probability of operational errors and delayed emergency response and reduces operational efficiency. We evaluated processes and analyzed a population of job orders placed in service during 2019 and noted that procedures and controls associated with completing and submitting job order packets can be improved to facilitate timely updating of GIS electronic maps. We specifically noted:

- Multiple groups (Operations, Construction, and Engineering Capital Close-Out) have responsibility for activities that impact the timeliness of updating GIS electronic maps; While some individual teams have established various targets, established targets and metrics are inconsistent
- The time from when the mainline asset is put in-service to the time the electronic maps in GIS are updated is not tracked and a target for this metric has not been established; We found that the time from mainline asset in-service date to updated GIS map was over 40 days for 37% assets, of which 65% were over 60 days
- While Engineering Capital Close-Out created reports to identify missing job order packets, roles and responsibilities to validate that job order packets have been submitted for all capital job orders are not formalized and consistently performed (Note: Engineering Capital Close-Out periodically distributes reporting to Construction and Field leaders, primarily in the fourth quarter each year)
- Completeness and accuracy of job order packets is not formally monitored prior to submitting the packets to Engineering Capital Close-Out, which can delay GIS mapping activities; We noted that 39% of the job order packets in the population reviewed were placed on hold by Engineering Capital Close-Out due to missing or inaccurate information

**Management Action Plan:**

NiSource management will establish a cross-functional team consisting of Construction, Operations, Engineering Capital Close-Out and other designated subject matter experts across NiSource to assess the procedures and controls associated with completing and submitting job order packets in order to improve the timeliness of updates to GIS electronic maps. The cross-functional team will be established by June 30, 2021 and the team will be responsible for developing detailed action plans by August 31, 2021. Action plans will be implemented beginning in the third quarter of 2021 and finalized by March 31, 2022 to address each component of the audit finding as noted below:

- Establish and monitor departmental metrics that track the time from when an asset is placed in-service to the date the asset is mapped in GIS
- Define and communicate roles and responsibilities related to validating that all job order packets have been submitted for mainline capital job orders and ensure this validation step is consistently performed
- Establish processes to ensure job order packets are complete and accurate prior to submitting to Engineering Capital Close-Out to prevent process inefficiencies and subsequent delays in mapping
- Prioritize Engineering Capital Close-Out workload by processing job order packets based on known risk factors, such as the length of time in-service and unmapped
- Identify the appropriate party responsible for monitoring the number of days since a job order was placed in-service and ensure that updated drawings are submitted if the project duration will be prolonged subsequent to the in-service date

- GIS mapping activities are not prioritized based on risk and procedures (including locate assignments) are not adjusted for longer and more complex job orders that may result in assets being in-service for an extended period of time before the job order is complete and mapped

**Criteria:**

Management has defined a standard for timely mapping of newly installed assets. Mainline assets are reflected in the company's mapping system as soon as reasonably possible after installation.

**Risk:**

From the time an asset is placed in service until the time it is reflected within GIS, the risk of performing inaccurate locates increases. Additionally, the company may not be able to efficiently access critical information about a pipeline asset in the event of an emergency.

- Enhance processes to assign line-locate activities for areas where more complex or large job orders have recently been performed and GIS maps are not yet updated

Note: When developing this action plan timeline, consideration was given to the change management requirements associated with the organization realignments and resource impacts occurring to support NiSource Next. Status updates will be periodically provided to the State Operations Consistency Council, the Gas Segment Risk Table, the Safety Compliance & Risk Council, and the Internal Audit Department.

**Responsible:**

David Roy

**Resolution Date:**

- Detailed action plan(s) to be provided by August 31, 2021
- Implementation to begin in the third quarter of 2021
- All action plan items will be finalized by March 31, 2022

\*\*\*\*\* End of Report\*\*\*\*\*

## NiSource Inc.

# Contact Center Technology Modernization Program

## Internal Audit Advisory Report

### Distribution

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## Internal Audit Advisory Report

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### **Background**

The corporate Information Technology (IT) function within NiSource Corporate Services Company, a fully-owned subsidiary of NiSource Inc. (NiSource or the Company), aligned with the Company's Customer Experience organization to stabilize the Contact Center technology environment and upgrade its existing technology platform and supporting software capabilities. The resulting Contact Center Technology Modernization (CCM) program was launched at the end of 2019 with a starting budget of \$17.9 million.

The NiSource Contact Center is the key point of contact for NiSource customers. The main objective of the CCM program is to stabilize the technology associated with the NiSource Contact Center (CC) and increase resiliency through the implementation of a single, integrated, and fully-redundant technology platform and associated infrastructure environment. The project team selected Verizon Communications Inc. as the primary Service Integrator to lead implementation and deployment efforts for the end-to-end Contact Center program. CCM program spend was originally budgeted for \$17 million with a targeted go-live in October 2020. Due to approved scope and schedule related modifications, the expected aggregate spend is now estimated at \$21.6 million (as of February 2021) with an updated deployment goal for late April 2021.

### **Audit Objective, Approach, and Coverage**

The objective of this advisory assessment was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of project delivery activities, solution-based practices, and available control structures associated with the Contact Center Modernization program. The review period for this Internal Audit advisory assessment was January 2020 through January 2021.

During the advisory assessment, Internal Audit specifically evaluated:

- Compliance to NiSource IT Project Management Methodology guidelines for key project deliverables such as schedule, scope, and cost
- Program delivery efforts and solution-based practices
- Risk management practices and how those practices are aligned/managed from both a tactical and strategic program level
- The definition, design and management of program quality assurance practices (with specific focus on functional and non-functional requirements management)
- Business stakeholder communications
- Adherence to defined NiSource organizational change management standards
- Third party vendor management practices
- Overall program and individual project work stream roles and responsibilities

We did not evaluate either the design or operating effectiveness of any specific business and interface control structures as those were not available at the time of our advisory assessment. Additionally, Internal Audit did not evaluate any build phase deliverables, nor did we assess the upcoming testing, deployment, transition to steady-state, or user acceptance activities as those were not available at the timed conclusion of our advisory assessment.

## **Summary of Key Internal Audit Recommendations**

During the course of our review, we noted that the CCM program team adhered to existing NiSource IT Project Management Office (PMO) guidelines and effectively managed required deliverables for the planning, requirements, and design phases of the program.

We did, however, observe opportunities to further improve process related to solution requirements traceability and approval as noted below. In addition, we verbally conveyed less-significant recommendations to management during the course of our review. A summary of key recommendations follows:

### **Requirements Traceability:**

Internal Audit was unable to evaluate the full requirements management lifecycle for both functional and non-functional CCM program delivery requirements. As part of the program's design phase closure, the CCM program team invoked an internal "Deliverable Exception/Waiver" and did not utilize the existing NiSource IT PMO requirements traceability matrix deliverable. Instead, the program team agreed to leverage Verizon's requirements traceability template to document project requirements and manage test case traceability. While CCM program leadership expects Verizon to provide requirements management deliverables as part of the agreed-to waiver, Verizon had not yet provided a deliverable to enable requirements traceability prior to build gate completion. As a result, and without clearly defined and managed requirements, the business' goals and objectives may not be met and the success of the project could be jeopardized.

We also noted that business owners are not required to directly approve the functional requirements traceability matrix. Although this approach is reasonable for projects with limited business functionality impact, business owners should approve key deliverables (or waivers of key deliverables) for projects having substantial business functional requirements and impacts to ensure clarity of functional requirements, which will facilitate accountability for delivering a solution that sufficiently addresses business requirements.

We recommend CCM program leadership (both IT and business) formally document, map/trace, review, and approve both functional (business) and non-functional (technical) requirements to validate that all requirements are appropriately addressed in the solution and ensure testing processes comprehensively address the requirements. Also, the requirements should be stored in the CCM project central repository to ensure that key stakeholders have sufficient visibility to key program requirements. In addition, we recommend the NiSource IT PMO consider clarifying business approval requirements in its deliverable methodology for functional requirements traceability on future business-impacting engagements.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Advisory Report \*\*\*\*\*



# NiSource Corporate Services Company

## Robotic Process Automation (RPA) Controls Execution

### Internal Audit Advisory Report

#### **Distribution**

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Charles Shafer

## **Internal Audit Advisory Report**

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### **Background**

Robotic Process Automation (RPA) is a productivity tool used to create scripts (often called “bots”) that capture, emulate and integrate human actions within Information Technology (IT) applications to execute business processes. This technology allows organizations to automate a variety of high-volume repetitive business process tasks.

The corporate IT function within NiSource Corporate Services Company, a fully-owned subsidiary of NiSource Inc. (NiSource or the Company) initiated an RPA pilot program in October 2018 and selected UiPath Inc. as its RPA technology platform. Over 70 bots have been deployed across the enterprise since the inception of the RPA program. During the RPA pilot program, Internal Audit performed a control design assessment to evaluate the initial integration of RPA technology into NiSource’s technology environment. We noted the existing NiSource enterprise technology solution delivery model was not designed for emerging technologies, which resulted in the RPA delivery team needing to develop its own governance model, risk management criteria and control structure. We recommended engaging a subject matter expert to assist in the development of an appropriate governance model and establishment of an applicable controls framework for emerging technologies, including RPA.

### **Audit Objective, Approach, and Coverage**

The objective of this advisory assessment was to evaluate the ongoing maturity of the RPA program and its scalability to address NiSource enterprise-level processes and control structures. Key review areas of this assessment included: RPA program maturity, processes to determine applicability of control structures related to the Sarbanes-Oxley (SOX) program and risk management framework(s) that support NiSource’s corporate strategy and business objectives.

During the advisory assessment, we specifically evaluated:

- The RPA program governance model and established roles and responsibilities
- Steady-state management of the RPA automation/bot universe
- RPA risk management practices and alignment to enterprise risk classification
- The establishment of appropriate control processes and structures

We did not evaluate either the design or operating effectiveness of business and/or IT controls for specific bot implementations as these controls will be considered during future risk-based, integrated audit engagements as applicable.

### **Summary of Key Internal Audit Recommendations**

Since our 2018 assessment, the Company has implemented a formalized Emerging Technologies Governance Framework (ETGF). This framework drives consistency and is intended to facilitate delivery of expected results. The RPA project team adapted the standards and has started managing robotic automations based on the decentralized operating model defined within the ETGF.

Over the course of our review, we observed some opportunities to further enhance the RPA program as noted below. In addition, we verbally conveyed less-significant recommendations to Management during the course of our review. A summary of key recommendations follows:

**1) Administrative Password Management:**

Passwords associated with UiPath accounts that have administrative access are not maintained in a password vault and only a single user has knowledge of the passwords. While limiting access to administrative accounts is an important access security control and maintains individual accountability for activities performed using the accounts, lack of business continuity plans that enable backup personnel to access administrative support accounts increases the risk of business disruption.

We recommend continuing with plans to assess storing UiPath administrative accounts within CyberArk's enterprise password management/vaulting platform.

**2) Bot Inventory Management:**

NiSource has acquired Automation Hub, which is an automation management and process repository within the UiPath ecosystem. Currently, the RPA project team is not fully utilizing Automation Hub to manage the automations inventory. The active inventory of bots being tracked by the RPA project team is maintained in a spreadsheet and is inconsistent with the inventory of bots in the UiPath platform. An inaccurate inventory of bots could impair monitoring, support and life-cycle management.

We recommend enhancing bot inventory management capabilities and leveraging the UiPath Automation Hub to manage automation inventory tracking (both active and retired), corresponding business bot ownership and supporting RPA documentation.

**3) Aggregate Bot Risk Management:**

While the RPA project team is managing bot development and request-intake governance based on the NiSource ETGF, the scoring mechanism within the framework only addresses risk ranking at a tactical level (per individual bot and at a department level), which does not address potential aggregate risk or context from an enterprise perspective. Lack of risk aggregation and enterprise alignment could result in insufficient control structures or duplicated efforts.

We recommend aligning with executive sponsors and business owners to perform an aggregate risk evaluation of NiSource bots currently in production. Additionally, risk assessment criteria should be defined and shared with RPA stakeholders. Once the criteria has been established and shared, bots currently in-production should be risk-ranked and the risk assessment process should be applied to new bots going forward.

**4) RPA Controls Alignment:**

Although the RPA program team manages the bot development request-intake process and steady-state environment by leveraging standardized NiSource enterprise IT tooling (i.e. ServiceNow for automations change management, SailPoint IdentityIQ for access security, etc.), a consistent controls framework is not applied across all bots in production. Inconsistency or informality related to applying control frameworks increases the risk of key processes not functioning as expected, as well as increased potential for data exploitation.

We recommend the NiSource IT Governance, Risk and Compliance (GRC) and SOX Compliance teams align to formalize a technology controls framework for the UiPath platform that enables consistent implementation of appropriate risk-based technology general computer controls for key bots.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Advisory Report \*\*\*\*\*



## IT THIRD PARTY RISK MANAGEMENT

### Advisory Review

April 2021

#### Distribution

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Shawn Anderson



Big Thinking. Personal Focus.

*This report has been prepared for use by NiSource management only, and is not to be distributed outside NiSource without permission from Schneider Downs & Co., Inc.*

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## Executive Summary

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### Background

The services of Schneider Downs & Co, Inc. (Schneider Downs) were retained by NiSource, Inc. (NiSource or the company) to perform an advisory review of key cybersecurity initiatives and provide a secondary opinion on the current-state design, and where applicable, operating effectiveness of NiSource's Information Technology (IT) Third Party Risk Management (TPRM) program. NiSource Internal Audit selected the IT TPRM program for analysis based on its criticality related to the organization's cybersecurity posture, coupled with the program's maturity status within the broader NiSource cybersecurity roadmap. Schneider Downs' assessment occurred during January and February 2021.

For the purpose of this review, *vendor risk management* or *third-party risk management (TPRM)* refers to:

- Identification and classification of vendor relationships
- Risk assessment and monitoring of vendors as related to the delivery of NiSource products and services
- Contract management processes as they relate to vendor relationships
- Metrics, alerting, and reporting used to communicate identified vendor risk to stakeholder groups within the organization
- Analysis, acceptance, and tracking of organizational risk exposure due to vendor relationships
- The automated tools and manual processes implemented to support these activities

In order to assess the maturity of the NiSource IT TPRM program against industry best practices, Schneider Downs utilized the Vendor Risk Management Maturity Model (VRMMM) developed by the Shared Assessments Group, a global membership organization dedicated to providing best practices, education and tools to drive third-party risk assurance. The VRMMM is comprised of eight high level program categories, each with six possible maturity levels. A total of 132 components were scored across 30 subsections of the eight categories, with an average of these scores representing the aggregate program maturity level. A complete description of the activities expected at each of the maturity levels is provided in Appendix A: Shared Assessments Vendor Risk Management Maturity Model.

### Current State

NiSource IT recently undertook the development of a formal IT TPRM program under its IT Governance, Risk, and Compliance (GRC) function. At the time of this assessment, the IT TPRM program had adopted initial procedures for assessing and monitoring vendor risk utilizing the Fortress platform.

The observations in this report were compiled based on inquiry with NiSource IT staff members who perform various roles within the IT TPRM program and members of supporting business functions, and through selected tests of the operating effectiveness of implemented processes.

During this assessment, Schneider Downs found the NiSource IT TPRM program to be operating at an aggregate maturity of Level 2: Approved Roadmap and Ad Hoc Activity using the VRMMM. IT TPRM leadership and staff have defined a strong vision for the program, performed initial assessments of all IT

vendors, and have begun to define additional vendor risk management activities. The following recommendations are based on assessed gaps between the current state of the NiSource IT TPRM program and an industry benchmark of VRMMM Level 3: Defined and Established.

## Key Recommendations

### 1. **Program Approval and Review**

With NiSource still being in the early stages of its IT TPRM program implementation, we recommend management establish an initial IT TPRM program baseline with approved policies and formally defined responsibilities for all stakeholders. This program baseline and responsibility structure should assist in defining accountability standards while also ensuring program maturity progression metrics are being captured and aligned with leadership expectations. In addition, NiSource should implement a regular IT TPRM program self-assessment and review process so future revisions to IT TPRM program structure are executed and communicated to stakeholders in a timely manner.

### 2. **Cross-Functional TPRM Process Integration**

Team integration/communications standards are not currently established between two key NiSource internal stakeholder groups (Supply Chain and IT) that oversee or support one or more activities defined in the VRMMM. We recommend management review the organization's internal vendor management processes, including key inputs and outputs exchanged between these business units, and establish clear expectations and guidelines for how this information should integrate into the IT vendor management lifecycle.

### 3. **Information Sharing and Reporting Procedures**

While reporting has been created to track progress of the IT TPRM program implementation, key performance and risk indicators (KPIs and KRIs) are not defined. Defining specific KPI and KRI metrics enables visibility to the success of the IT TPRM program and vendor risks that may exceed the organizational risk appetite. KPI and KRI metrics should be communicated to appropriate stakeholder groups on a consistent cadence.

### 4. **IT TPRM Training and Resources**

Although the current IT TPRM staffing level was sufficient for the initial launch of the program, staffing is below the average headcount for companies with an in-house IT TPRM program and NiSource has not performed formal capacity planning to ensure ongoing achievement of IT TPRM objectives. We recommend management assess future IT TPRM staffing needs to achieve stated TPRM program maturity objectives. In addition, management should develop an action plan to ensure appropriate skills coverage by training existing staff, as well as augmenting capacity by either hiring additional IT TPRM employees or via outsourcing. These actions would assist in having skilled resources identified and available to execute on IT TPRM roadmap activities as needed.

### 5. **Vendor Assessment and Monitoring**

IT vendor risk ratings are currently based only on inherent risk as designated by Fortress, with subsequent operational risk monitoring of third parties (such as performance of service level agreements) being limited to NiSource's major IT vendors. We recommend NiSource develop additional business-specific vendor risk classifications based on operational criticality and establish assessment/monitoring procedures that align with the underlying business risk at each

criticality level. This would provide management with enhanced insight into the IT third-party risk lifecycle and allow IT TPRM resources to focus on specific third-party IT vendors who may be experiencing an increasing level of steady-state operational risk.

### Management Response to Recommendations

NiSource IT GRC, and specifically the IT TPRM team, appreciates this advisory review as it acknowledges our foundational activities, our vision, and our roadmap. It also identifies opportunities which will assist us in focusing our roadmap and prioritizing activities. Specific areas of focus will include further developing policies and procedures, defining roles and responsibilities especially as it relates to integration with Supply Chain, defining standard reports and metrics for both management and vendor relationship owners, and assessing resource and training requirements to mature the IT TPRM program.

\*\*\* End of Executive Summary \*\*\*



# Detailed Report

## Shared Assessments' Vendor Risk Management Maturity Model Assessment

To perform this IT TPRM assessment, we utilized the Shared Assessment Vendor Risk Management Model (VRMMM). VRMMM is a tool used to help evaluate the maturity of a Vendor Management program by benchmarking against the 8 High Level Program Categories listed in the table below.

High Level Program Categories	
1.0 Program Governance	2.0 Policies, Standards, Procedures
3.0 Contract Development, Adherence, and Management	4.0 Vendor Risk Assessment Process
5.0 Skills and Expertise	6.0 Communication and Information Sharing
7.0 Tools, Measurement, and Analysis	8.0 Monitoring and Review

### Definitions of the VRMMM Maturity Levels

Maturity Level	Program Status	Description
LEVEL 0	START UP OR NO TPRM ACTIVITY	New organizations beginning operations or organizations with no existing vendor risk management activities
LEVEL 1	INITIAL VISIONING AND AD HOC ACTIVITY	Organizations which perform third party risk management activities on an ad hoc basis, but have a management approved plan to structure the activity as part of an effort to achieve full implementation
LEVEL 2	APPROVED ROAD MAP AND AD HOC ACTIVITY	Organizations which perform third party risk management activities on an ad hoc basis, but have a management approved plan to structure the activity as part of an effort to achieve full implementation
LEVEL 3	DEFINED AND ESTABLISHED	Organizations with fully defined, approved, and established vendor risk management activity, where activities are not yet fully operational and where metrics reporting and enforcement are lacking
LEVEL 4	FULLY IMPLEMENTED AND OPERATIONAL	Organizations in which vendor risk management activities are fully operational and all compliance measures (including metrics reporting and independent oversight) are in place
LEVEL 5	CONTINUOUS IMPROVEMENT	Organizations that strive toward operational excellence, understand best-in-class performance levels, and implement program changes

### Current State

We assessed the current state of the NiSource IT TPRM program by evaluating the percentage of activities being performed at each of the prescribed maturity levels. The heat map below displays areas of the program that are established, as well as those that are currently undefined or underperformed. The following sections provide a detailed description of the maturity assessment for each of the VRMMM subdomains and include specific recommendations and risk metrics.

High Level Program Categories	Aggregate Maturity Level	Sub-Sections	Current Maturity
<b><u>1.0 Program Governance</u></b>	Level 3	1.1	3
		1.2	2
		1.3	3
		1.4	3
		1.5	2
<b><u>2.0 Policies, Standards, Procedures</u></b>	Level 2	2.1	3
		2.2	2
		2.3	1
		2.4	1
		2.5	3
		2.6	1
		2.7	2
<b><u>3.0 Contract Development, Adherence and Management</u></b>	Level 3	3.1	3
		3.2	2
		3.3	4
		3.4	2
<b><u>4.0 Vendor Risk Assessment Process</u></b>	Level 2	4.1	1
		4.2	2
		4.3	2
		4.4	3
		4.5	0
		4.6	1
<b><u>5.0 Skills and Expertise</u></b>	Level 0	5.1	1
		5.2	1
		5.3	0
		5.4	1
		5.5	1
<b><u>6.0 Communication and Information Sharing</u></b>	Level 1	6.1	1
		6.2	1
		6.3	1
		6.4	2
		6.5	0
<b><u>7.0 Tools, Measurement and Analysis</u></b>	Level 3	7.1	2
		7.2	4
		7.3	2
		7.4	4
		7.5	5
<b><u>8.0 Monitoring and Review</u></b>	Level 1	8.1	3
		8.2	2
		8.3	2
		8.4	1
		8.5	1
		8.6	0
<b><u>Program Aggregate</u></b>	Level 2		

## 1.0 Program Governance

### Description

The Program Governance subdomain encompasses governance standards for vendor risk management. Key areas considered in this subdomain include establishing risk posture and governance, along with defining objectives and goals.



### Recommendations

We recommend NiSource continue its documentation of in-progress IT TPRM policies and procedures, while developing a process to articulate and incorporate board reporting and oversight of IT vendor management goals.

Subsection	Description	Maturity
1.1	Formalized Vendor Risk Governance Model / Structure	3
1.2	Defined Program Objectives and Goals	2
1.3	Established Risk Posture (Tone at the Top, Risk Tolerance, Risk Management Methodology, including Process for Exception Approval)	3
1.4	Board Reporting and Management Oversight	3
1.5	Standards of Conduct	2

### Observations

IT TPRM policies were still in progress during the time of our review. Therefore, we were unable to confirm that various aspects of this category were in place, including goals and objectives. While Board reporting and management oversight is partially in place for IT TPRM, the process could be strengthened through steps that include, but are not limited to:

- Establishing formalized schedules for reporting to the Board
- Defining processes for reporting material changes
- Maintaining processes for periodic updates on corrective actions
- Revising the IT vendor risk management policy as needed to achieve desired objectives

NiSource IT Governance, Risk and Compliance (GRC) currently presents IT TPRM program key performance indicators (KPIs) to the NiSource CIO, however the Board would only observe vendor risk through the standard IT risk escalation process. While the CISO (Chief Information Security Officer) does report to the Board and Cybersecurity Risk Committee on the status of the IT TPRM program, metrics have not been established for communicating IT vendor risk at these levels.

NiSource does require IT vendors to perform regular training on and acceptance of organizational standards of conduct with Schneider Downs observing evidence of IT vendor system access removal in the case of non-compliance.

## 2.0 Policies, Standards, Procedures

### Description

The Policies, Standards, Procedures domain describes key activities regarding documentation and general standards of vendor risk management.



### Recommendations

We recommend management formally adopt an IT TPRM policy and associated vendor risk categories. We additionally recommend developing procedures to improve internal communication channels between Supply Chain/Purchasing, Legal, IT, and business relationship owners throughout the due diligence, inventory management and classification, oversight, and termination subsections of the vendor management lifecycle.

Subsection	Description	Maturity
2.1	Vendor Risk Management Policy and Risk Categorization	3
2.2	Vendor Inventory Requirements	2
2.3	Vendor Due Diligence Standards	1
2.4	Vendor Classification Operational Procedures	1
2.5	Contract Management Governance	3
2.6	Vendor Management Oversight Procedures	1
2.7	Vendor Termination or Exit Procedures	2

### Observations

A number of policies addressing various aspects of this category fall outside the scope of the IT TPRM program, including:

- Vendor Inventory Requirements
- Vendor Due Diligence Standards
- Vendor Classification Operational Procedures
- Vendor Management Oversight Procedures
- Vendor Termination or Exit Procedures

We noted that some of these processes, such as contract management, were in place for nearly all vendors while other organization-level processes, such as vendor due diligence standards, classification procedures, and vendor management oversight, were only partially defined. Such processes would standardize the steps of the vendor management lifecycle. While NiSource IT has defined IT vendor risk management categories and assessment criteria within the Fortress platform, senior management and/or Board approval of those categories/criteria is still pending as of March 2021.

Finally, we established through inquiry that NiSource's IT GRC team performs its own internal reviews of NiSource's master vendor inventory in order to identify IT vendors for inclusion in the IT TPRM program. As NiSource IT GRC currently performs this review cadence in an ad hoc manner and independent from Supply Chain/Procurement, we recommend a formal and regular alignment process be implemented between the IT GRC and Supply Chain/Procurement teams to address potential inefficiencies and/or due diligence failures in both the identification and currency maintenance status of NiSource's IT vendor population.

### 3.0 Contract Development, Adherence, and Management

#### Description

The contract development domain outlines all of the activities performed to support the contracting process from standard contract provisions to management oversight.



#### Recommendations

We recommend NiSource develop key risk indicators (KRIs) for IT vendor contracts that bypass the established contract review process or exclude key contract terms. In addition, management should establish standard procedures for both remediation and acceptance of these risks.

Subsection	Description	Maturity
3.1	Vendor Contract Management Operational Procedures	3
3.2	Criteria / Guidelines / Processes for Standard Contract Provisions	2
3.3	Relationship Management	4
3.4	Management Oversight	2

#### Observations

NiSource Supply Chain oversees vendor onboarding and renewal with Legal providing standard contract language and terms of vendor agreement review upon request. While general provisions for IT contract drafting and negotiation were in place, there is currently no documented plan or procedure around aspects of enterprise-level vendor relationship management and management oversight of contracts. An overarching process of this type falls outside of the scope of the IT TPRM Program, but directly impacts future state success of the program.

## 4.0 Vendor Risk Assessment Process

### Description

This domain provides guidance on activities for assessing the potential risk associated with a vendor.



### Recommendations

We recommend management develop processes for the following:

- Classifying IT vendors based on their underlying delivery risk to NiSource products and services
- Monitoring IT vendor compliance with operational standards such as service level agreements (SLAs)
- Identifying changes in the inherent risk of individual IT vendor relationships

Subsection	Description	Maturity
4.1	Outsourcing Risk Assessment Process	1
4.2	Vendor Assessment and Classification	2
4.3	Vendor Assessment Operational Processes	2
4.4	Vendor Assessment Metrics Reporting	3
4.5	Ongoing Vendor Risk Assessments	0
4.6	Process Automation	1

### Observations

The NiSource IT GRC team has established initial visioning and processes around the outsourced IT risk assessment process utilizing Fortress, along with outlining an escalation process for vendor risk assessments beginning with a Data Driven Risk Rank (DDRR), progressing to a Data Driven Vendor Assessment (DDVA), and concluding with a Vendor Control Assessment (VCA) for the highest risk vendors. We observed this process to be operating effectively through either performing a VCA or acceptance of risk by appropriate NiSource management, including VCA risk items being appropriately tracked in the NiSource IT Risk Register. While at least 380 IT vendors have been identified for risk assessments, only 30 DDVAs had been completed at the time of this assessment. Because this process is still relatively new, we recommend a regular review to ensure vendors are appropriately escalated based on risk.

We noted that NiSource’s primary, high risk “Big 4” IT vendors (CGI, Wipro, TCS, and Verizon) are assessed for contractual SLA compliance on a regular cadence, however ongoing IT vendor assessments and SLA reporting compliance were lacking for IT vendors considered non-primary. In addition, process automation is not in place to automate the request process for having an IT vendor assessment performed.

## 5.0 Skills and Expertise

### Description

Activities that fall under the Skills & Expertise subdomain include those related to ensuring that appropriate personnel with the right skills are in place to execute the vendor risk management program.



### Recommendations

We recommend management formalize and communicate any IT TPRM process roles and responsibilities of NiSource business stakeholders who reside outside of Information Technology. Additionally, target skillsets and staffing levels should be identified for the IT TPRM program, including action plan development for training/certifying existing staff and hiring/augmenting staff to ensure appropriate coverage for all IT TPRM activities.

Level	Description	Maturity
5.1	Roles and Responsibilities	1
5.2	Staffing Levels and Competencies	1
5.3	Training and Awareness	0
5.4	Budget and Resources	1
5.5	Certifications	1

### Observations

NiSource roles and responsibilities for the IT TPRM program are informally established, with requisite staffing levels and execution competency requirements not yet in place. While there is no current training or communications on IT TPRM policies and procedures for staff outside of IT, a budget has been established for the Fortress platform and to expand training and staffing of the IT TPRM program.



## 6.0 Communication and Information Sharing

### Description

Processes supporting the reporting at various levels of vendor program status categorize this domain.



### Recommendations

We recommend the standardization of communication and reporting protocols for individual inputs and outputs of the IT TPRM program. For example, these protocols should include provisions for the initiation of an IT vendor relationship by the business relationship owner, formal contract review by Legal, and reporting of key IT vendor risk to NiSource management. Some of these activities are currently being performed by Supply Chain but there is not clear linkage throughout the vendor management lifecycle and to the IT TPRM program.

Level	Description	Maturity
6.1	Vendor Risk Program Integration	1
6.2	Dashboards / Scorecards	1
6.3	Operational Management Reporting	1
6.4	Board and Executive Reporting	2
6.5	Communication Protocols	0

### Observations

IT vendor management has not been formally integrated with NiSource enterprise functions such as Legal, Procurement, etc. Additionally, metrics on IT vendor management are reported to the Board, however do not include details such as vendor value, regulatory compliance, etc. There is also no established and documented process for communicating and resolving exceptions for ongoing issues with IT vendors outside of NiSource's primary IT Service Providers.

## 7.0 Tools, Measurement, and Analysis

### Description

This category pertains to all activities that aid in the analysis and scoring of vendor risks. This includes the use of scoring tools and financial analysis.



### Recommendations

We recommend management affirm consistent use of a vendor questionnaire in the risk assessment process between IT GRC and other groups performing vendor assessments. While the IT GRC and NIPSCO NERC CIP Compliance groups utilize a Fortress-based questionnaire, NiSource Enterprise Architecture leverages a separate questionnaire with partial overlap of content with the Fortress questionnaire. See Vendor Questionnaire Review on page 16 for further detail.

Level	Description	Maturity
7.1	Workflow Management	2
7.2	Vendor Risk Scoring Tools	4
7.3	Vendor Financial Analysis	2
7.4	Vendor Business Risk	4
7.5	Tool Automation	5

### Observations

We noted a strong use of assessment and analysis tools, primarily via leverage of the Fortress platform. Because use of Fortress is relatively new, we were unable to observe a sufficient number of IT vendor assessments to opine on the operational effectiveness of the assessment escalation workflow.

## 8.0 Monitoring and Review

### Description

The performance of all other vendor management activities must be continuously monitored. This includes monitoring contracts, service level agreements, and potential changes to the environment.



### Recommendations

We recommend management establish a regular review cadence for monitoring the maturity and effectiveness of its IT TPRM program. Additionally, IT vendor assessment procedures should include provisions for the continuous monitoring of service level agreements (SLAs), financial viability, and security posture of IT vendors outside of NiSource's primary IT Service Providers. While Supply Chain currently monitors vendor relationships from a renewal perspective, changes in a vendor's risk profile during the term of their contract may go undetected.

Level	Description	Maturity
8.1	Contract Provision Tracking and Maintenance	3
8.2	Monitoring Service Level Agreements and Performance	2
8.3	Potential Changes Due to Internal and External Environment	2
8.4	Self-Assessment / Audit Readiness and Assurance	1
8.5	Controls Validation and / or Testing	1
8.6	Continuous Monitoring Program	0

### Observations

We noted that while IT vendor master agreements are housed in a central repository (Ariba) and appropriate agreement updates are being included during the agreement renewal process, NiSource does not currently monitor SLAs for a majority of its IT vendors and does not actively monitor vendors for changes in their compliance risk, financial viability, etc. Additionally, NiSource has not defined a process for self-assessment of its IT TPRM program maturity.

## Vendor Questionnaire Review

Through inquiry with various members of NiSource IT, we noted two unique vendor risk assessment questionnaires are being used by internal IT tower units. IT vendor risk processes originated by the IT GRC and NIPSCO NERC CIP Compliance groups both utilize the same Fortress-based questionnaire, while NiSource Enterprise Architecture leverages a separate questionnaire to perform IT vendor assessments. We obtained copies of both questionnaires as follows:

1. Fortress Vendor Control Assessment Questionnaire
2. Enterprise Architecture Assessment Questionnaire

Through independent review of each questionnaire, we noted approximately 31% (129 of 415) of questions in the Fortress Vendor Control Assessment Questionnaire overlap with one or more questions in the Enterprise Architecture Assessment Questionnaire.

Based on these findings, we recommend management consider utilizing data collected in the Fortress-based processes as input into the Enterprise Architecture vendor assessment process.

## Appendix A: Shared Assessments Vendor Risk Management Maturity Model

Maturity Level	VRMMM High Level Program Categories							
	Program Governance (1)	Policies, Standards, Procedures (2)	Contract Development, Adherence and Management (3)	Vendor Risk Assessment Process (4)	Skills and Expertise (5)	Communication and Information Sharing (6)	Tools, Measurement and Analysis (7)	Monitoring and Review (8)
<b>0 – Start-up or no TPRM activity</b>	No formalized Third Party governance program	No formalized Third Party related policies, standards, and procedures	No formalized Third Party contract processes	No formalized vendor risk identification and analysis process	No formalized requirements for Third Party related skills and expertise	No formalized Third Party related communication and information sharing processes	No formal tools, measurement and analysis processes present	No formalized program monitoring and review processes
<b>1 – Initial visioning and ad hoc activity</b>	Need for Third Party program has been established; governance not yet fully defined	Policies, standards and procedures are not yet fully defined	Third Party contract policies / procedures are not yet fully defined	Vendor risk identification and analysis is ad hoc and processes are not yet fully defined	Some Third Party skills and expertise may be recognized but no formal placement program exists	Internal and external communications are ad hoc; program needs have been identified, but are not yet fully defined	Third Party related measurement and analysis is ad hoc and metrics are not yet fully defined	Monitoring and Review activities are ad hoc and processes are not yet fully defined
<b>2 – Approved road map and ad hoc activity</b>	Program governance is defined and approved, but is not fully in place	Policies, standards and procedures are defined and approved	Third Party related contract provisions are defined and approved	Third Party related risk identification and analytic criteria are established and approved	Current staff's Third Party skills and expertise are being identified and slotted to positions	Internal and external communications are still ad hoc, but formal communications and information sharing programs are identified and approved	Tools, measurement and analytic needs are identified and approved, but are not yet fully implemented	Internal and external Third Party monitoring and review needs are identified and approved
<b>3 – Defined and Established</b>	Approved governance program is established, but is not fully operational	Approved policies, programs and procedures are established, but not all fully operational	All contract provisions have been approved, but not all are fully operational	Approved Third Party analytic and risk identification processes are in place, but not all are fully operational	Skill sets and expertise are being appropriately deployed; any skill gaps have been identified	Formal internal and external communications and information sharing programs are established, but are not fully operational	Third Party related tools and analytics are established, but are not fully operational; not all applicable metrics are measured	Monitoring and review programs are defined and established, but are not yet fully operational; enforcement is lacking
<b>4 – Fully Implemented and operational</b>	Program governance is completely established and operational across the organization	Policies, standards and procedures are consistently applied across the enterprise and are externally benchmarked	Contract provisions are consistently deployed across the enterprise and are externally benchmarked	Risk identification and analysis is fully operational across the enterprise and is externally benchmarked	Required skill sets and expertise are optimally deployed	Communications and information sharing processes are fully functional, external outreach is present for benchmarking and other purposes	Third Party related tools and analytics are optimally deployed	All program related monitoring and compliance measures are in place and enforced
<b>5 – Continuous improvement</b>	Program governance represents best practice, and is regularly tested, measured and enhanced as needed	Policies, standards and procedures represent best practice, and are regularly measured, tested and enhanced as needed	Contract process is best practice, and is regularly evaluated and enhanced as needed	Vendor risk identification and analytics are best practice, and are regularly evaluated and enhanced as needed	Skills and expertise are best in class and enhanced as needed, new processes are routinely evaluated	Communications and information sharing processes are continuously evaluated and routinely enhanced; there is organizational visibility in industry associations; the organization actively promotes external outreach	Tools, measurement and analytics are automated and represent best practice. They are regularly evaluated and enhanced as needed	Monitoring and review processes are best practice, and are regularly evaluated at a real-time or near-real time interval, and enhanced as needed

## Appendix B: Recommendation to VRMMM Sub-Category Mappings

<b><i>Key Recommendation</i></b>	<b>VRMMM Sub-Categories Addressed</b>
<b><i>1. <u>Program Approval and Review</u></i></b>	1.2 Defined Program Objectives and Goals 1.5 Standards of Conduct 5.1 Roles and Responsibilities 8.4 Self-Assessment / Audit Readiness and Assurance
<b><i>2. <u>Cross-Functional TPRM Process Integration</u></i></b>	2.2 Vendor Inventory Requirements (pertains to the organization’s vendor inventor) 2.3 Vendor Due Diligence Standards 2.4 Vendor Classification Operational Procedures 2.5 Contract Management Governance 2.6 Vendor Management Oversight Procedures 2.7 Vendor Termination or Exit Procedures 3.2 Criteria / Guidelines / Processes for Standard Contract Provisions 3.4 Management Oversight
<b><i>3. <u>Information Sharing and Reporting Procedures</u></i></b>	2.2 Vendor Inventory Requirements (pertains to the organization’s vendor inventor) 2.3 Vendor Due Diligence Standards 2.4 Vendor Classification Operational Procedures 2.5 Contract Management Governance 2.6 Vendor Management Oversight Procedures 2.7 Vendor Termination or Exit Procedures 3.2 Criteria / Guidelines / Processes for Standard Contract Provisions 3.4 Management Oversight
<b><i>4. <u>Information Sharing and Reporting Procedures</u></i></b>	6.1 Vendor Risk Program Integration 6.2 Dashboards / Scorecards 6.3 Operational Management Reporting 6.4 Board and Executive Reporting. 6.5 Communication Protocols
<b><i>5. <u>IT TPRM Training and Resources</u></i></b>	4.1 Outsourcing Risk Assessment Process 4.2 Vendor Assessment and Classification 4.3 Vendor Assessment Operational Processes 4.5 Ongoing Vendor Risk Assessments 4.6 Process Automation 8.2 Monitoring Service Level Agreements and Performance 8.3 Potential Changes Due to Internal and External Environment 8.5 Controls Validation and / or Testing 8.6 Continuous Monitoring Program

# NiSource Corporate Services Company

## Cybersecurity – Hardware Asset Management

### Internal Audit Report

#### **Distribution**

##### **Respondents**

Greg Skinner

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Donald Brown  
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Anne-Marie D'Angelo  
Violet Sistovaris  
Shawn Anderson  
Chuck Shafer

## **Internal Audit Report**

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### **Background**

The corporate Information Technology (IT) function within NiSource Corporate Services Company, a fully-owned subsidiary of NiSource Inc. (NiSource or the Company), is responsible for managing the lifecycle of technology assets, including asset identification, registration, steady-state operation, and decommissioning. Effective ongoing maintenance of the technology hardware asset repository is critical to managing cybersecurity risk. A broad array of hardware components comprise the inventory of technology assets that enable business services, operational activities and communications functions across the Company.

The NiSource IT team began standardizing technology operations using a service framework known as the Information Technology Infrastructure Library (ITIL) in late 2017. To facilitate alignment to ITIL, NiSource uses a market-leading cloud IT services platform, ServiceNow. The ServiceNow platform enables standardized hardware asset configuration management through its Configuration Management Database (CMDB). The NiSource IT organization relies on its primary third party IT service providers to manage technology hardware assets and associated information.

### **Audit Objective, Approach, and Coverage**

The objective of this risk-based audit was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of processes and controls associated with maintaining complete and accurate hardware asset inventory records within ServiceNow. At the beginning of our audit, we completed a risk assessment and conducted detailed process assessments and transactional testing in high-risk areas. Because relevant contracts between NiSource and third party IT service providers were updated in November 2020, the review period for this assurance audit was December 2020 through February 2021.

During the audit, we specifically evaluated:

- Processes and critical performance indicators (CPIs) related to monitoring the completeness and accuracy of NiSource's end user computing and network device inventory
- Key processes, operations, and contractual documentation over hardware asset and configuration management
- IT hardware asset and configuration management lifecycle processes, including system integration aspects
- IT change management processes specific to IT hardware configuration/asset management

Data center support activities were being transitioned between services providers at the time of our audit. Therefore, we did not evaluate hardware asset management associated with NiSource data center operations. These activities will be evaluated during a future audit of data center operations. We also did not evaluate IT asset accounting processes as these processes will be evaluated during a future capital accounting audit.

### **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

"1" – Significant Improvement is Needed and Prompt Management Attention is Required

"2" – Improvement is Needed and Management Attention is Necessary

"3" – Some Improvement is Needed and Management Attention is Justified

"4" – Management Evaluation is Desirable



## **Internal Audit Conclusion and Summary of Observations**

We found that hardware asset inventory processes and controls related to the areas tested (as specified in the “Audit Objective, Approach, and Coverage” section of this report) were generally operating as intended. We did, however, identify one finding where management’s attention is necessary (Risk Rating 2) and one finding where management’s attention is justified (Risk Rating 3). In addition, we observed some less-significant items that were discussed with management during the course of the audit.

A summary of audit findings rated “1” through “3” follows (see details in the Internal Audit Findings Matrix in Appendix B):

- 1) **Network Device Inventory Accuracy and Completeness** (Rating 2)  
Accurate and complete hardware asset inventory records are imperative to managing cybersecurity risk. Per the contractual Service Level Agreement (SLA) between NiSource Inc. (NiSource or the Company) and Verizon Communications, Inc. (Verizon), technology asset additions, changes, or deletions should be transacted into the ServiceNow hardware asset register (CMDB) within two days. Verizon does not validate that network device additions, changes, or deletions are transacted into CMDB within two days. Therefore, NiSource does not have visibility to Verizon’s performance regarding this SLA component, which is relevant to monitoring the completeness and accuracy of network device asset inventory records.
- 2) **Data Governance Model Supporting Configuration Management Execution** (Rating 3)  
A formal CMDB data governance model has not been developed and operationalized, which could impair the effectiveness of managing the integrity of CMDB data and negatively impact hardware asset inventory monitoring activities.

## **Management’s Response**

IT recognizes the importance of having proper accounting of the deployed hardware assets and the detailed configuration items data that further identifies the attributes of the technology to both maintain and protect the systems that NiSource relies on to run the business. By adhering to ITIL processes and leveraging the ServiceNow platform, the team has an action plan to improve the accuracy and completeness of our Hardware Asset Management inventory. In parallel, the team will be re-establishing the governance model to enhance and improve the quality and completeness of the information attributes that accompany these assets. All action items will be completed by September 30, 2021.

The work to be done is an enhancement of the existing governance framework and data quality coupled with confirming the accountability and ownership of the information across the teams who manage and maintain these IT assets.

## **Internal Audit Follow Up**

Management has provided action plans for all findings with a rating of “1”, “2”, or “3”. We have reviewed management’s action plans and believe that the action plans will adequately address the findings identified in this audit. We will track the progress of resolution and will conduct follow-up testing for all rated “1” audit findings and a sample of rated “2” and rated “3” audit findings.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*

**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

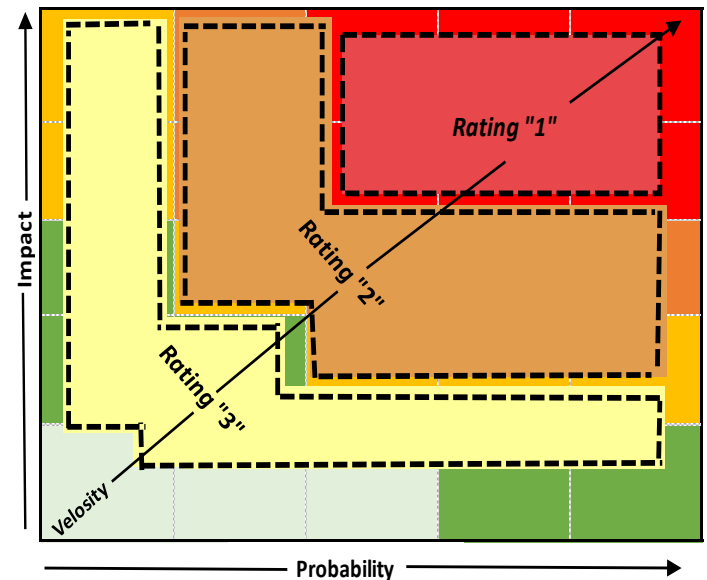
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



**1) Network Device Inventory Accuracy and Completeness**

**Risk Rating: 2**

**Observation:**

Accurate and complete hardware asset inventory records are imperative to managing cybersecurity risk. Per the contractual Service Level Agreement (SLA) between NiSource Inc. (NiSource or the Company) and Verizon Communications, Inc. (Verizon), technology asset additions, changes, or deletions should be transacted into the ServiceNow hardware asset register (CMDB) within two days. Verizon does not validate that network device additions, changes, or deletions are transacted into CMDB within two days. Therefore, NiSource does not have visibility to Verizon's performance regarding this SLA component, which is relevant to monitoring the completeness and accuracy of network device asset inventory records.

Also, the contract between NiSource and Verizon requires that Verizon verify only a minimum of five percent of the total network device asset records on a monthly basis, which may not be sufficient in consideration of the cybersecurity risk that certain network asset types introduce to the network.

**Criteria:**

NiSource IT management: 1) establishes SLA agreements with vendors that require the vendors to execute formal processes to validate the accuracy and completeness of hardware (end-user computing and network devices) asset inventory records and 2) monitors that vendor processes are consistently managed per established SLA terms.

**Risk:**

Network component inventory is not updated in a timely manner, thereby leading to potential inaccurate device status reporting and/or device configuration errors that intensify cybersecurity risk to the organization.

**Management Action Plan:**

IT is in the process of transitioning its Network Managed Services from Verizon to Wipro effective July 14, 2021. SLAs agreed to by Wipro for network assets are consistent with the newly negotiated SLAs for data center and end-user devices, including removal of the 2 day processing period. This requires the Service Provider to add/remove the device within ServiceNow the day the device is provisioned or de-provisioned to keep the network asset inventory current.

IT will work with Wipro to expand the recorded hardware asset sample size to a more relevant and meaningful number of devices for network assets and CMDB records as part of monthly Infrastructure Critical Performance Indicators CPI-9 (Timeliness and Accuracy of CMDB Records) and CPI-10 (Timeliness and Accuracy of Asset Management Database Records).

**Responsible:**

Greg Skinner, VP-IT Infrastructure

**Resolution Date:**

9/30/21

**2) Data Governance Model Supporting Configuration Management Execution**

**Risk Rating: 3**

**Observation:**

Data in the Configuration Management Database (CMDB) is used to support IT hardware configuration management processes. Although the Company's ServiceNow Knowledge base indicates a CMDB data governance model and supporting change management alignment is required and should formally specify sanctioned configuration item types and classes (including configuration item attributes and the authoritative attribute sources being used for operating the CMDB), a formal CMDB data governance model has not been developed and operationalized. Also, current CMDB operational procedures do not formally define the configuration item attributes associated with sanctioned configuration item types nor the authoritative attribute sources being used for IT hardware asset management process execution.

**Criteria:**

A formal CMDB data governance model is defined and is operational. The CMDB data governance model should formally specify sanctioned configuration item types and classes, including definitive configuration item attributes and the authoritative attribute sources being used for operating the CMDB.

**Risk:**

Failure to adequately govern CMDB data could lead to CMDB data integrity issues (e.g., duplicate or missing entries) and negatively impact IT hardware asset monitoring activities.

**Management Action Plan:**

By leveraging the governance recommendations from the KPMG CMDB project NiSource completed in 2020, IT will engage CMDB configuration item owners to update and operationalize the governance model.

As part of this effort, the team will develop a full remediation plan to address the gaps in current configuration item attributes, classes and procedures. Subsequently the team will execute a remediation phase to clean up the configuration items and address the gaps identified.

The CMDB data governance model will include an ongoing and more frequent formal review of configuration item data. The opportunity to synergize this process with the broader NiSource Data Governance model will be explored as that model is developed.

**Responsible:**

Greg Skinner, VP-IT Infrastructure

**Resolution Date:**

9/30/21

\*\*\*\*\* End of Report\*\*\*\*\*

# NiSource Gas Distribution Companies

## Critical Valve Inspection & Remediation

### Internal Audit Report

#### **Distribution**

##### **Respondents**

Curtis Anstead

##### **Beneficiaries**

Brentley Archer	Kimra Cole	Daniel Douglas
Mark Kempic	William Mojica	David Monte
	Vincent Parisi	
	James Zucal	

##### **Other Key Personnel**

Donald Ayers	Mahesh Nagarkatti	David Roy
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##### **For Information**

Shawn Anderson  
Donald Brown  
Anne-Marie D'Angelo  
Joseph Hamrock  
Charles Shafer  
Violet Sistovaris  
Pablo Vegas

## **Internal Audit Report**

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### **Background**

NiSource, Inc. (NiSource or the Company) has six affiliated gas distribution companies that own and operate over 50,000 miles of transmission and distribution mainline pipelines distributed across six states. Over 31,000 valves within the Company's mainline pipelines have been designated as critical and are essential to ensuring the pressure in downstream pipeline systems can be controlled, or in case of an emergency, completely shut.

Various departments are responsible for ensuring critical valves are properly designed, installed, inspected, and maintained per Pipeline and Hazardous Materials Safety Administration (PHMSA) and company requirements. Field Engineering completes pipeline design, designates critical valves, assigns alternates for inoperable critical valves, and identifies when a critical valve will be retired and/or replaced as part of planned changes to the pipeline systems. Field Operations and System Operations perform inspections of critical valves. Field Operations, System Operations and Construction teams complete maintenance or replacement activities. Each of the various departments are also responsible for creating or updating records that capture key information about critical valves which is essential to ensuring valves are locatable and serviceable going forward.

### **Audit Objective, Approach, and Coverage**

The objective of this risk-based internal audit was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of controls associated with critical valve inspection and remediation processes. At the beginning of our audit, we completed a risk assessment, and we conducted detailed process assessments, data analytics, and sample-based transactional testing in higher-risk areas. The review period for this audit was June 2020 through January 2021.

During the audit, we specifically evaluated:

- Critical value records management
- Critical valve inspection and remediation processes
- Applicable operator qualification processes

We did not evaluate pipeline design processes specific to critical valves as the Engineering Department is currently undergoing an initiative to standardize pipeline design processes associated with critical valve isolation zones.

### **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

"1" – Significant Improvement is Needed and Prompt Management Attention is Required

"2" – Improvement is Needed and Management Attention is Necessary

"3" – Some Improvement is Needed and Management Attention is Justified

"4" – Management Evaluation is Desirable

### **Internal Audit Conclusion and Summary of Observations**

A critical valve process improvement team was established during 2020. This cross-affiliate team is working to identify opportunities to enhance safety and save costs, with a particular focus on critical valves that are repeatedly identified as inoperable.

Critical valve data is manually entered or recorded by various people distributed across multiple functions and is maintained in multiple systems that have evolved over time leading to significant data inconsistencies. Also, processes for the Columbia Distribution Companies (CDC) and Northern Indiana Public Service Company (NIPSCO) are inconsistent. We recommend that the critical valve initiative team emphasize critical valve data improvement, and particularly consider oversight and monitoring controls that will support emergency response activities and facilitate policy adherence.

Overall, we noted that critical valve processes can be improved. We identified one finding associated with critical valve processes that may impact emergency response requiring management's prompt attention (Rating 1). We also identified four findings where management's attention is necessary (Rating 2). In addition, we observed some less-significant items that were discussed with management during the course of the audit.

A summary of audit findings rated "1" through "3" follows (see the Internal Audit Findings Matrix in Appendix B):

- 1) **Critical Valve – Emergency Response** (Rating 1)  
Critical valve remediation processes across CDC and NIPSCO Gas are inconsistent and are not sufficient to ensure that information used to make decisions during emergency response is accurate, specifically that valves designated as critical are operable. In addition, critical valve data elements essential for emergency response and compliance have not been formally defined, and data existence and accuracy has not been verified. We analyzed critical valve data and identified missing or inaccurate data elements.
- 2) **Critical Valve Records Management** (Rating 2)  
Critical valve records are maintained in several information systems and paper files. Critical valve records have not been reconciled. As a result, a complete and accurate population of critical valves with associated inspection records is not available.
- 3) **Work Management System Job Order System Programming – CDC ONLY** (Rating 2)  
The work management system used by the CDCs does not prevent critical valve remediation job orders from being manually voided and monitoring controls are not sufficient to identify job orders that have been incorrectly voided. As a result, inoperable critical valves may not be timely remediated.
- 4) **Non-Compliance with Inspection Requirements** (Rating 2)  
Processes to track newly-installed valves that have been placed in service but are not yet recorded in the work management system are not formalized, resulting in some valves not being inspected within the required timeframe.
- 5) **Operator Qualification Non-Compliance – CDC ONLY** (Rating 2)  
Procedures and controls associated with maintaining and monitoring required operator qualifications can be improved to ensure that work is performed by a technician who is appropriately qualified.

### **Management's Response**

Management agrees with the findings noted as a result of this audit, and we have provided actions plans to address the risk identified. Detailed action plans are included in Appendix B. Management is undertaking immediate actions to address the highest risk finding related to ensuring critical valve remediation processes and records support emergency response. The remaining key mitigation steps will be completed by the end of 2021.

**Internal Audit Follow Up**

Management has provided action plans for all findings with a rating of “1”, “2”, or “3”. We have reviewed management’s action plans and believe that the action plans will adequately address the findings identified in this audit. We will track the progress of resolution and will conduct follow-up testing for all rated “1” audit findings and a sample of rated “2” and rated “3” audit findings.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*



**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

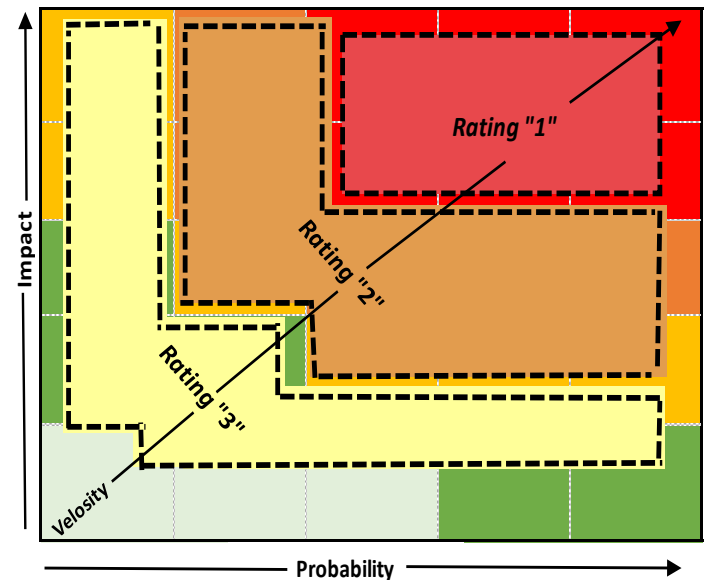
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



<p><b>1) <u>Critical Valve - Emergency Response</u></b></p>	<p><b>Rating: 1</b></p>
<p><b><u>Observation:</u></b>          Critical valve remediation processes across Columbia Distribution Companies (CDC) and Northern Indiana Public Service Company (NIPSCO) Gas are inconsistent and are not sufficient to ensure that information used to make decisions during emergency response is accurate, specifically that valves designated as critical are operable. In addition, critical valve data elements essential for emergency response and compliance have not been formally defined and data existence and accuracy has not been verified. We analyzed critical valve data and identified missing or inaccurate data elements.</p> <p>Due to the design of the CDC remediation procedures, valves designated as critical and found to be inoperable are not promptly remediated or declassified with an alternate critical valve identified. For 2020, the average number of days to remediate an inoperable critical valve totaled 36 days across the CDCs. At the time of our audit, the number of un-remediated inoperable critical valves totaled 185 across the CDCs.</p> <p>While NIPSCO Gas procedures require designation of an alternate valve within three working days of a critical valve being identified as inoperable, the procedures do not require inoperable critical valves to be declassified and remediation may not be prompt.</p> <p><b><u>Criteria:</u></b>          Controls are sufficient to ensure that critical valves are operable and that emergency response decisions are based on accurate and complete critical valve information; specifically 1) critical valve data elements essential for emergency response are formally defined and assessed for completeness and accuracy; 2) updates to critical valve data elements, including changes necessary to correct discrepancies between data elements and actual field conditions, are promptly completed; and 3) personnel responsible for emergency response have access to essential critical valve data elements to make informed decisions.</p>	<p><b><u>Management Action Plan:</u></b>          In response to the findings and observations of Internal Audit, NiSource Gas Distribution Operations will:</p> <ul style="list-style-type: none"> <li>• Immediately work to develop and implement a process to identify alternative critical valve assignments and associated records updates within three days of any critical valve being determined to be inoperable</li> <li>• Identify critical valve data elements essential for emergency response and compliance and assess existing data elements for gaps</li> <li>• Create a process to ensure essential data elements for emergency response and compliance are accurately and completely captured going forward</li> <li>• Develop quality assurance controls to ensure essential critical valve data is complete and accurate</li> <li>• Develop a process to update critical valve designation (e.g. operable or inoperable) in the Geographic Information System (GIS) when an inoperable valve is taken out of service for repair or replacement or when returned to operable status</li> </ul> <p><b><u>Responsible:</u></b>          Curtis Anstead, Vice President Gas Operations - Columbia Gas of Pennsylvania and Maryland</p> <p><b><u>Resolution Date:</u></b>          Expectations for the implementation of the actions above are as follows:</p> <ul style="list-style-type: none"> <li>• The development and implementation of a process which will identify alternative critical valve assignments and associated records updates within three days of any critical valve being determined to</li> </ul>

<p><b><u>Risk:</u></b>  Inoperable critical valves increase the probability of negative outcomes resulting from an emergency event.</p>	<p>be inoperable is expected to require 30 to 60 days for full implementation</p> <ul style="list-style-type: none"> <li>The remaining action items are expected to be complete by the end of 2021</li> </ul>
<p><b>2) <u>Critical Valves Records Management</u></b></p>	
<p><b><u>Observation:</u></b>  Critical valve records are maintained in several information systems and paper files. Critical valve records have not been reconciled. As a result, a complete and accurate population of critical valves with associated inspection records is not available.</p> <p>We analyzed critical valve records and noted that records between GIS and the work management systems is not clearly correlated and that there are significant discrepancies in the population of the mapped valve records versus the valve inspection and maintenance records.</p> <p><b><u>Criteria:</u></b>  Controls are sufficient to ensure that critical valve records are complete and accurate; specifically 1) sources of critical valve data are identified and records are reconciled and validated across the multiple sources; 2) data change management processes are formalized and sufficient to ensure data elements in different sources are appropriately correlated and consistent; and 3) updates to records are prompt and accurate.</p> <p><b><u>Risk:</u></b>  Incomplete or inaccurate critical valve records may delay identifying and locating critical valves or negatively impact the execution and evidencing of required compliance activities.</p>	<p><b><u>Management Action Plan:</u></b>  In response to the findings and observations of Internal Audit, NiSource Gas Distribution Operations will:</p> <ul style="list-style-type: none"> <li>Complete an initial reconciliation of valves utilizing the valve number recorded in GIS and the applicable work management system</li> <li>Develop a quality assurance/quality control process with the Quality Management System team to reconcile and validate data fields within critical valve manual forms, the applicable work management system and GIS, and establish a plan to identify and capture any missing information</li> <li>Develop and implement controls to ensure critical valve records are accurate and complete going forward</li> </ul> <p><b><u>Responsible:</u></b>  Curtis Anstead, Vice President Gas Operations - Columbia Gas of Pennsylvania and Maryland</p> <p><b><u>Resolution Date:</u></b>  The action items above are expected to be completed by the end of 2021.</p>
<p><b>3) <u>Work Management System Job Order System Programming – Columbia Gas Distribution Companies</u></b></p>	
<p><b><u>Observation:</u></b>  Critical valve remediation job orders are systematically created as valves are determined to be inoperable during a critical valve inspection. The work management system used by the CDCs does</p>	<p><b><u>Management Action Plan:</u></b>  In response to the findings and observations of Internal Audit, NiSource Gas Distribution Operations will:</p>

<p>not prevent critical valve remediation job orders from being manually voided. Also, the system does not prevent a job order from being voided without a reason for the void being captured and monitoring controls are not sufficient to identify critical valve remediation job orders that have been incorrectly voided.</p> <p>We analyzed manually voided critical valve remediation job orders and identified three job orders (~21% of the population) that were incorrectly voided, which resulted in inoperable critical valves not being timely remediated or identifying the appropriate alternate.</p> <p><b>Criteria:</b>  Management validates that system programming is functioning as intended and monitoring processes have been established to detect when users do not follow established processes when completing manual activities within the system.</p> <p><b>Risk:</b>  System controls established within the work management system can be manually overridden.</p>	<ul style="list-style-type: none"> <li>• Develop a COGNOS report to ensure all critical valve facilities have a Repetitive Task established</li> <li>• Develop a process to ensure valid Repetitive Tasks and Further Action Required job orders are not voided</li> <li>• Implement WMS system programming to require the following fields to be completed before a job order could be voided: name of the person voiding a job order, the date and reason for voiding</li> </ul> <p><b>Responsible:</b>  Curtis Anstead, Vice President Gas Operations - Columbia Gas of Pennsylvania and Maryland</p> <p><b>Resolution Date:</b>  All action items above are expected to be completed by the end of 2021.</p>
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<p><b>4) <u>Non-Compliance with Inspection Requirements</u></b></p>	<p><b>Rating: 2</b></p>
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<p><b>Observation:</b>  Failure to inspect critical valves within the 15 month period as required per Pipeline and Hazardous Material Safety Administration's (PHMSA) guidelines could result in inoperable conditions of critical valves not being identified, which increases the probability of negative outcomes resulting from an emergency event.</p> <p>Processes, including definition of key roles and responsibilities, to track newly installed valves that have been placed in service but are not yet recorded in the work management system are not formalized. We reviewed the inspection records for all critical valves recorded in the applicable work management system and identified eight critical valves were not inspected per requirements due to the job order closeout process being delayed for at least 15 months after the critical valves were placed in service.</p>	<p><b>Management Action Plan:</b>  In response to the findings and observations of Internal Audit, NiSource Gas Distribution Operations will formalize a valve initiation process by:</p> <ul style="list-style-type: none"> <li>• Implementing additional system programming in the applicable work management system to allow the collection of additional valve metadata which will support reporting to identify valves placed in service</li> <li>• Developing a process to identify when critical valves are installed on non-design capital job orders (valves on less than 3' lines in business districts)</li> <li>• Developing reporting/monitoring processes to ensure compliance</li> </ul>
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<p><b><u>Criteria:</u></b>  Controls to ensure compliance with PHMSA requirements are sufficient to ensure timely inspection and identification of inoperable valves; specifically 1) the inspection cycle is tracked from the date of installation or a change to a critical designation; 2) the date and results of inspection are documented and maintained to support compliance.</p> <p><b><u>Risk:</u></b>  Newly installed critical valves are not properly inspected resulting in the failure to identify that a valve is inoperable, which increases the probability of negative outcomes resulting from an emergency event. Also, potential noncompliance with regulatory requirements.</p>	<p><b><u>Responsible:</u></b>  Curtis Anstead, Vice President Gas Operations - Columbia Gas of Pennsylvania and Maryland</p> <p><b><u>Resolution Date:</u></b>  All action items above are expected to be completed by the end of 2021, with implementation of newly developed processes occurring after year end.</p>
<p><b>5) <u>Operator Qualification Non-Compliance – Columbia Gas Distribution Companies</u></b> <span style="float: right;"><b><u>Rating: 2</u></b></span></p>	
<p><b><u>Observation:</u></b>  Controls to ensure that work is performed by a technician who is properly qualified are distributed and primarily rely on each individual technician to stop work when they are not qualified. While certain operator qualification verification controls are available in some areas and related to specific activities, these controls can be bypassed and are not available in all areas and for all activities. In addition, monitoring controls are not sufficient to timely identify instances where work was performed by a technician that was not properly qualified.</p> <p>We evaluated the operator qualifications of personnel performing the annual critical valve inspection in 2020 as well as any subsequent remediation work and identified 159 instances (associated with nine employees performing work in Ohio, Virginia, and Kentucky) where this work was performed by a technician that was not properly qualified.</p> <p><b><u>Criteria:</u></b>  Controls are sufficient to ensure that work is only performed by a technician that is properly qualified; specifically: 1) work tasks performed are clearly correlated with the necessary operator qualifications; 2) technicians formally validate proper qualification</p>	<p><b><u>Management Action Plan:</u></b>  In response to the findings and observations of Internal Audit, NiSource Gas Distribution Operations will:</p> <ul style="list-style-type: none"> <li>• Assign a qualified employee to re-perform the inspections or job orders completed by non-qualified employees in 2020</li> <li>• Utilize the Quality Management System Gas Operations team to conduct in-field assessments during 2021 to ensure field personnel are adhering to the daily acknowledgement process, Quick Response (QR) OQ card process and operator qualification requirements</li> </ul> <p><b><u>Responsible:</u></b>  Curtis Anstead, Vice President Gas Operations - Columbia Gas of Pennsylvania and Maryland</p> <p><b><u>Resolution Date:</u></b>  All action items above are expected to be completed by the end of 2021.</p>

prior to performing tasks; 3) Operations supervisors monitor that operator qualifications are kept current and timely address delinquencies; and 4) a formal process is structured to monitor for tasks completed by technicians that were not properly qualified to perform the task.

**Risk:**

Inspections and remediation work performed by unqualified personnel can increase the probability of operational errors and safety incidents and re-performance of work is inefficient and costly.

\*\*\*\*\* End of Report\*\*\*\*\*

# NiSource Inc.

## Gas Meter Shop General Controls

### Internal Audit Report

#### **Distribution**

##### **Respondents**

Eric Belle                      Karima Hasan Bey                      Richard Burke

##### **Beneficiaries**

Brentley Archer                      Kimra Cole                      Daniel Douglas  
Michael Hooper                      Mark Kempic                      William Mojica  
   Vincent Parisi

##### **Other Key Personnel**

Curtis Anstead                      Carla Donev                      Paul Hunter  
Kevin Johannsen                      Mahesh Nagarkatti                      David Roy  
   Steven Sylvester

##### **For Information**

Shawn Anderson  
Donald Brown  
Anne-Marie D'Angelo  
Joseph Hamrock  
Charles Shafer  
Violet Sistovaris  
Pablo Vegas

## **Internal Audit Report**

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### **Background**

NiSource Inc. (NiSource or the Company) has six affiliated gas distribution companies that operate and maintain over three million metered locations distributed across six states. The NiSource Gas Distribution Meter Shop is responsible for procuring, storing, quality control testing and refurbishing various sizes and kinds of meters (e.g. diaphragm, rotary, turbine) on behalf of the six gas distribution companies. During 2020, approximately 70,000 additional meters were placed into service, utilizing both new meters purchased and meters refurbished by the Meter Shop Department. The Meter Shop team is also responsible for sample testing in-service meters to proactively identify issues with meter populations and align with certain state regulatory requirements.

The Meter Shop team operates two locations: one in Columbus, Ohio, which serves all five of the Columbia Distribution Companies, and one in Gary, Indiana, which serves Northern Indiana Public Service Company (NIPSCO) Gas. In April 2020, the Meter Shop obtained International Standards Order 9001 certification, which is awarded based on the Company's ability to provide products and services that meet customer and regulatory requirements and demonstrate continuous improvement. The Meter Shop is subject to periodic surveillance audits and a full re-certification review every three years.

### **Audit Objective, Approach, and Coverage**

This internal audit was conducted to provide an independent evaluation of the adequacy, effectiveness and efficiency of the controls associated with Meter Shop operations. At the beginning of our audit, we completed a risk assessment, and we conducted detailed process assessments, data analytics and sample-based transactional testing in higher-risk areas. The review period for this audit was January 1, 2020 – June 30, 2021.

During the audit, we specifically evaluated:

- Adherence to Meter Shop policies and procedures, with a particular focus on meter procurement, quality control testing, and sampling
- Alignment of sampling program execution with state-specific regulatory requirements
- Execution of Meter Shop safety standards, with a particular focus on those impacting employee health and safety
- Alignment with International Standards Order (ISO) 9001 requirements
- Associated inventory tracking and accounting processes

We did not evaluate the testing processes for rotary and turbine meters as they are executed by the System Operations Departments of the individual gas distribution companies and not by the Meter Shop. These processes will be subject to testing within the general process controls audits specific to each gas distribution company.

### **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

“1” – Significant Improvement is Needed and Prompt Management Attention is Required

“2” – Improvement is Needed and Management Attention is Necessary

“3” – Some Improvement is Needed and Management Attention is Justified

“4” – Management Evaluation is Desirable



### **Internal Audit Conclusion and Summary of Observations**

During the course of our review, we found that processes and procedures are in place to ensure safe and organized working conditions for the Meter Shop employees. We further noted that the recent enhancements to policies and procedures outlining key Meter Shop processes enriches the safety culture, promotes consistency and facilitates alignment with ISO 9001 requirements. Finally, execution of procurement and quality control activities is sufficient to ensure an adequate supply of meters for the gas distribution companies and meter inventory appears to be properly recorded and tracked within the applicable systems of record.

We did, however, identify three findings related to sampling programs and Company Gas Standards where management's attention is justified (Rating 3). In addition, we observed some less-significant items that were discussed with management during the course of the audit.

A summary of audit findings rated "1" through "3" follows (see the Internal Audit Findings Matrix in Appendix B):

- 1) **Sampling Program Requirements – Columbia Gas of Pennsylvania** (Rating 3)  
Columbia Gas of Pennsylvania has not established adequate monitoring processes to ensure compliance with state mandated meter sampling requirements, specifically ensuring sample sizes are adequate and required follow up actions for identified failures in meter families are performed.
- 2) **Sampling Program Requirements – Columbia Gas of Maryland** (Rating 3)  
The total meter population submitted to the Maryland Public Service Commission (PSC) in the meter sampling program filings since the mid-2000s has included the meter population from Columbia Gas of Virginia in addition to the Columbia Gas of Maryland population. While Columbia Gas of Maryland Regulatory personnel believe this to be the preferred and approved practice, the Company did not maintain formal guidance from the Maryland PSC. As a result, we were unable to validate that the Columbia Gas of Maryland meter sampling methodology is in compliance with Maryland PSC requirements.
- 3) **Periodic Review of Gas Standards** (Rating 3)  
NiSource Gas Standards are not formally reviewed on a periodic basis. As a result, existing NiSource Gas Standards covering various processes related to meters (e.g. installation, operation, maintenance, records and accounting) have not been recently reviewed or updated and reference outdated or non-applicable operational processes, creating the potential for confusion and inconsistency in execution of procedures.

### **Management's Response**

Management agrees with the findings noted as a result of this audit, and we have provided actions plans to address the risk identified. Detailed action plans are included in Appendix B. The key mitigation steps will be completed by July of 2022.

### **Internal Audit Follow Up**

Management has provided action plans for all findings with a rating of "1", "2", or "3". We have reviewed management's action plans and believe that the action plans will adequately address the findings identified in this audit. We will track the progress of resolution and will conduct follow-up testing for all rated "1" audit findings and a sample of rated "2" and rated "3" audit findings.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*

**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

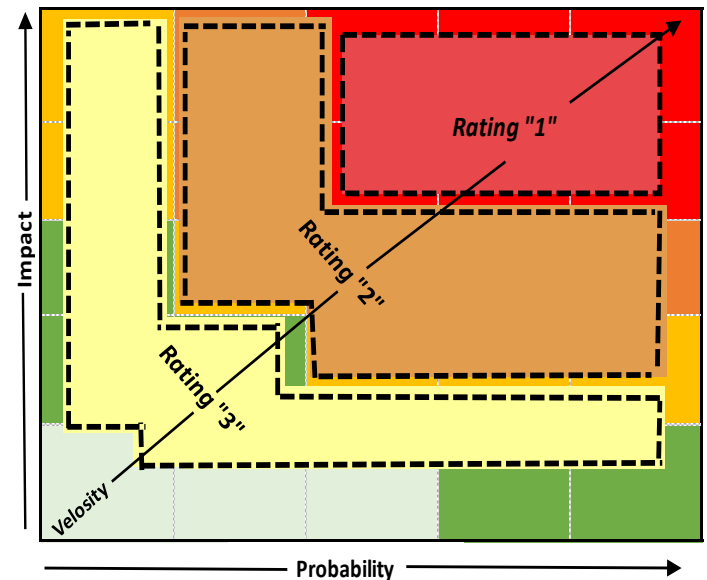
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



**1) Sampling Program Requirements – Columbia Gas of Pennsylvania**

**Rating: 3**

**Observation:**

Monitoring processes to ensure Columbia Gas of Pennsylvania complies with state mandated meter sampling requirements are not sufficient. We specifically noted:

- A subgroup (based on manufacturer) of Class A meters had an error rate in 2020 above the acceptable threshold established in Pennsylvania state code and a corrective action plan has not been established to ensure the meter subgroup will be pulled from the field within the timeframe required
- The number of meters sampled during 2020 for Class B and C meters was insufficient and did not align with the prescribed sampling methodology; while results of the sampling program were provided to the Pennsylvania Public Utility Commission, a formal waiver was not filed

**Criteria:**

Controls are sufficient to ensure that sampling program requirements are fulfilled; specifically 1) sample sizes are calculated in accordance with prescribed sampling methodologies; 2) sample testing is properly conducted and recorded; and 3) results of the sample testing are reviewed and corrective actions are taken when necessary.

**Risk:**

Improperly executed meter sampling programs may result in noncompliance with regulatory requirements and the inability to proactively address defective or faulty meters, which could impact the Company's ability to accurately bill customers.

**Management Action Plan:**

Meter Operations in collaboration with the Pennsylvania Compliance and Operations has established a formal process to address the reporting, communication and execution of the meter sampling program. The five step process is outlined as follows:

- The Meter Shop Operations Manager will provide a monthly report to the Pennsylvania Compliance Manager, Planners and the Vice President of Pennsylvania Operations outlining the meter sampling detail that shall be executed by field operations
- The Vice President of Pennsylvania Operations will provide direction to field leaders and planning leaders to ensure the work is assigned and executed in a timely fashion
- The Vice President of Pennsylvania Operations will ensure the meters are returned to the Columbus Meter shop in a timely manner to meet sampling requirements
- The Pennsylvania Compliance Manager is responsible for the oversight of the meter sampling program in which monthly check points and documentation will be kept to ensure compliance
- Any and all reporting required of the Commission shall be reviewed by the Pennsylvania Compliance Manager and the Vice President of Pennsylvania Operations prior to submission to ensure alignment of the process and all parties are informed

The aforementioned process steps will mitigate risk to execute the meter sampling program. The Vice President of Pennsylvania Operations has approved this process.

	<p><b><u>Responsible:</u></b>          Richard Burke, Columbia Gas of Pennsylvania and Columbia Gas of Maryland Operations Compliance Manager          Karima Hasan Bey, Fleet Warehouse &amp; Meter Shop Director</p> <p><b><u>Resolution Date:</u></b>          The process will be implemented in October of 2021.</p>
<p><b>2) <u>Sampling Program Requirements - Columbia Gas of Maryland</u></b> <span style="float: right;"><b><u>Rating: 3</u></b></span></p>	
<p><b><u>Observation:</u></b>          The total meter population submitted to the Maryland Public Service Commission (PSC) in the meter sampling program filings since the mid-2000s has included the meter population from Columbia Gas of Virginia in addition to the Columbia Gas of Maryland population. While Columbia Gas of Maryland Regulatory personnel believe this to be the preferred and approved practice, the Company did not maintain formal guidance from the Maryland PSC. As a result, we were unable to validate that the Columbia Gas of Maryland meter sampling methodology is in compliance with Maryland PSC requirements.</p> <p><b><u>Criteria:</u></b>          Compliance requirements are clearly defined and supported within applicable regulations or formal Commission guidance and waivers. The Company maintains support to demonstrate compliance with regulatory requirements.</p> <p><b><u>Risk:</u></b>          Inaccurate filings with regulatory agencies may result in noncompliance with regulatory requirements and a negative impact to the Company's reputation.</p>	<p><b><u>Management Action Plan:</u></b>          A letter will be sent to the Public Service Commission of Maryland asking for confirmation of the appropriate method to calculate meter populations for the State of Maryland's Meter Sampling Program.</p> <p><b><u>Responsible:</u></b>          Richard Burke, Columbia Gas of Pennsylvania and Columbia Gas of Maryland Operations Compliance Manager          Karima Hasan Bey, Fleet Warehouse &amp; Meter Shop Director</p> <p><b><u>Resolution Date:</u></b>          The letter will be sent by November 30, 2021 asking for a reply by December 31, 2021.</p>
<p><b>3) <u>Periodic Review of Gas Standards</u></b> <span style="float: right;"><b><u>Rating: 3</u></b></span></p>	
<p><b><u>Observation:</u></b>          All NiSource Gas Standards are not formally reviewed on a periodic basis. As a result, existing NiSource Gas Standards covering</p>	<p><b><u>Management Action Plan:</u></b>          The Gas Standards Department processes requests for changes to standards with a SharePoint application called the Standards Evaluation</p>

<p>various processes related to meters (e.g. installation, operation, maintenance, records and accounting) have not been recently reviewed or updated and reference outdated or non-applicable operational processes, creating the potential for confusion and inconsistency in execution of procedures.</p> <p><b><u>Criteria:</u></b>        Company Gas Standards accurately define roles and responsibilities, outline required and current processes and procedures and identify the necessary records to be created and retained.</p> <p><b><u>Risk:</u></b>        Meter Shop operational procedures may not be executed correctly and consistently if Gas Standards are outdated.</p>	<p>and Approval System (SEAS). In the revision process, Gas Standards are reviewed by the applicable Subject Matter Representatives (SMR) Team(s), including Subject Matter Experts if needed, and assigned Gas Standards Staff Members.</p> <p>A review of the gas standards related to the Meter Shop and meters have identified 30 standards that have dates greater than five years old.</p> <p>These standards will be added to SEAS, assigned to a Standards Team Member(s) and reviewed by SMRs to determine applicability for today's operating expectations with the goal of revising, reaffirming, or cancelling the standard.</p> <p>Additionally, prior to this audit, the periodic maintenance of standards was identified and discussed as part of the Lloyd's Registry process to seek certification of API 1173 <i>Pipeline Safety Management Systems</i>. Gas Standards Management is currently developing a formal procedure titled "Periodic Maintenance of Gas Standards" which will address Internal Audit's observations and support certification of API 1173 Pipeline Safety Management Systems.</p> <p><b><u>Responsible:</u></b>        Eric Belle, VP Engineering &amp; Gas Standards</p> <p><b><u>Resolution Date:</u></b>        As part of the "Periodic Maintenance of Gas Standards" procedure, the 30 standards related to the Meter Shop and meters are planned to be evaluated for revision, reaffirmation, or cancellation by July 31, 2022.</p>
<p><b>4) <u>Access Validation Reviews - Maximo Application</u></b> <span style="float: right;"><b><u>Rating: 4</u></b></span></p>	
<p><b><u>Observation:</u></b>        The NIPSCO Gas meter inventory information is maintained in the Maximo application. Prior to the time of the audit, Maximo user access was not periodically reviewed; and we identified three instances where access to the meter inventory information was not properly removed when employees left NiSource or transferred roles. The incorrect access identified was corrected during the course of the audit.</p>	<p><b><u>Management Action Plan:</u></b>        A management response is not requested. Subsequent to our testing, the Maximo application was on-boarded into the SailPoint IdentityIQ access management application, which will result in automatic removal of access when employees leave NiSource or will initiate an access review/confirmation process when an employee changes roles or organizational structure within the Company. However, Internal Audit recommends that Management ensure that access to higher-risk functions</p>

<p><b>Criteria:</b>          Periodic access reviews are conducted by employees' direct supervisors as well as by the business data owner to ensure users with access to perform changes in the application are valid and authorized.</p> <p><b>Risk:</b>          Potential for inappropriate access to applications and data to result in unauthorized changes to business data.</p>	<p>and data is periodically reviewed by business data owners to ensure access has been properly maintained and is appropriate.</p>
<p><b>5) <u>Enhancement of Gas Meter Shop Department Policy and Procedures</u></b></p>	
<p><b>Observation:</b>          Some documentation related to key Meter Shop processes or activities is not sufficient to ensure execution consistency and enable effective knowledge transfer in the event of change; specifically:</p> <ul style="list-style-type: none"> <li>• Documentation evidencing how the COGNOS system generated report utilized by the Meter Shop to determine the results of the NIPSCO Gas meter sampling program aligns with the Indiana Administrative Code is not formalized</li> <li>• A limited number of employees currently know how to generate custom reports from the Query Management Facility (QMF) application, which are utilized to support compliance with sampling program requirements for the Columbia Gas Companies, and detailed procedures are not formalized</li> <li>• Roles and responsibilities regarding inspection and testing of rotary and turbine meters, which differ from other meter types and are not executed by the Meter Shop, are not formally documented</li> <li>• The Meter Shop policies do not clarify the differences in the quality control testing sampling methodologies utilized by NIPSCO Gas and the Columbia companies</li> </ul>	<p style="text-align: right;"><b>Rating: 4</b></p> <p><b>Management Action Plan:</b>          A management response is not requested. However, Internal Audit recommends Meter Shop management expand upon documented policies and procedures to enhance consistency and clarity and better enable knowledge transfer in the event of change.</p>

**Criteria:**

Policies and procedures clearly define roles and responsibilities, provide appropriate guidance on objectives and expected outcomes, identify acceptable exceptions to requirements, and define the necessary records to be created and retained.

**Risk:**

Existing policies and procedures may not be sufficient to support adherence to key Meter Shop processes and controls.

\*\*\*\*\* End of Report\*\*\*\*\*

**NiSource Inc.**

**NiSource Next Program Risk Management Review**

**Internal Audit Report**

**Distribution**

**Respondents**

Austin Mitchell

**Beneficiaries**

Timothy Tokish

**Other Key Personnel**

Diana Beil

Adrian McGee

**For Information**

Shawn Anderson

Donald Brown

Anne-Marie D'Angelo

Joseph Hamrock

Charles Shafer

Violet Sistovaris

Pablo Vegas

Issue Date: November 9, 2021

**Internal Audit Report**



## **Background**

In October of 2020, NiSource Inc. (NiSource or the Company) initiated an internal, multi-year enterprise transformation effort referred to as NiSource Next. The program was initiated to examine and improve aspects of the way NiSource does business, with an intent to enhance the organization's commitment to safety and heighten focus on operational rigor and continuous improvement. As of November 2021, the NiSource Next program included eight focus areas, each with key initiatives emphasizing transformational changes in multiple segments of NiSource's operating and support functions.

To effectively govern the NiSource Next program effort, NiSource has established a dedicated management structure consisting of a Transformation Steering Committee, Safety and Risk Committee and a Transformation Management Office. The Transformation Management Office, which maintains responsibility for NiSource Next program risk management activities, includes a Safety and Risk team. The Safety and Risk team facilitates risk management practices and program controls, including the following: 1) risk identification and risk mitigation action plans by focus area, 2) on-going risk mitigation status monitoring and 3) program status reporting to the Transformation and Safety and Risk Committees.

## **Audit Objective, Approach, and Coverage**

The objective of this risk-based audit was to provide an independent evaluation of the adequacy, effectiveness, and efficiency of processes and controls associated with risk management activities related to supporting the NiSource Next program. We conducted detailed process assessments and transactional testing in the highest-risk areas. The audit review period was September 2020 through August 2021.

During the audit, we specifically evaluated:

- The NiSource Next program risk management governance structure and engagement of relevant stakeholders
- Processes and key deliverables related to NiSource Next program risk management activities, including risk and mitigation identification, assessment, approval, monitoring and closure

## **Internal Audit Finding Ratings**

We assign ratings to audit findings based on the following scale (see the Internal Audit Finding Rating Scale in Appendix A):

"1" – Significant Improvement is Needed and Prompt Management Attention is Required

"2" – Improvement is Needed and Management Attention is Necessary

"3" – Some Improvement is Needed and Management Attention is Justified

"4" – Management Evaluation is Desirable

### **Internal Audit Conclusion and Summary of Observations**

During the course of our review, we noted that NiSource Next Safety and Risk processes were well-defined, structured, and thoroughly documented. We also observed that the NiSource Next Safety and Risk team effectively coordinated and communicated with NiSource Next initiative owners, risk owners and the committee members to facilitate an effective risk oversight process both prior and during initiative execution.

Overall, we found that NiSource Next program risk management processes and controls related to the areas tested (as specified in the “Audit Objective, Approach, and Coverage” section of this report) were generally operating as intended. We did, however, identify one finding where management’s attention is justified (Rating 3). In addition, we observed some less-significant improvement items that were discussed with management during the course of the audit.

A summary of audit findings rated “1” through “3” follows (see details in the Internal Audit Findings Matrix in Appendix B):

- 1) **Revised Risk Mitigation Plan Review and Approval** (Rating 3)  
Some risk mitigations determined to be “not applicable” were classified as “complete” and the sufficiency of the revised overall risk mitigation plans were not subsequently reviewed and approved by the NiSource Next Safety and Risk Committee.

### **Management’s Response**

Management will enhance the control of changes to risk assessment and risk mitigation status and enhance processes around reviewing changes in risk assessment and mitigation status. Detailed action plans are included in Appendix B. The action plans will be complete by November 30<sup>th</sup>, 2021.

### **Internal Audit Follow Up**

Management has provided action plans for all findings with a rating of “1”, “2”, or “3”. We have reviewed management’s action plan and believe that the action plan will adequately address the findings identified in this audit. We will track the progress of resolution and will conduct follow-up testing for all rated “1” audit findings and a sample of rated “2” and rated “3” audit findings.

We would like to thank all personnel involved with this assessment for their cooperation and support throughout our review. If Internal Audit can be of further assistance, please contact us.

\*\*\*\*\* End of Internal Audit Report \*\*\*\*\*

**“1” Significant Improvement is Needed and Prompt Management Attention is Required**

- More than remote probability for damage to the Company’s reputation or brand and the impact to the enterprise could be substantial and rapidly realized
- More than remote probability for a non-compliance with laws/regulations and the impact to the enterprise could be substantial and rapidly realized
- Crucial foundational controls related to high-impact processes are inadequate or ineffective and the impact to the enterprise could be substantial and rapidly realized
- Repeat audit findings and the impact could be significant within the scope of the area being audited

**“2” Improvement is Needed and Management Attention is Necessary (target to reduce risk within 3 to 6 months)**

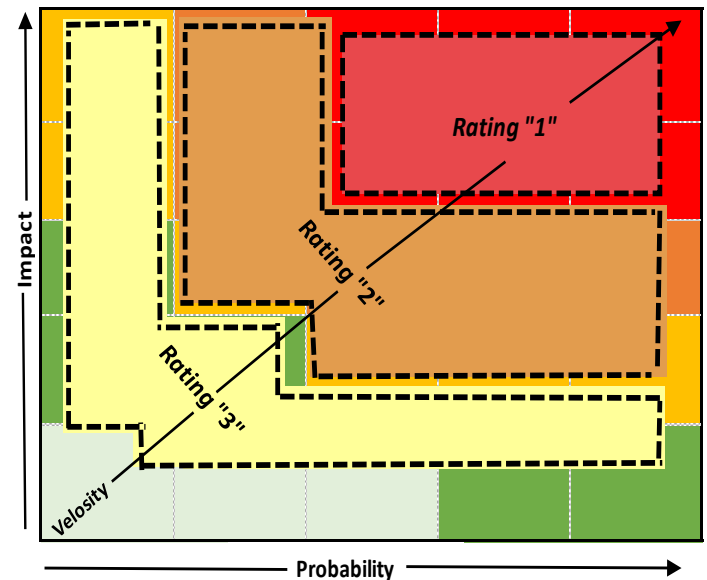
- More than remote probability for damage to the Company’s reputation or brand and the impact could be substantial within the scope of the audit
- More than remote probability for a non-compliance with laws/regulations and the impact could be substantial within the scope of the audit
- Foundational controls related are inadequate or ineffective and the impact could be substantial within the scope of the audit
- Controls are not adequate to prevent or detect fraud in a timely manner
- Transactional errors identified during audit testing are significant within the scope of the audit (based on value or number of erroneous transactions identified)
- Internal Policy is not adequate or is violated and the impact could be substantial within the scope of the audit

**“3” Some Improvement is Needed and Management Attention is Justified (target to reduce risk within 12 months)**

- Internal Policy is not adequate or is violated, but impact is limited and the overall system of controls is not significantly compromised
- Controls are not adequate to prevent erroneous transactions and errors could be more than immaterial within the scope of the audit
- Notable lost opportunity or inefficiency within the scope of the audit

**“4” – Management Evaluation is Desirable**

- Isolated exception with limited impact
- Lost opportunity or inefficiency, but impact is limited



<p><b>1) <u>Revised Risk Mitigation Plan Review and Approval</u></b></p>	<p><b><u>Risk Rating:</u> 3</b></p>
<p><b><u>Observation:</u></b>          The NiSource Next Safety and Risk team monitors the status and completion of risk mitigations actions; however, some risk mitigation items determined to be “not applicable” (and, as a result, specified mitigation actions were not implemented) were classified as “complete” and the sufficiency of the revised overall risk mitigation plans were not subsequently reviewed and approved by the NiSource Next Safety and Risk Committee. Controls related to finalizing risk classification and risk mitigation status can be improved by segregating the duties of reporting, testing and validating risk mitigation relevance and status.</p> <p><b><u>Criteria:</u></b>          Controls are sufficient to ensure that risk mitigation actions are implemented and effective; specifically: 1) proposed risk mitigation plans are reviewed by a qualified committee of subject matter experts, 2) risk mitigation actions are monitored, 3) changes to risk mitigation plans are reviewed and approved, and 4) risk mitigation disposition is independently validated.</p> <p><b><u>Risk:</u></b>          Potential that NiSource Next program risks and mitigations are not identified, reviewed and approved by the appropriate personnel with the proper subject matter knowledge required for effective risk management oversight.</p>	<p><b><u>Management Action Plan:</u></b>          Management will enhance the control of changes to risk assessment and risk mitigation status by requiring risk mitigation owner and risk mitigation validator to be separate individuals within the same chain of command. We will also require program leadership to be notified of any changes to mitigation status in situations where the risk mitigation owner is not in their chain of command.</p> <p>Existing processes around changes in risk assessment and mitigation status to be reinforced are as follows:</p> <ul style="list-style-type: none"> <li>• If assessed as high-risk, all changes must be reviewed by the NiSource Next Safety and Risk Committee</li> <li>• If assessed as <b>not</b> high-risk, the Safety and Risk Team will determine path-forward with Chair of Safety and Risk Committee and Program/Initiative Leadership as appropriate</li> </ul> <p>The Safety and Risk Team will continue to require quarterly risk assessments by initiative and program leads and risk mitigation status updates by mitigation owners and validators.</p> <p><b><u>Responsible:</u></b>          Austin Mitchell, Director Enterprise Strategy and Risk</p> <p><b><u>Resolution Date:</u></b>          By November 30<sup>th</sup>, 2021</p>

\*\*\*\*\* End of Report\*\*\*\*\*

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.