POST & SCHELL, P.C.
ATTORNEYS AT LAW

Four Penn Center
1600 John F Kennedy Blvd.
Philadelphia, PA 19103
215-587-1000 Main
215-587-1444 Main Fax
www.postschell.com

David B. MacGregor

dmacgregor@postschell.com
215-587-1197 Direct
215-320-4879 Direct Fax
File #: 2270/151134

March 29, 2013

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Pennsylvania Public Utility Commission, Bureau of Investigation and Enforcement v. UGI Utilities, Inc.
Docket No. C-2012-2308997

Dear Secretary Chiavetta:

Enclosed is the updated UGI Distribution Integrity Management Program for UGI Utilities, Inc. – Gas Division, UGI Penn Natural Gas, Inc. and UGI Central Penn Gas, Inc. This filing is being made in compliance with the Pennsylvania Public Utility Commission's Opinion and Order entered in the above-captioned matter on February 19, 2013.

The updated UGI Distribution Integrity Management Program contains "Confidential Security Information" as defined in Title 52, Chapter 102 of the Commission's regulations. Pursuant to the filing procedures in Chapter 102, enclosed for or filing are an original and three (3) copies of the **REDACTED** version of the updated UGI Distribution Integrity Management Program. In addition, enclosed is a **CONFIDENTIAL SECURITY INFORMATION** version of the updated UGI Distribution Integrity Management Program, which is being filed under seal.

Please do not hesitate to contact Kent Murphy or myself should you have any questions concerning this filing.

Respectfully submitted,

David B. MacGregor

DBM/skr
Enclosures

cc: Paul Metro (*Cover Letter only*)
Kent D. Murphy, Esquire

UGI DISTRIBUTION

INTEGRITY MANAGEMENT PROGRAM

(DIMP)

Plan Implementation: Effective August 2, 2011

Last Revised: March 28, 2013

PLAN REVIEW POLICY

REDACTED VERSION

UGI DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM

(DIMP)

Plan Implementation: Effective August 2, 2011
Last Revised: March 28, 2013

Plan Review Policy

This DIMP plan document shall be reviewed periodically, not to exceed five years, or as necessary due to program changes or changes to the governing regulations. The review will be initiated by the Systems Integration & Systems Operations group (SI&SO). As a result of the review, updates to this document will be reflected by redline(s) or equivalent and the new version of the document will be approved by the designated Signatories. If no changes are required as a result of the document review process, the Signatories will certify a periodic review has been conducted and maintain a copy as evidence in the SI&SO Management of Change (MOC) files.

Approved By:

Name — Date: 3/27/13 — Mgr. SI and SO

Name — Date: 3-27-13 — VP. Engineering & Operations Support

TABLE OF CONTENTS		
SECTION	**TITLE**	**PAGE**
1.0	**Introduction**	3
2.0	**Purpose/Objective**	4
3.0	**Scope**	6
4.0	**Responsibilities**	7
5.0	**Definitions**	8
6.0	**Knowledge of Distribution System**	10
7.0	**Threat Identification**	20
8.0	**Risk Evaluation and Ranking**	26
9.0	**Select and Implement Risk Management Actions**	34
10.0	**Measure Performance, Monitor Results and Evaluate Effectiveness**	40
11.0	**Periodic Evaluation and Improvement of the Program**	42
12.0	**Communications**	44
13.0	**Periodic Reports to Government Agencies**	45
14.0	**Recordkeeping**	46
15.0	**Reference Material**	47
	Appendices	
Appendix A; A1-A3	**Inspections Required under Title 49 Code of Federal Regulations (49 CFR) Part 192**	
Appendix B	**Table – Subject Matter Expert Asset Evaluation of Threats, Consequences and Risks**	
Appendix C	**Gas Operations Manual (GOM) Table of Contents**	
Appendix D	**Optimain Users Manual**	
Appendix E	**Optimain Configuration Manual**	
Appendix F	**Optimain Table Manager Manual**	
Appendix G	**Optimain Expanded Functionality Enhancement dated January 19, 2011**	
Appendix H	**Optimain Identified Pipeline Families and Associated Failure Probability Curves**	
Appendix I I1–I8	**Accelerated or Additional Actions**	
Appendix J	**Nine Elements of an Effective Damage Prevention Program**	
Appendix K	**Summary of Performance Metrics from DOT Annual Distribution Report (First Year of New Format – 2010)**	
Appendix L	**Acronyms**	
Appendix M	**Technical Organizations and Associations to Further Enhance Best Practices in Pipeline Integrity Management**	
Appendix N	**Subject Matter Expert Review Processes and Documents**	

1.0 INTRODUCTION

Integrity management is an integral part of an operator's mission to provide safe and reliable delivery of natural gas through its pipeline systems. Integrity management is a process of identifying, evaluating, and mitigating threats to the integrity of a pipeline system. Integrity management planning begins during the pipeline development stage, which includes consideration of route selection, material selection, and design of the pipeline system. Integrity management is an evolving process providing for the long-term integrity of a pipeline system. Integrity management considerations encompass new and existing technologies and methods, along with the changing conditions under which a pipeline operates. Whether the pipeline is main, service or other type of asset, the operator uses integrity management practices to maintain its serviceability. Mitigating actions for protecting a pipeline against factors affecting its integrity may be common to many pipelines; however, each type of operation may present unique integrity challenges to the operator.

For years the pipeline industry has been subject to safety regulations promulgated by federal and state governments. Many of the pipelines in this country including UGI's were designed, constructed, and operated under the American Society of Mechanical Engineers (ASME) B31.8 Code well before the promulgation of Federal Regulations, 49 CFR Part 192. The ASME B31.8 Code is a recognized integrity standard. It was the source document for the current 49 CFR 192. Since the adoption of 49 CFR Part 192 as the Federal Regulation in 1970, the Office of Pipeline Safety (OPS) has promulgated numerous additional requirements that deal with integrity issues (particularly in the areas of damage prevention and corrosion control.) Also used for guidance, the GPTC Guide "ANSI GPTC Z380 Guide for Gas Transmission and Distribution Piping Systems" contains accepted practices for complying with these regulations and is useful in establishing integrity management programs. Further, some states including PA and MD have requirements in addition to the Minimum Federal Safety Standards.

Operators' operating procedures incorporate these established minimum standards for pipeline safety which require additional measures in areas of higher population density, areas subject to abnormal loading, and areas of harsher operating environments. The integrity of a newly installed pipeline is ensured by using modern materials, installing the facilities properly, inspecting all new construction and confirmed through the testing requirements of the regulations and company procedures. Once in service, the regulations require monitoring to evaluate the impact that changing conditions may have on maintaining acceptable safety levels established by the regulations. Monitoring is required more frequently in areas with the highest potential consequence (e.g., more frequent leak surveys in business districts and for non-contemporary pipeline materials; more frequent checks on CP main systems of longer lengths). Threats to pipeline integrity are addressed on both a system-wide basis and a segment-by-segment basis. Segment issues are addressed by regulations that deal with specific issues such as: corrosion, natural forces, excavation damage, other outside force damage, material, weld or joint failure, equipment failure, incorrect operation, and other. Systemic issues are identified as a result of the collection and analysis of the data developed by addressing the issues identified on a segment-by-segment basis. A failure investigation on a pipeline segment may also suggest a systemic problem. When the integrity of a pipeline is adversely affected, the regulations require replacement, repair, monitoring, or lowering the operating pressure of the pipeline. Regulations require operators to monitor for conditions that may affect the integrity of the pipeline and to take remedial action whenever analysis indicates the need for corrective measures.

UGI Utilities, Inc. (UGI-Gas), UGI Penn Natural Gas, Inc. (PNG), and UGI Central Penn Gas, Inc. (CPG), collectively referred to as "UGI", distributes natural gas through approximately 12,000 miles of main, 580,000 services and 1,170 pressure zones to approximately 579,000 customers across Pennsylvania and a part of Maryland. UGI manages the integrity of its gas distribution systems through compliance with Title 49 Code of Federal Regulations (49 CFR) Part 192. As applicable, UGI's compliance with PA PUC Chapter 59 or MD PSC Title 20 Subtitle 55 further aids integrity management initiatives. Most of these compliance requirements have been in place since the inception of the federal code in 1970. See Appendix A for listing of specifically required inspections under PART 192. In addition, "GPTC GUIDE MATERIAL APPENDIX G-192-17 EXPLICIT REQUIREMENTS FOR REPORTS, INSPECTIONS, TESTS, WRITTEN PROCEDURES, RECORDS, OR SIMILAR ACTIONS" provides an expanded outline of requirements under each of the Code provisions.

This plan separates the three distinct operating companies; UGI-G, CPG, PNG to account for the unique historical attributes of each operation. The three companies are assessed independently within an individualized risk model in order to capture any unique operational concerns within each territory. Individual company risk scores are computed and any potential or additional / accelerated actions are considered at the company level. As is discussed further within the DIMP plan, Optimain DS provides a tool for more detailed analysis, comparison and ranking for most of the overall pipeline replacement program of the individual segments throughout UGI territories. Compliance with these regulatory requirements addresses many of the primary threats and consequences identified to impact the UGI pipeline asset groups. Beyond compliance with regulatory requirements, UGI has also implemented additional or accelerated actions (A/As) and initiatives through the years to further enhance the management of pipeline risks. Complementing actions under specific regulatory requirements with UGI initiated A/As, UGI believes it effectively manages associated pipeline risks. See Appendix B "Table - Subject Matter Expert Asset Evaluation of Threats, Consequences and Risks" for an overview analysis that was developed with support from Subject Matter Experts (SMEs).

The above position has generally been substantiated by two previous industry studies: 1) American Gas Foundation study titled: "Safety Performance and Integrity of the Natural Gas Distribution Infrastructure." 2) PHMSA work/study group report titled; "Integrity Management for Gas Distribution Pipelines Report of Phase 1 Investigations."

2.0 PURPOSE/OBJECTIVE

This DIMP Plan identifies and outlines the requirements and responsibilities necessary to ensure the integrity management of gas distribution pipelines owned and/or operated by UGI. The program is performed in accordance with Subpart P of 49 CFR Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards (Code).

The UGI DIMP also builds on compliance by integrating other procedures and actions necessary to address the other distribution pipeline requirements under DOT Part 192 and PUC Chapter 59 or MD PSC Title 20 Subtitle 55 code sections. Other written procedures covered in the various UGI manuals establish requirements, responsibilities and activities necessary to ensure that the integrity of gas distribution pipelines owned and/or operated by UGI is maintained and are incorporated by reference into this Integrity Management Plan. These operating manuals include:

2.1 Gas Operations Manual (GOM). See Appendix C for GOM Table of Contents. Specific relevant GOM procedures include but not limited to:

- 2.1.1 Materials (GOM 5.0)
- 2.1.2 Welding Plan (GOM 20.10)
- 2.1.3 Corrosion Control O&M Procedures (GOM 45.10.30)
- 2.1.4 Substructure Damage Prevention (GOM 60.40)
- 2.1.5 Emergency Plan (GOM 60.50)
- 2.1.6 Control Room Management (GOM 60.120)
- 2.1.7 Cast Iron Procedures (GOM 70.100.10)
- 2.1.8 Operator Qualification Plan (GOM 80.)

2.2 Other Plans and Procedures

- 2.2.1 O&M Procedures specific to each company that have not been consolidated into the GOM
- 2.2.2 Drug & Alcohol Plan
- 2.2.3 Safety & Compliance Plans & Programs
- 2.2.4 Environmental Safety Procedures
- 2.2.5 Public Awareness Plan (planned for GOM 60.60)
- 2.2.6 Security Plan (limited access)
- 2.2.7 Theft of Service Plan (within CIC portal)

UGI's objective is to operate, maintain, and manage all of its natural gas, landfill gas and propane gas distribution pipelines in a safe and responsible manner without failures or other incidents that could affect public or employee safety, that could result in property damage or that could generate service interruptions. The activities associated with this objective are herein referred to as the Program.

3.0 SCOPE

All UGI gas distribution pipelines as defined in DOT §192.3 of the Federal Code, including mains, service lines, service regulators, high pressure systems and low pressure distribution systems, are subject to UGI DIMP. This includes distribution pipelines transporting: natural gas, propane or landfill gas.

The purpose of the UGI DIMP is to enhance safety by identifying and reducing gas distribution pipeline integrity risks. By integrating reasonably available information about its pipelines, UGI is able to make informed analyses of its system risks.

The UGI DIMP is a written integrity management plan that contains procedures for developing and implementing the following elements:

- Knowledge
- Identify threats
- Evaluate and rank risks
- Identify and implement measures to address risks
- Measure performance, monitor results, and evaluate effectiveness
- Periodic Evaluation and Improvement
- Report results

UGI pipeline system facilities are identified in accordance with Section 6.0 below.

4.0 RESPONSIBILITIES

Core management personnel having DIMP responsibilities

4.1 VP Engineering and Operations Support will:

A. Provide DIMP Program sponsorship
B. Provide a link between compliance and other corporate initiatives
C. Ensure adequate budget and personnel are committed to effectively pursue activities of the Program
D. Approve the DIMP Plan

4.2 Manager System Integration – System Operations will:

A. Monitor the implementation and continuance of the Program within UGI
B. Perform oversight of the Program
C. Ensure adequate budget and personnel are committed to effectively review the Program
D. Oversee leak survey and corrosion control programs
E. Approve the DIMP Plan
E. Participate on the Gas Piping Technology Committee (GPTC) to monitor and evaluate ANSI/GPTC Z380, *Guide for Gas Transmission and Distribution Piping Systems* for changes and potential enhancements for this Program.

4.3 Manager Standards, Materials and OQ will:

A. Oversee the implementation and coordination of GOM procedures along with the training and qualifications of UGI and contractor personnel on these procedures
B
B. Approve the DIMP Plan

4.4 Director Engineering and Technical Services will:

A. Oversee the risk modeling parameters including evaluation and establishment of appropriate failure factors
B. Oversee prioritization and management of required allocations needed for identified integrity related pipeline enhancement or replacement initiatives

4.5 Manager – Training and Safety will:

A. Oversee damage prevention programs including excavation damage prevention
B. Oversee internal audits and inspections to ensure compliance with applicable procedures and practices
C. Oversee substructure damage and public awareness programs

4.6 Operations Managers will:

A. Monitor the execution of the Program work related activities for Operations, Construction and Maintenance in their regions
B. Ensure adequate allocation of resources are committed to effectively pursue the purpose and objective of the Program

4.7 Superintendent Gas Control will:

A. Oversee centralized monitoring and control of remote pressure and flow regulation via the SCADA system.

4.8 Manager Utility Facilities Data & Systems Operation will:

A. Oversee central graphics information system (GIS) along with the data associated with this system

4.9 Supervisor Pipeline Integrity Systems Integration will:

A. Monitor the implementation and continuance of the Program within UGI

B. Perform oversight of the Program

C. Schedule internal audits with personnel committed to effectively review the Program

4.10 Managers Engineering Area will:

A. Oversee the review and completion of individual projects and ensure that correct risk is being assessed to these projects so proper prioritization is maintained for related pipeline enhancement and replacement initiatives.

4.11 Manager – Safety will:

A. Oversee the development, implementation and monitoring of safety related procedures and practices associated with activities which are part of the Program

4.12 Subject Matter Experts will:

A. Be tasked with a review of all pertinent data related to the facilities and threats associated with the Plan. Using that information along with their industry experience, provide the analysis necessary for completing the "UGI DIMP Overview Model". Effective for the Spring, 2013 there will be an SME quarterly review. SME experience records will be maintained and available for review. An example of this form is provided in Appendix N.

5.0 DEFINITIONS (§ 192.1001)

*5.1 **Additional or Accelerated Actions (A/A actions)*** are activities that are performed in addition to the requirements of the Federal Regulations.

*5.2 **Excavation Damage*** means any impact that results in the need to repair or replace an underground facility due to a weakening, or the partial or complete destruction, of the facility, including, but not limited to, the protective coating, lateral support, cathodic protection or the housing for the line device or facility.

*5.3 **Hazardous Leak*** means a leak that represents an existing or probable hazard to persons or property and requires immediate repair or continuous action until the conditions are no longer hazardous. UGI identifies "Grade C" leaks as being "hazardous leaks". "Grade B" or "Grade A" leaks are leaks that are not hazardous.

*5.4 **Integrity Management Plan*** **or** ***IM Plan*** means a written explanation of the mechanisms or procedures the operator will use to implement its integrity management program and to ensure compliance with this subpart.

*5.5 **Integrity Management Program*** **or** ***IM Program*** means an overall approach by an operator to ensure the integrity of its gas distribution system.

*5.6 **Mechanical fitting*** means a mechanical device used to connect sections of pipe. The term "Mechanical fitting" applies only to:

5.5.1 Stab Type fittings;
5.5.2 Nut Follower Type fittings;
5.5.3 Bolted Type fittings; or
5.5.4 Other Compression Type fittings.

*5.7 **Subject Matter Experts (SME)*** are persons knowledgeable about design, construction, operations, maintenance, or characteristics of a pipeline system. Designation as an SME does not necessarily require specialized education or advanced qualifications. Some SMEs may possess such expertise but detailed knowledge of the pipeline system gained by working with it over time can also make someone an SME. . In some instances, an operator may want to involve subject matter experts beyond its employees. SMEs may be employees, consultants, contractors, or any suitable combination of these. (GPTC Guide, 2012 Edition) (PHMSA FAQ)

6.0 KNOWLEDGE OF DISTRIBUTION SYSTEM (§ 192.1005(a))

Data Sources

The UGI plan owners and SMEs who assess the DIMP (program) gain their understanding of the system through the evaluation of the numerous reports, inspections, tests, written procedures and records already required under 49 CFR § Parts 191 and 192 and many of which are already inherent of UGI management of the Distribution System. Currently, this data is collected and resides in numerous venues. A summary of the data collected (and available by individual companies) to the SME and DIMP owners can be found in Appendix A 1-3. As noted in these referenced tables, much of the captured information is copied or duplicated into more accessible and/or flexible databases and formats for expanded, enhanced use and analysis.

SME and DIMP owner knowledge is enhanced by conducting internal quality control and quality assurance activities as well as the evaluation of internally developed performance metrics. In addition, UGI personnel participates in benchmarking initiatives both regionally and on a national level where some of the internal and other externally developed performance metrics are compared with the metrics of other appropriate gas operators.

Newly developed data will be made available and recorded in this document and be used by the stakeholders of the plan in the future. The primary means for managing and maintaining essential pipeline information is accomplished through the use of robust GIS systems. To enhance this effort, UGI is completing the migration and consolidation of related information from the three separate gas utilities under UGI Utilities into one, integrated Smallworld GIS database. This initiative will drive improved information accuracy, consistency and access which is essential for managing the Integrity Management Programs and aid in more effective analyses As an example UGI-Gas, in the winter months of 2013, completed updating of the SW-GIS mains related to CP status to the point it was able to this source for the 2012 annual DOT report.

This information is subdivided into two general categories: the physical make up of pipeline system assets and the operating and maintenance history of those assets

As an example the below chart illustrates UGI's progress in eliminating non-contemporary pipeline assets: (Data from Annual Distribution DOT Reports)

[Confidential Information Redacted]

The below charts provide a history and general trending of leaks eliminated as reported by the primary DOT causes. It should be noted UGI has implemented new A/A actions that included more frequent leak surveys of non-contemporary services. These are now completed annually versus once every three years. This compressed leak survey frequency resulted in identifying an increased number of leaks in 2012 calendar year. Further, UGI has been proactively working to reduce current inventory of outstanding non-hazardous leaks. These activities resulted in an increased number of leaks *eliminated* during 2012.

[Confidential Information Redacted]

[Confidential Information Redacted]

Incident reports, near misses, and safety related reports are a valuable guides to risk management. Each of these type events is summarized onto a report, which allows the SME to identify and quickly evaluate experienced problems. This information shall be used when filling out the overview model (See Appendix B)

The data listed below is typical of that collected to the extent it currently exists in at least one of the company record systems (e.g., maps, paper forms, cards, electronic data bases or files, photographs) or in the knowledge and experience of operations and maintenance and/or other personnel (subject matter experts (SMEs)).

UGI provides a more comprehensive SME evaluation of mains (all companies) and currently UGI-Gas services through a sophisticated computer based risk modeling tool called Optimain. Once we fully populate the PNG and CPG service databases, these service pipelines will be risk evaluated as well through Optimain. The data includes the physical infrastructure and the historical information about the system operation and inspections as outlined below. Identified data sources for most of the below information and how it is accessed for SME review is provided Appendix A 1-3.

6.1 Physical Infrastructure (includes attributes such as: location, material composition, piping sizes, construction methods, date of installation, operating pressure, maximum operating pressure, maximum allowable operating pressure as available.)

6.1.1 Pipe material

A. Plastic

1) Polyethylene (PE)
2) Polyamide 11 (PA11)
3) Poly Vinyl Chloride (PVC)

4) Fiberglass

B. Steel
   1) Coated, cathodically protected (CPed)
   2) Coated, non-CPed
   3) Bare, CPed
   4) Bare, Non-CPed

C. Copper
D. Cast iron
E. Wrought iron
F. Other

6.1.2 Pipe specifications
A. Diameter
B. "Joint" length *[primarily for cast/ductile iron]*
C. Steel pipe specifics as appropriate
   1) Grade (not typically relevant for low hoop stress operating pressures)
   2) Wall thickness
D. Plastic pipe specifics
   1) Medium density/high density
   2) SDR
   3) Straight lengths (stick) or coil

6.1.3 Construction
A. Year installed
B. Joining Method (e.g., coupling, mechanical joint, bell and spigot, welded, threaded, fused, electro-fusion, adhesive)
C. Installation method (e.g., open trench, inserts, boring, directional drilling, pad by others, common trench, etc.)
D. Location (e.g., in street, behind curb, in private r/w)
E. Cover
   a. Depth (original, current, restored)
   b. Type (e.g. backfill, pavement, grass/dirt, gravel/slag, aboveground)
F. Company/contractor completing installation
G. Casings
H. Crossings (e.g. highway, bridge, underwater)
I. Expansion loops (thermal effects)
J. Pipe support systems

6.1.4 Corrosion control
A. Below ground coating type – mill and field applied (e.g. coal tar, PE, fusion bonded epoxy, wax, cold or hot applied tapes, etc.)
B. Cathodic protection (e.g., galvanic anode, impressed current;)
C. Electrical isolation (e.g., type, location)
D. Stray current areas (e.g., interference, bonds, reverse current switch)
E. Rock shield
F. Above ground coating type

6.1.5 Valves
A. Size
B. Type (e.g., ball, gate, plug)
C. Location

D. Usage (e.g., emergency, station shutoff, bypass, convenience)
E. Manufacturer
F. Material of construction (e.g., same as pipe?)
G. End connections
H. Pressure rating (e.g., ANSI or WOG class)

6.1.6 System pressure regulation
A. Regulator specification
B. Location
C. Design and typical inlet and outlet pressures
D. Regulator capacity
E. Operation (e.g., pilot, spring, weight)
F. Manufacturer
G. Means of overpressure protection (e.g., relief valve, monitor, slam shut, combinations)
H. Relief valve capacity and build-up as required.

6.1.7 Other
A. Specialized components (e.g., EFVs, insulating joint or union, anodeless riser, expansion or other flexible joint)
B. Field Fabricated fittings (e.g., reducing coupling, service entry jacket, leak repair device)
C. "Priority facilities" under physical facilities security program

6.2 Historical Information (includes such attributes as system / segment /component history, operating experience/ performance data, condition of system)

6.2.1 Results of inspections and surveys
A. Leak surveys
B. Corrosion inspections
C. Valve inspections
D. District regulator inspections
E. Patrols
F. Special field surveys or patrols (e.g., post-flooding patrols or winter/frost leak surveys
G. Liquids removal

6.2.2 Documentation of leaks and other maintenance performed
A. Leak grade ("C" hazardous; "B"; and "A")
B. Repair type
C. Exposed metallic pipe inspections
D. Corrosion control systems
E. Equipment or component replacements
F. Material or equipment failure reports
G. Number of leaks eliminated/repaired by cause of leak category (Part C of the Annual DOT Report)
H. Incident reports

6.2.3 Locate/Excavation activity.
A. Damage records (e.g., Operator, one-call center)
B. Responsible parties

C. The number of underground locate requests received
D. Proposed or completed significant construction activities

6.2.4 Geologic/environmental conditions

A. E. Surface type at grade over pipeline
B. Proximity to varying building types and density
C. Earthquake zone
D. Known washout areas
E. Flood zones
F. Minimum and maximum temperatures
G. Soil types
H. Land subsidence areas

6.2.5 Operating pressure

A. Maximum actual/allowable operating pressure
B. Minimum operating pressure experienced (e.g., peak day)
C. Normal operating pressure
D. Fluctuations (e.g., seasonal, random)
E. Uprating performed in the past.

6.2.6 General Industry Information

In addition to company specific information, UGI monitors the activities of PHMSA, the American Gas Association, Plastic Pipe Data Committee, Gas Piping Technology Committee and industry publications to ensure that information related to failures experienced by other operators is known to UGI. Such information is used to compare information about other operators to that of UGI and to offer an additional source of information about failure data and materials and operating problems throughout the gas industry.

6.3 Information evaluation

6.3.1 UGI is cognizant of the effective role regulatory requirements and inspections provide. Thus UGI has initially implemented a two tier approach for evaluating the integrity risks involved with distribution pipeline asset groups: (1) a higher level overview evaluation by asset group with input from SMEs and (2) a more rigorous and focused evaluation using the Opvantek Optimain Model.

6.3.2 UGI initiated an overview pipeline integrity risk evaluation for the three companies (UGI-Gas, CPG, PNG) to capture SME knowledge of aboveground pipeline assets and rank the overall risk exposure (See Appendix B). This is due to the more comprehensive type and frequency of the inspections involved with these assets. Above ground pipelines can be visually inspected and also leak surveyed. This affords the ability to monitor and evaluate identified time dependent threats more effectively to determine that the condition and integrity of the pipeline asset is sufficient until the next scheduled inspection.

Inspection means for buried pipeline assets generally involve leakage surveys with some direct examination. While CP pipelines are also electrically tested on a periodic basis, the general inspection means common to buried pipelines is leakage surveys. Conducting "electrical surveys" as defined by Federal Code

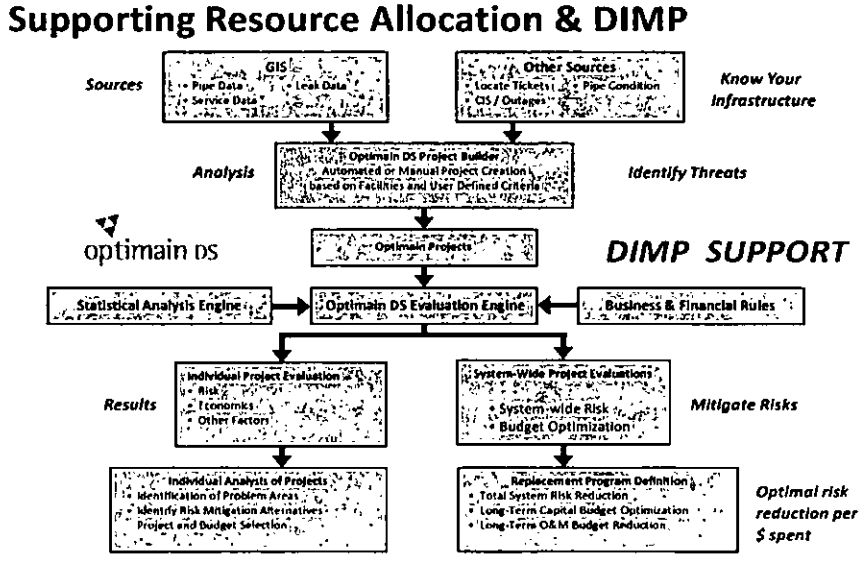
over the full length of all metallic buried distribution pipelines on a periodic basis is not practical as recognized by PHMSA. Thus with added considerations under the Federal Code, UGI completes leak surveys to meet or exceed involved regulatory requirements. UGI practices include leakage surveys performed much more frequently than the minimum federal safety standards on pipeline segments of higher risk, such as cast iron and bare steel pipelines. UGI realizes there could be increased risk with buried assets, thus a more rigorous, programmatic evaluation of involved threats and associated risks is conducted using the Optimain application.

6.3.3 Opvantek Optimain Model for Piping and fittings

A. UGI currently gathers data from various data sources to populate the Opvantek Optimain Risk Modeling application. Relevant information noted in Sections 6.1 and 6.2 above is utilized for the evaluation of failure probabilities and relative consequences of a failure. This information includes all failure records in the database associated with active main pipeline segments and failures associated with services regardless of active or abandoned status. Included are all failures associated with seven of the eight threats: corrosion, natural forces, other outside force damage, material, weld or joint failures, equipment malfunction, incorrect operation, and other.

At this time UGI is in the process of implementing an excavation damage threat and risk evaluation component to the Optimain modeling. Data from the substructure damage database is extracted associated with specific service and main pipelines for Optiman analysis.

Below is a process flow chart relevant to the Optimain pipeline risk modeling:



B. Failures which are more specifically driven by human actions and interactions, such as the threat of excavation damage, are additionally

addressed through the UGI Substructure Damage Prevention Program (See GOM 60.40). As noted in A. above UGI maintains a comprehensive database on excavation damage as managed by the Training and Safety group. Personnel conduct relevant analyses of captured information looking for trends and potential follow-up A/A as appropriate. As an example, repeat offenders have been identified affording UGI the ability to schedule face-to-face meeting to discuss finding and root cause and follow up action.

An example of rolling statistics maintained on the INSIDE UGI web portal for all to view for review and metrics is provided below:

[Confidential Information Redacted]

6.3.4 Analysis

A. Main Pipeline Segments (Optimain Projects)

An Optimain Project is defined as one or more main or service pipes plus all associated O&M data, surrounding facility and location information. When integrated with a GIS, surround spatial boundaries in the GIS are used to collect available surrounding data and to display a project outline.

In both relational and GIS environments, an Optimain Project should be considered an "envelope" used to collect information which includes main and service pipe attributes; maintenance and pipe condition reports; plus, location-based information such as, buildings, streets, cover type, etc., so that a risk and economic evaluation can be performed. An Optimain Project is strictly an evaluation, which enables system-wide assessment and relative risk comparison and ranking to be performed. Only when and if a user designates an Optimain DS Project (based on calculated scores or other deciding factors) for planned rehabilitation or replacement does it become a traditional project that requires funding, etc.

Once built, Optimain DS Projects can be electronically refreshed, resolved, recalculated and updated to reflect any new information impacting project evaluation outputs or scores. Optimain DS Projects can be built for every main pipe in an existing system. At this time a number of LDCs only focus on pipes of specific materials.

UGI develops failure curves (likelihood of failures) for identified pipeline groups based on available information that is properly associated with active pipeline segments whenever possible. This concept promotes enhanced pipeline integrity and positive trending of the failure curves.

Generally UGI active main pipeline segments have sufficient information to conduct effective statistical analyses. Where there is insufficient data for an adequate statistical sampling, data from abandoned pipelines of the same family will be utilized in the risk analysis.

B. Service Pipelines Segments

There is minimal failure information associated with active service pipelines. This results from the UGI proactive practice of typically replacing service pipelines when failures are identified. Thus effective statistical analyses cannot be done with just the failures on active services alone. Therefore UGI includes relevant failure data on abandoned services to gain sufficient sampling for failure curve analyses.

6.3.5 Developing Additional Information

When new data is acquired by UGI, analysis and threat assessment may indicate that additional infrastructure information may be useful or necessary, UGI will determine at that time the specific data needed. Such determination may be triggered by:

A. The desire to perform a more focused threat and risk analysis,
B. An indication that a different grouping of segments would provide better understanding of risk, or
C. Indications that more information is required to evaluate future potential threats or
D. Other currently unforeseen factors.

Except in unusual cases, the identified additional information is gathered through normal operating and maintenance activities. In order to accomplish this, one or more of the following steps will be implemented:

A. Forms or other methods used to collect information related to the physical attributes and/or operating and maintenance activities of distribution pipeline facilities are appropriately modified.

B. Personnel are trained to properly collect and record the expanded information and use the modified forms or data collection format.

C. Recordkeeping procedures and/or data management systems are updated to accept new data points.

D. Newly collected information is integrated with all other records.

6.4 Newly Installed Piping

Physical, operating and maintenance information necessary for performing the analysis under Section 6.3.4 is collected for all installed distribution pipelines under the Program. At a minimum it includes:

A. The location where the pipe and appurtenances are installed (via GIS, service records, meter set records and/or as builts (e.g., street location, distance from a cross street or landmark, at a unique addresses, etc.)).
B. The material of pipeline component(s) involved

Newly installed pipe shall consist of coated, cathodically protected steel or modern plastic pipe. The installations shall be monitored to ensure the installation is proper and in accordance with company standards. These facilities, when installed properly, should represent facilities with extremely low risk, except with respect to excavation damage which is addressed through the UGI Substructure Damage prevention program.

6.5 Information Availability

As noted above under 6.0 information for UGI operations is collected in a variety of ways. The aquisition and consolidation of several formerly independent operations provides a challenge for the necessary data integrity and data consistency required for the rigorous analysis necessary for the DIMP. This has been identified as an issue to be addressed within the DIMP process. Melding of all data into a common depository for all the divisions is an ultimate corporate goal. For now, the SME has to be aware of these various paths taken for information collection, tracking and storage. "Pipeline Evaluation Data Management" report (Appendix A 1-3) provides tables describing the various paths information collection and storage takes. The SME can refer to this listing to help identify where data and associated reports and completed analyses, necessary for proper evaluation, resides.

7.0 THREAT IDENTIFICATION (§ 192.1005(b))

After evaluating relevant information including that described in Section 6.0 above, UGI determines for each asset group which of the following threats could likely affect the current or future integrity of that group:

1) Corrosion – resulting from a hole in the pipe or other component that was caused by galvanic, bacterial, chemical, stray current, or other corrosive action.
2) Natural Forces – resulting from earth movements, earthquakes, landslides, subsidence, lightning, heavy rains/floods, washouts, flotation, mudslide, scouring, temperature, frost heave, frozen components, high winds, or similar natural causes.
3) Excavation Damage – resulting from damage caused by earth moving or other equipment, tools, or vehicles. Include leaks from damage by operator's personnel or contractor or people not associated with the operator.
4) Other Outside Force Damage – caused by fire or explosion and deliberate or willful acts, such as vandalism and due to vehicle damage.
5) Material, Weld or Joint Failure – resulting from failure of original sound material from force applied during construction that caused a dent, gouge, excessive stress, or other defect that eventually resulted in a leak. This includes those due to faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site, resulting from a defect in the pipe material, component, or the longitudinal weld or seam due to faulty manufacturing procedures.
6) Equipment Failure – resulting from malfunction of control/relief equipment including valves, regulators, or other instrumentation; stripped threads or broken pipe couplings on nipples, valves, or mechanical couplings; or seal failures on gaskets, O-rings, seal/pump packing, or similar leaks.
7) Incorrect Operation – resulting from inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error.
8) Other – resulting from any other cause, such as exceeding the service life, not attributable to the above causes.

If multiple threats are possible, all will be identified. If data used for threat identification and categorization are insufficient or suspect, each threat covered by the missing or insufficient data is assumed to apply to the entire group being evaluated until the process described in Section 6.3.4 produces information sufficient to conclude otherwise. If needed data is missing, SME input may be acquired to aid in establishing an appropriate characterization of the involved risk. Alternatively, a higher priority may be assigned to the group. One or more threats are identified if there is reasonable evidence in the data to indicate it is possible. Threats determined through the above analysis are indicative of the likelihood of occurrence in the risk equation. The degree of the threat to each group will be addressed in the risk assessment.

7.1 THREATS

7.1.1 Corrosion

All metallic pipe and components are subject to the threat of external corrosion. Proper coatings and cathodic protection, monitored and found acceptable in accordance with existing 49 CFR Part 192 Subpart I should mitigate this threat.

In the early 1900's, UGI and other gas distribution companies were installing bare steel pipe for gas lines. Early vintage bare steel and wrought iron pipe may have screwed or mechanical joints. By the end of WWII, the use of bare steel generally ceased in preference for coated steel mains and services. These pipelines are subject to corrosion and need to be analyzed to properly evaluate the risk they represent.

Corrosion analysis of Mains

[Confidential Information Redacted]

[Confidential Information Redacted]

[Confidential Information Redacted]

(Note: While PNG currently has less data available at this time for Optimain analysis, it should be recognized that the PNG leak experience trending is very

similar to UGI and CPG.)

The threat of internal corrosion is identified only where there exists an expectation of liquid water in conjunction with other potentially corrosive constituents in the gas stream being present in the facility or when an internal pipe inspection has shown corrosion to be present on the inside surface of the facility. UGI has no record of transporting corrosive gas in its distribution system and has no recorded failures associated with this threat. While minimal, UGI realizes there is water infiltration into low pressure pipeline systems on limited occasions or situations. UGI has tools including in-line cameras used to identify these locations and remediate accordingly. One primary A/A action to eliminate such occurrences is to replace appropriate pipeline segments and increase the operating pressure.

Atmospheric corrosion is a subset of external corrosion that will occur only on pipe and components that are not buried. Because exposed pipelines (e.g., gate or district regulator stations, customer meter sets, above grade pipeline crossings) are visually inspected on a periodic basis as required by Part 192, the impact of this threat and probability of failure before the next inspection is minimized.

Assessment of the threat for atmospheric corrosion can be found through related inspection reports as provided in the tables, Appendix A 1-3. It is UGI procedure to remediate any condition that is determined to have an integrity issue unacceptable until the next inspection.

7.1.2 Natural Forces

While UGI facilities experience a range of atmospheric temperatures, this range is within the design limits of the pipeline materials of construction. Variations in temperature on buried facilities are generally far less than on above grade facilities.

Facilities in areas of known or reasonably anticipated land subsidence, landslides, earth tremors, significant lightning activity, sinkholes or washouts will be susceptible to a natural forces threat. Facilities in areas prone to occasional or periodic flooding may also suffer the natural forces threat.

The most significant natural forces threat is frost penetration. Depending on severity, this specific threat does impact the integrity of buried cast iron piping.

Cast Iron was the material of preference for natural gas mains throughout the 19th and early 20th centuries in North America. Many early cast iron networks were used to distribute manufactured gas, and later, natural gas from sources of underground production. UGI's inventory of pipe includes a large amount of cast iron gas mains operating at low pressure. Cast iron segments may be subject to leakage and failure associated leaks through bell and spigot joints or corrosion areas on the external pipe wall. One form of corrosion is "graphitization".

Cast iron pipes can experience graphitization, a corrosion process by which much of the iron is removed from the metal, leaving behind a matrix of graphite and iron oxide. The resulting structure may be soft and permeable. This may allow gas to leak through the pipe wall. This also may result in the main being weaker and susceptible to breakage and fracture by loads caused by settlement of the soil, traffic loads, earthquakes, nearby construction activity, and soil loads associated

with frost heave. Shallow depth of cover may be a significant risk factor for frost heaving.

Water from leaking storm, water, and sewage lines may undermine the soil supporting cast iron gas mains and result in a main break.

UGI procedure for Cast Iron Pipelines (GOM 70.100.10) specifically requires replacement of cast iron mains when subjected to nearby construction by UGI or others.

Cast iron gas mains are often located in older, more densely populated urban environments with wall-to-wall paving. This can result in a gas leak being much more likely to migrate to a building and have a more significant safety impact than more suburban/residential environments.

Additionally, see tables in Appendix N for the SME (metrics) review of natural forces damage data.

7.1.3 Excavation Damage

All buried pipeline facilities in UGI's distribution system face the threat of being damaged by excavation activities. The probability of incurring excavation damage is not a time dependent variable and thus is not considered in the development of time dependent pipeline failure trending within the Optimain risk modeling application.

UGI addresses this threat through the substructure damage prevention program. The general drivers of this threat are excavators not requesting locates, mark outs being ignored or not being protected, mark out accuracy, failure of the excavator to exercise reasonable care and lack of adequate enforcement actions against violators.

Additionally, see tables in Appendix N for the SME (metrics) review of excavation Damage data.

7.1.4 Other Outside Force Damage

Aboveground facilities are considered when determining if this threat is present. The primary concern is areas where gas piping is close enough to vehicular traffic such as automobiles, trucks, forklifts, construction equipment, etc., where it may be exposed to damage from vehicle movement.

When installing new services, above-ground sections of gas mains, gas services, and regulator station piping, or relocating such facilities, UGI uses design requirements that are intended to protect the gas facilities from damage by vehicular traffic.

Facilities in locations known to be subject to vandalism, destruction, wreckage, sabotage, or other harm (e.g., unauthorized adjustment or valve movement) may be subject to the threat of other outside force damage.

There is no reasonable way to address the threat to gas facilities due to explosion and fires initiated by causes not related to gas company facilities and operations.

Additionally, see tables in Appendix N for the SME (metrics) review of outside force damage data.

7.1.5 Material, Weld or Joint Failure (including compression coupling)

This threat is identified by UGI when it is known or anticipated that potential defects in pipe, fittings, components and joints that were introduced during the manufacturing or installation process may be present.

A. Longitudinal pipe seams made by low frequency ERW before 1970, electric flash welding, lap welding, hammer welding, or butt welding and fittings or components fabricated by welding may pose a weld-related material threat. Defects within fittings and components from the manufacturing process are material threats.

B. Certain plastic piping materials (e.g., Century Utility Products pipe, Low-ductile inner wall Aldyl A pipe manufactured before 1973, PE3306 pipe, PVC pipe and fittings, CAB pipe material) may be subject to this material threat.

C. Where it can be determined that pullout from a compression coupling can be anticipated (e.g., a non-pullout-resistant coupling installed at a location in the distribution system where thrust force can be expected), the joint failure threat will be determined to apply.

Additionally, see tables in Appendix N for the SME (metrics) review of material, weld or joint failure data.

7.1.6 Equipment Failure

UGI considers items of equipment exhibiting possible systemic problems as vulnerable to the equipment malfunction threat. Such items may include: a) regulator or relief valves (e.g., failing to perform the intended task or operating outside of the manufacturer's specified tolerances); b) repeated history of failed: i) bell joint, ii) flange gaskets, iii) O-rings, iv) stripped or cracked threads; and c) equipment with a history of problems (e.g., a particular style or model, mechanical couplings).

Bracketed vintage plastic mechanical fittings from Perfection have been identified as having higher than normal failure rates which are being addressed.

Plastic service valves from Kerotest have been identified as having higher than normal failure rates which are being addressed.

7.1.7 Incorrect Operation

A. The threat of incorrect operation may be applicable to either operating (e.g., start up or shut down of a pipeline, purging) or maintenance activities (e.g., ignition of escaping gas). This threat is associated with personnel. It does not include the designed operation of a device.

B. Poor workmanship or use of outdated methods during current construction or installation activities (e.g., acetylene girth welds, wrinkle bends, cast iron joining or inadequate support) is considered within this threat category.

C. Knowledge of instances where personnel have not followed approved procedures (e.g., modification of a compression coupling contrary to the manufacturer's recommendation, failure to install a stiffener) could lead to identification of an incorrect operation threat. Human error is possible in performing every activity associated with a distribution pipeline system and is therefore an element of risk. In assigning weighting to potential human error, UGI considers such measures as:

1. Not following procedures
2. Following procedures but erring in execution
3. Awareness of changes such as tools, equipment, methods, safety precautions
4. How often the task is performed (e.g., on a regular basis versus only rarely)
5. Whether the individual is newly assigned to the task or is experienced in performing the task.

Conversely, the intervention of knowledgeable and skilled personnel in an impending or actual pipeline failure can reduce the consequence in the risk equation. Measures to be evaluated include:
1. Knowledge of potentially hazardous conditions
2. Ability to react swiftly and accurately
3. Willingness to call for help when needed

Through the diligence of a rigorous training and qualification program exceeding the requirements of subpart N of Part 192, control of drug and alcohol abuse in accordance with Part 199, superior supervision and oversight of personnel performance, UGI provides the environment to ensure its personnel can prevent or mitigate the likelihood and consequence of an error as a contributor to risk.

7.1.8 Other

As new information is acquired, UGI will determine if other threats are present within its distribution system that are not covered in the threats described above. Such threats will likely be attributable to special circumstances in specific locations on the system. Accelerated material deterioration not resulting from a material defect or corrosion might be included under this threat category.

8.0 RISK EVALUATION AND RANKING (§ 192.1005(c))

Two Tier Risk Models

The purpose of building a mathematical risk model is to identify and prioritize the various risks to UGI facilities due to failure history, threats, incident probability, and possible consequence so they may be addressed appropriately. Particular threats will also be identified as being unduly predominant and negatively affecting a large portion of the system. Both the facility failures and threats can be addressed through smart accelerated actions (A/A actions), replacement programs, and effective inspection and maintenance practices. UGI utilizes two separate methodologies to attain precise risk assignments. (1) The first method is a *high level* risk evaluation provided by subject matter experts familiar with the three companies run by UGI. (see Appendix -N for listings of SME's). (2) The second method is a *detailed* evaluation of most pipeline segments related to one another. This is called Optimain DS Risk Model. It is managed by a team from UGI and Opvantek Inc. Data and oversight of this valuable program are provided on an ongoing, current basis. This proprietary software uses industry accepted risk formulas to determine the highest risk main segments for replacement. A more detailed discussion follows regarding this tool.

8.1 UGI DIMP Overview Model

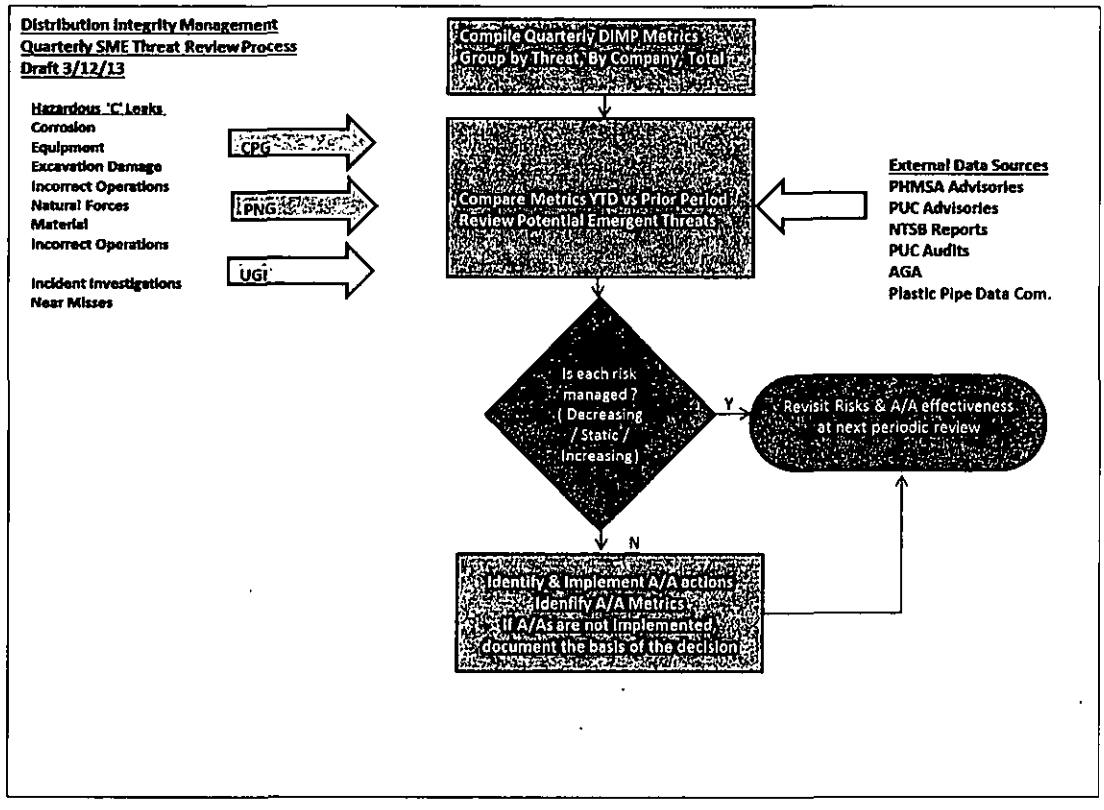
Three separate Overview Models have been developed for the UGI companies; UGI-Gas, CPG, and PNG. Prior to the implementation of DIMP, UGI started providing data to identifying high risk main and services using Optimain DS.

8.1.1 Grouping of Facilities
When data for most pipeline facilities of UGI were inputted, Optimain recognized similar groups (or families) experiencing the highest rate of failures. The analysis provided by Optimain covers the majority of the distribution facilities, being mains and services. The DIMP team then recognized and added other groups such as Gate or Distribution Regulating Stations, Valves, Meters, Meter Sets, Bridge Mains, etc.

In addition, the DIMP team added other known problem components such as Kerotest valves and Perfection Mechanical Fittings.
A study of broken mains and incidents was conducted in the 1990's which determined that 4" and smaller CI, within 20' of buildings was higher risk. This continues to be supported by Optimain analysis. Thus this pipeline family is still defined and monitored in the DIMP.

The entire grouping of facilities under review and covered by this plan can be found in the Overview Model found in Appendix B.

8.1.2 The Overview Model evaluation is the responsibility of the SMEs. The SMEs first task is to research the recent trending for the areas of concern. Effective Spring, 2013, this will be done quarterly going forward. The process involved with this SME review is captioned below:



The Overview Model is based on industry standard risk analysis. A total risk score is derived from SME careful and consistent assessment of each intersect of "Asset Group" (facility) and "Threat". The SMEs through the model also consider and place values to consequence factors.

8.1.3 Overview Model Operation
The SMEs assigned to review the Overview Model are provided the following guidance when filling out the model.

8.1.4 Total Risk Value

8.1.4.1 Risk is the product of combining the likelihood of an event occurring times the consequence of the event. For each piping segment being analyzed, appropriate location, pressure and size information is collected from available data. The corresponding factors are combined to result in a total consequence factor to be used in the risk equation for each threat identified for the piping segment and is repeated for each piping segment. These risk scores can be grouped and summed to yield an indication of the relative quantity of risk posed within a certain geographic area or by a particular subset of piping based on one or more physical factors.

8.1.4.2 Risk value is the overall value assigned to the facility asset group. It is expressed by the following formula.
Total Risk Value = (Failure probability + Incident Probability) X (1 + (Consequence of Failure/10)

8.1.5 Failure Probability

8.1.5.1 UGI determines the appropriateness and weighting of failure factors through the use of employees who are knowledgeable in the operation, maintenance, design and construction of its distribution system. Outside consultants with expertise in gas distribution industry trends or historical methods are used when it is determined to be necessary. Persons from all UGI gas utility companies review the available information and, combined with their experience, determined a consistent set of relevant factors to be used in the risk analysis. Factor determination is overseen and approved by departmental personnel.

8.1.5.2 Consistently applied weighting factors are assigned as deemed appropriate for each grouping as opposed to applying global numbers. This is appropriate since a relative risk is being determined and different subgroups of facilities have differing susceptibility to similar threats.

8.1.6 SME instructions:

Assessed by the SME, the failure probability for each identified asset group is given a value of "blank "(very low), 1 (low), 2 (Moderate), 3 (High) based on the number of leaks either historical or projected by Optimain Analysis.

Do not let other factors influence this rating. Incident probability and consequence will be added later. Consider the quantity of failures for this section as related to amount of footage or quantity.

Question asked of each category is "Does that facility fail (leak) because of that threat?"

SME Rating guidelines –

(blank)		This facility has little to no experience with this threat (leave the cell blank).			
1	Low	This facility does experience this threat ***but not often***.			
2	Moderate	This facility does experience this threat ***moderately***.			
3	High	This facility does experience this threat ***often***.			

8.1.7 Incident Probability

An industry analysis concluded that three of the threat categories experienced the likelihood of an incident. These are "Natural Forces", "Excavation Damage", and "Incorrect Operation". Because of this added propensity of risk, the failure probability numbers associated with these threat categories are given 25% higher value. This is calculated automatically in the "Incident Probability Column". In addition, through the review of UGI incident data, the SMEs can modify the model to provide for localized incident probability factors.

8.1.8 Consequence of Failure

The consequence score provides the model a factor apportioning the impact a facility failure could have on the public or company. Examples of this would be higher pressures in the line, larger diameter, within business district, or wall to wall paving. Each of these example consequences for each facility should be rated by the SME in a scale of 0 - 3. As the formula permits, this value increases the overall Total Risk Score by 10% for every value given.

8.2 Optimain Risk Model

8.2.1 General

The secondary tier risk analysis is performed to provide UGI the most detailed analysis of the system "segment by segment", or "block by block". Optimain is the final product used in determining exactly what pipelines shall be replaced based on risk.

The Opvantek Optimain Risk Modeling software gathers relevant information noted in Sections 6.1.and 6.2 above for the evaluation of facility failure probabilities and relative consequences of failures. This information includes all records of failures in the database associated with active pipeline segments. Included in the core failure prediction analyses are all failures associated with seven of the eight threats: corrosion, natural forces, other outside force damage, material, weld or joint failure, equipment failure, incorrect operation, and other. Excavation damage is not included within this aspect of the Optimain modeling.

Leak and leak repair data is analyzed by SMEs to identify specific trends through the Optimain analysis. From this efforts SMEs identify and break out relevant families. From these established families, failure probability curves are then developed. These established pipeline families and associated failure probability curves are provided in Appendix – H.

On an individual piping segment (Project) basis the Optimain risk evaluation process analyzes and combines the probability of a facility failure along with the consequences of the failure. In order to determine the probability of a failure, historic data on existing piping segments is statistically analyzed. By identifying similar factors (e.g. material, size, pressure, year installed, coating, CP, etc.), piping segments can be sorted into groups which exhibit the best differentiation between groups and, when appropriate, combined to improve the reliability of the statistics.

An example Optimain analysis is provided below:

CI Leaks Per Mile (All Companies)

Analyzed by vintage

[Confidential Information Redacted]

[Confidential Information Redacted]

Analyzed by size

[Confidential Information Redacted]

[Confidential Information Redacted]

Summary of predicted leaks/mile on cast iron as compared to other materials

[Confidential Information Redacted]

Note: the above chart is an example of the functionality of Optimain data analysis. Further analysis concerning, age, CP, size pressure can all be determined when called upon.

8.2.2 Determination of Failure Factors

As in the Overview Model, Optimain determines the appropriateness and weighting of failure factors through the use of employees who are knowledgeable in the operation, maintenance, design and construction of its distribution system (SMEs). Outside consultants with expertise in gas distribution industry trends or historical methods are used when it is determined to be necessary. Persons from all UGI gas utility companies review the available information and, combined with their experience, determined a consistent set of relevant factors to be used in the risk analysis. Factor determination is overseen and approved by departmental personnel.

Consistently applied weighting factors are assigned as deemed appropriate for each grouping as opposed to applying global numbers. This is appropriate since a relative risk is being determined and different subgroups of facilities have differing susceptibility to similar threats.

8.2.3 Likelihood (Failure) Factors

SMEs establishes weighting factors to identified threats for piping groups. Weighting of failure factors are determined as a result of the type of piping represented by the group. The factors are based on past historical performance of the group combined with more recent experience of personnel responsible for current operation and maintenance activities. These numerical weightings characterize the judgment of experienced personnel more than rigorous analysis of data. SME personnel collaborate to reach consensus on the weighting of the appropriate factors. Adjustment of the failure factors can influence the base probability curves slightly upward and are allowable, appropriate and expected based on validation of risk calculation results with actual field experience

as described in Section 8.6. Additionally, improvement of the distribution system and the Plan over time is expected. This will probably require modification of some of the element details.

8.2.4 Consequence (Risk Profile) Factors

SMEs establishes weighting factors to represent consequences that may be anticipated in case of an integrity breach or failure involving the facility groups. Consequence factors are related to the location of the facility in relation to people and property as well as the amount of gas that could potentially be released. These are assigned in three general categories of (1) population/location, (2) operating pressure and (3) piping size.

8.2.5 Relative Risk Analysis

Risk is the product of combining the likelihood of an event occurring times the consequence of the event. For each piping segment being analyzed, appropriate location, pressure and size information is collected from available data. The corresponding factors are combined to result in a total consequence factor to be used in the risk equation for each threat identified for the piping segment and is repeated for each piping segment. These risk scores can be grouped and summed to yield an indication of the relative quantity of risk posed within a certain geographic area or by a particular subset of piping based on one or more physical factors.

In order to determine the relative risk of each segment compared to all others in the UGI system, each of the aforementioned risk scores must be normalized based on the length of the segment. After the relative risk is established for threats for all piping segments, comparison of the relative risk values can be used to develop and implement risk management practices to improve the overall safety of the distribution system.

8.2.6 Validation of Relative Risk Ranking Results

Periodically, Optimain Projects, asset groups or threats are ranked according to the relative risk scores. Responsible personnel, in conjunction with supervisory and other knowledgeable persons, then review the results to determine if the results accurately reflect in general what is known about the system and the problems that are being experienced.

When inconsistencies are discovered, further review and evaluation of the information and assigned factors are undertaken. Based on the findings of that review and evaluation, factors should be adjusted and the relative risk scores recalculated.

8.2.7 Other Optimain Aspects

UGI also employs other risk ranking considerations through the employment of the Optimain model for assessing the risk profile of its pipeline assets. Key aspects and outputs from the Optimain model include:

A. Risk Management Model
   1) Probability of Failure
   2) Risk Profile (Consequences)
   3) Failure Score Multiplier (known adverse pipe condition)
   4) Risk Score
B. All piping is to be included in specific Projects.

C. Initial identified main piping groups will include: plastic, cast iron/ wrought iron, coated cathodically protected steel, cathodically unprotected coated steel, bare steel
D. Integrated with GE Smallworld GIS
E. Asset information
F. Failure/maintenance history (approximately 37 years of data)
G. Running the model (typically monthly)
H. Rank ordering all projects (main segments) by risk score
I. Detailed report available for each project
J. Risk Reduction Optimization Economic Modeling – repair vs. replace

Further explanation of Optimain functionality and operations can be found in the following:

A. Optimain Users Manual. See Appendix D.
B. Optimain Configuration Manual. See Appendix E.
C. Optimain Table Manager Manual. See Appendix F.
D. Optimain expanded functionality enhancement dated January 19, 2011. See Appendix G. (Confidential)
E. Optimain WIKI Site - Frequently Asked Questions. Site is password protected.

9.0 SELECT AND IMPLEMENT RISK MANAGEMENT ACTIONS (§ 192.1005(d))

9.1 General

Risk management is accomplished by acting to reduce the likelihood of an occurrence, by alleviating the consequences of an occurrence, or both. Appropriate actions are dependent on the group of assets being addressed, the associated threat, whether the threat is current or potential in the future, their historical operational legacy (3 companies), and the viability of the actions in managing the relevant risk factors.

The three companies (UGI-Gas, CPG, PNG) are assessed within their own overall risk model in order to capture any unique operational concerns within the territory. Possible unique accelerated actions are also addressed. One such A/A is the combining of policies, procedures and data into one system.

UGI currently utilized additional or accelerated (A/A) actions to ensure the integrity of its pipelines. UGI will determine if any A/As are appropriate for identified groups to be implemented to further reduce risk. Actions may include but not limited to current A/As used for other asset groups or other A/As as listed in the GPTC Guide Material Appendix G-192-8 Distribution Integrity Management Program (DIMP). This will be done after the initial risk ranking to ensure the factors associated with the highest potential risk are focused on first. Where generic A/A actions cannot be reasonably applied, the highest relative risk ranking groups may be further segmented and prioritized in order to address the highest risk assets first.

9.2 Current Risk Reduction Practices

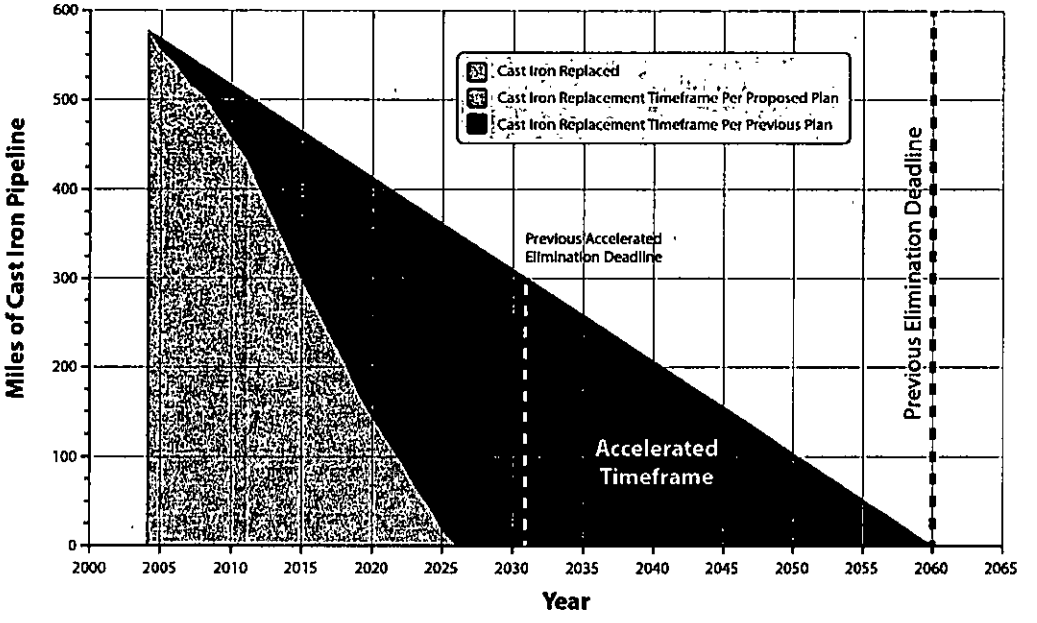
For a number of years UGI has performed operation and maintenance activities that are beyond the requirements of the Federal and state natural gas safety regulations. A review of the O&M plan and operating area practices produced a list of Additional or Accelerated Actions. See Appendix I.

These practices cover a number of the most prevalent threats to UGI's distribution system. Available data pertinent to the effectiveness of the activities are reviewed, and trended when possible, to support decisions whether or not to continue them. Where current programs or activities appear to be addressing the threat, no further activity is anticipated unless the stable or improving safety trend deteriorates.

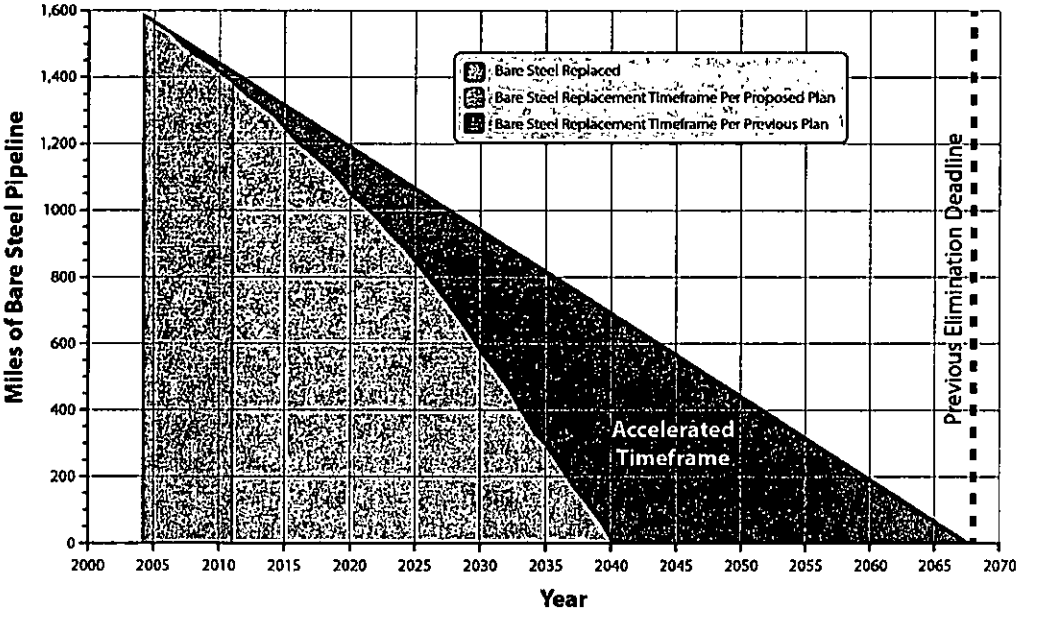
In addition to operating and maintenance activities which can reduce risk, UGI has replaced and plans to continues to replace a substantial portion of its distributions system constructed of non-contemporary materials which have been found to have a higher probability of failure than materials used today. Replacing these facilities may not necessarily reduce the consequence of a failure because much of the consequence is due to the location of the facility within the distribution system. However, by replacing with materials which have been shown to have a substantially lower probability of failure, the overall level of risk will decrease.

An accelerated replacement plan for cast iron and bare steel mains across the three companies has been set forth in an agreement between UGI and the PUC. All cast iron mains will be replaced by March, 2027. Bare steel mains will be replaced by October, 2041.

Cast Iron Main Replacement Schedule



Bare Steel and Wrought Iron Replacement Schedule:



9.3 Existing Programs Addressing Risk Management

Subsections 9.4 through 9.8 summarize existing plans and programs implemented by UGI that are currently in place to manage and mitigate risks to its distribution system. The complete descriptions are contained in the Operating and Maintenance Manuals or other separate documents as appropriate.

9.4 Damage Prevention

The prevention of damage to natural gas distribution facilities by excavation is one of the most effective ways of maintaining the integrity of the gas system and ensuring public safety relative to natural gas distribution service. Toward that goal, UGI:

9.4.1 Has developed, implemented and improved over time a comprehensive damage prevention program that meets or exceeds the requirements of §192.614. The details of the program are in GOM 60.40.

9.4.2 Has a representative member with the PA One-Call system. UGI has been an active supporter of the implementation of the three-digit 811 call-before-you-dig telephone number and has included the 811 number in its damage prevention communications.

9.4.3 Supports the Common Ground Alliance (CGA) efforts to reduce excavation damage through the publication and dissemination of best practices. CGA best practices applicable to UGI's distribution system and service territory have been implemented as described in its damage prevention program.

9.4.4 Recognizes that reducing the threat of excavation damage requires modification of the behavior of persons not subject to the jurisdiction of pipeline safety authorities. Primarily these entities and individuals are excavators working for other organizations which have or install non-jurisdictional facilities near UGI installations. UGI recognizes with the nine element program detailed in "Integrity Management for Gas Distribution Report of Phase 1 Investigations, December 2005" and either utilizes or is implementing those elements of the report in areas over which it has control. UGI also supports efforts undertaken to modify laws, rules, regulations and enforcement actions for improvement of the effectiveness of its damage prevention efforts generally and specific to UGI's system. Appendix J lists the details of the nine elements as described in the report of the Excavation Damage Prevention Group of the collaborative Regulatory/Industry Phase-1 team.

9.4.5 As noted on the PHMSA website, PHMSA has characterized the PA One Call program as being above average compared to similar systems in other states. As noted by PHMSA the "Pennsylvania One Call System (PA One Call) is a progressive one-call center, currently working to streamline data collection efforts so reporting is consistent. Existing statewide damage prevention program current challenges relate to Elements 6 and 7. Dispute resolution processes are under development. The level of confidence in the existing enforcement program is not consistent among respondents, and it appears that the process could be improved. Pennsylvania has applied for state damage prevention grant from PHMSA." See note (1).

PHMSA characterized the Maryland one-call system as less effective. "Maryland's one-call organization, Miss Utility, has a Subscriber Committee which is open to all facility owners to participate. Decisions are made by vote of this committee. The Maryland/District of Columbia Damage Prevention Committee is an active stakeholder group that meets monthly to address damage prevention matters. Current damage prevention enforcement authority in Maryland lies with the attorney general, but the Public Utility Commission and Miss Utility representatives are not aware of any enforcement activity, policies or procedures through the attorney general's office. Legislation was passed in January 2010 that

established an advisory committee for enforcement and made other needed changes." See note (1).

(1) PHMSA characterization link:
http://primis.phmsa.dot.gov/comm/sdppc.htm?nocache=1303

9.5 Leak Management

UGI recognizes that managing leaks in its distribution system is an important part of addressing the integrity of the system and reducing risk by reducing the potential consequences of a leak. UGI's full program includes the following elements of an effective leak management program. The details outlined in procedures, at this point, are specific to each UGI company.

9.5.1 Locate the leaks in the distribution system:

Leaks are located through routine and specially scheduled leakage surveys with leak detection equipment. Additionally, UGI responds to all leak and gas odor complaints and investigates to locate leaks that occur which were not present at the time of a leakage survey.

Leakage surveys are performed with flame ionization and optical methane detector equipment in locations outside of buildings. Combustible gas indication detectors and monitors are used indoors.

9.5.2 Evaluate the actual or potential hazards associated with these leaks:

UGI evaluates each underground leak detected in accordance with the Leak Classification and Action Criteria tables provided within each of the UGI companies' specific O&M procedures.

Each leak is classified by qualified experienced personnel according to the level of gas at or near the leak source along with determining the migration pattern and extent of migration. Each confirmed underground leak is assigned a Grade C, Grade B or Grade A classification or equivalent at the time of confirmation. For the purpose of reporting under Section 12.1 below, UGI defines a hazardous leak as a Grade "C" leak based on classification guidelines.

9.5.3 Act appropriately to mitigate these hazards:

All leaks classified as Grade C are considered hazardous leaks and are repaired or eliminated (e.g., by abandoning or replacing the piping component) before crews leave the scene. Grade B leaks are monitored and scheduled for repair. Grade A leaks are typically monitored and can be scheduled for repair based on the nature of the leak or leak location.

9.5.4 Keep records:

Every confirmed leak on a buried pipeline is given a unique identifier and is tracked until it is repaired and subsequently cleared. These leak records, including repair action and clearing confirmations will be retained for the life of the active buried pipeline.

9.5.5 Self-assess to determine if additional actions are necessary to keep people and property safe:

The purpose of a periodic self-assessment is to determine if the leak management program is effective and, if necessary, to identify changes necessary to assure that

it is effective. Leak program supervisors routinely review leak survey activities, classification and repair results to ensure that all leaks discovered receive proper response in accordance with UGI procedures. Annually UGI reviews and trends the overall results of the leak management program. When appropriate (e.g., number or concentration of leaks discovered rises), implementation of additional risk control practices or modifications to the leak management program are evaluated. UGI also annually reviews its leak management program to ensure it is effective and, if necessary, to identify changes necessary to assure that it is effective.

9.6 Public Awareness

The awareness of the public of pipelines in their vicinity and the public's understanding of how pipelines are operated contributes to the continued safe operation of those pipelines. The knowledge that pipelines may exist in close proximity and the hazards that may result from certain types of activities nearby reduces the likelihood factor of risk. The familiarity with being able to recognize a leak and knowing how to report such an event lessens the consequences of a potential emergency condition. UGI's Public Awareness Program contains provisions consistent with Table 2-2 in the API Recommended Practice 1162, Public Awareness Programs for Pipeline Operators. Its overall Public Awareness Program meets or exceeds baseline requirements of §192.616 and API RP 1162.

9.7 Operator Qualification Program

The Operator Qualification Program developed and administered by UGI ensures that personnel performing covered tasks on UGI distribution pipeline facilities have the necessary knowledge, skills and abilities to safely perform those tasks with a minimum possibility of human error.

The evaluation and qualification of personnel reduces both the likelihood and consequences of a pipeline incident caused by human error. The Operator Qualification Program meets or exceeds the requirements of Part 192, Subpart N for such programs.

9.8 Inspection and Audit Program

9.8.1 Internal Compliance Inspections & Audits

The audit and inspection program consists of four Safety and Compliance Inspectors (SCIs) and a Records Auditor. The SCIs perform unannounced field inspections of company and contractor personnel. The focus of those inspections is a variety of utility work functions such as but not limited to; pipe installations, leak surveys, leak repairs, locates, odorant checks and various meter work. They also inspect Operator Qualification tasks, the use of PPE-personal protective equipment, vehicle checks for safety features and confirm proper equipment use on work sites.

Results of these inspections are entered into a database and any inconsistencies (infractions) identified are communicated to management for follow up. The time frame to correct the inconsistency is based on the severity of the situation. The close out of any follow up action is documented in the database.

The Records Auditor reviews samples of completed locates and leak repair orders for quality and documents the findings in report form. Additional responsibilities are related to processing a Contractor Checklist for bid work and validating

Contractors in a Drug & Alcohol database managed by a 3rd party provider National Compliance Management Services (NCMS).

9.8.2 Public Utility Commission Inspections

The PA and MD respective PUC and PSC inspectors perform inspections and audits of company and contractor personnel specific to Federal and State Code requirements. They also may focus on safety issues as these are referenced in our standards, OSHA 1926 Subpart P- Excavation Safety would be an example. In addition they perform periodic audits of various records such as corrosion, leak surveys, main valves, etc.

Any suspected unsatisfactory issue identified by the inspectors is brought to UGI's attention with possible formal follow up action if substantiated.

9.9 Drug and Alcohol Misuse Prevention Plan

UGI recognizes that the use of controlled substances and the misuse of alcohol may be contributing factors to human error. The reduction of an individual's normal capabilities while under the influence of drugs or alcohol can cause inferior performance of covered functions that affect both the likelihood and consequences factors in the risk equation. The drug and alcohol control plans of UGI are in full compliance with Part 199 and Part 40 requirements.

10.0 MEASURE PERFORMANCE, MONITOR RESULTS AND EVALUATE EFFECTIVENESS (§ 192.1005(e))

10.1 Performance Measures

10.1.1 The metrics listed below are collected annually for reporting as required under 192.1005(e) See reporting responsibilities under Section 12.1.

A. Number of hazardous leaks either eliminated or repaired on mains and services, categorized by causes (cause categories will match those of the annual report)
B. Number of excavation damages (by state)
C. Number of one-call notification tickets received from the One-Call system (by state).
D. Total number of leaks either eliminated or repaired on mains and services, categorized by cause. This total number does not include outstanding Grade A leaks that are being monitored.
E. Total number of leaks either eliminated or repaired on mains and services, categorized by material. This total number does not include outstanding Grade A leaks that are being monitored.

See Appendix K for example filed copies of the 2010 DOT Annual Distribution System Report Forms (PHMSA F 7100.1 (1/2011)) which include the required performance metrics.

10.2 Additional Measures

The additional performance measures selected by UGI are at this point focused on the groups and threats determined to carry the highest relative risk to the distribution system. Information to track and trend the results of the implemented A/A actions is collected on a schedule commensurate with the performance being measured.

Identified performance measures include:
- Annual inventory of buried active non-contemporary piping.
- Annual leaks eliminated by threat cause.
- Annual breaks recorded on cast iron by cause
- Annual count of targeted vintage Perfection mechanical tees that have been remediated.
- Monthly emergency response time trending
- Total system risk score as calculated by the Opvantek Optimain model by material type (currently only tracked for UGI-Gas for cast iron and steel mains; planned for UGI going forward).

10.3 Baseline for Performance Measures

UGI has historical data to use for comparison in evaluating its on-going performance. UGI has established the current trend lines based on typically 3 to 5 years of history information as its formal baseline for evaluation consistent with 49 CFR 192.1007(e).

The baseline for excavation damage shall be the ratio of the number of excavation damages (by state) to the number of one-call notification tickets received from the one-call system (by state) for calendar year 2010.

10.4 Monitoring Results to Evaluate Effectiveness

10.1 General

The performance measures are analyzed to determine if the intended goals of the UGI DIMP program, including A/A actions, are being achieved. Generally, trends for the performance measures are tracked over time to ensure the trends are not subject to mere seasonal variations. Deviations from expected improved integrity trend performance are scrutinized and a determination is made as to whether it is caused by an isolated occurrence or representative of the fact that the A/A action is no longer productive or is insufficient. Results of the analyses dictate whether the A/A actions should be instituted if not currently in place, or if currently in place, continued as is, modified or replaced with another risk management tool. Long-term improvement is the goal of UGI integrity activities. Variance to expected results may be accepted or decisions on adjustments to A/A actions may be delayed when deemed appropriate by UGI departmental personnel when justified by specific circumstances.

10.2 Quarterly Reviews

Appointed SMEs will follow review process chart as outlined in Appendix N.
They will meet and review;

- Failure of facilities (leaks)
- Operational metrics associated with reports and data outlined in Appendix A 1-3 "Pipeline Evaluation Data Management"
- Incidents, near misses and safety related conditions
- Outside agency notices, reports, advisories and code changes PUC, PHMSA, NTSB, etc.
- AGA and other industry related association reports and findings
- Listing of additional or accelerated actions (or consider changes and additions)

See related process flow chart under Section 8.1.2 further above.

Often a single performance measure does not convey an entire picture. In such cases the results of one or more measures will be used in conjunction with other results in order to obtain a complete understanding of the mechanisms involved. For example, the number of incidents caused by excavation damage to cast iron pipe has been and is expected to remain exceptionally low – in most years being zero. This in itself will not be an adequate performance measure covering reduction of damages.

As part of its program to monitor results, UGI will evaluate the need for any additional performance measures to be included in its program.

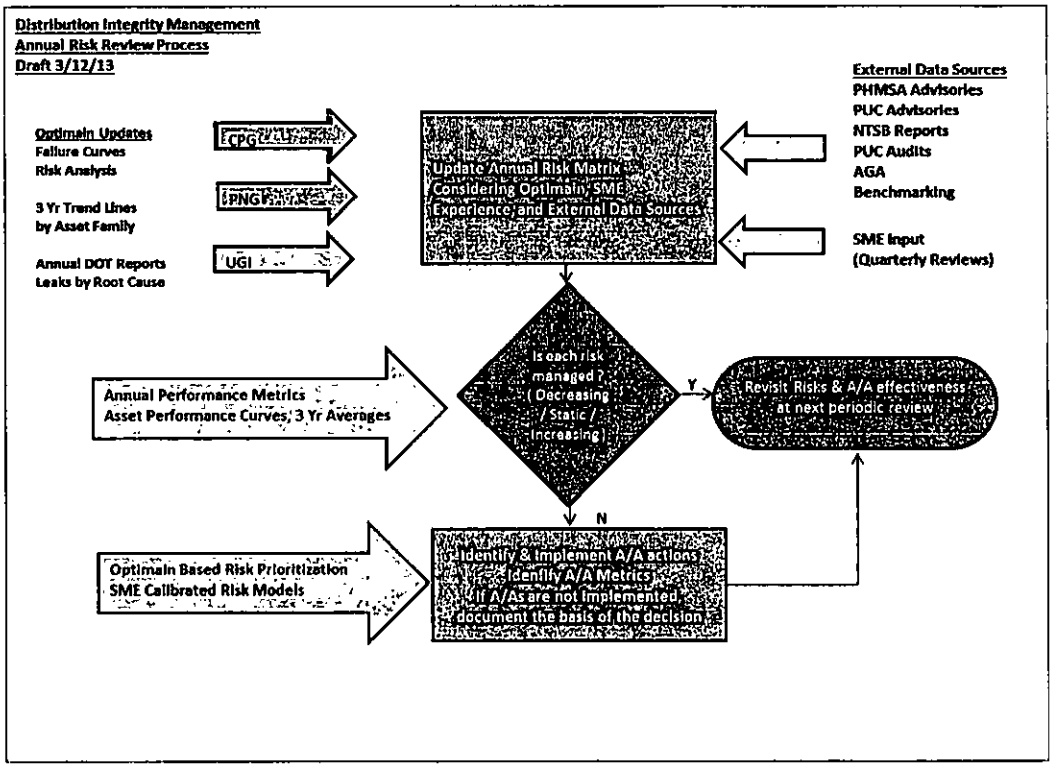
11.0 PERIODIC EVALUATION AND IMPROVEMENT OF THE PROGRAM (§ 192.1005(f))

11.1 Review and Evaluation of Written Plan

Annually UGI appointed SME and personnel having DIMP responsibilities will review the system integrity management initiatives and its written DIMP program and make updates or revisions as needed in its content.

Performed by appointed SMEs following review process chart as noted further below and more completely in Appendix N.
They shall Review

- failure curves, and trend analysis
- risk analysis over 3 year trend of failures on facilities (leaks) by asset family
- Incidents, near misses and safety related conditions
- Outside agency notices, reports, advisories and code changes PUC, PHMSA, NTSB, etc.
- AGA and other industry related association reports and findings
- Listing of additional or accelerated actions (or consider changes and additions)



Appropriate program documents are updated whenever substantive changes are implemented. These could include changing the applied A/A actions, redefining facility groups or altering schedules.

11.2 Program Improvement

Improvement in the effectiveness of involved programs is made based primarily on the results of the performance measures. UGI will review targeted performance metrics at least

annually. These reviews will also be used to determine future review periods and if additional information about the distribution system is needed or would help identify areas for improvement. When such needs are identified, UGI will design and institute enhanced information collection activities as described in Section 6.3.3 above.

Program improvements may include modification of facility groups, adjustment of failure probabilities or relative consequence of failure factors, selection of different A/A actions, or determination of additional or alternative performance measures. Overall effectiveness of integrity management in reducing risks is the governing principle.

12.0 COMMUNICATIONS

12.1 Internal Communications

The DIMP Plan documents are available to all gas employees on the shared network drive and also via the INSIDE UGI internet website portal for DIMP . When program changes are implemented, a global email will be sent to gas appropriate company employees informing them of the change. Appropriate Operations Supervisor or designees will review the changes with the employees at a tailgate meeting and initiate training as necessary. This review meeting will let employees without email to be informed of the changes, to let employees ask questions about the changes and to ensure they have adequate knowledge, skills and ability to perform any newly required tasks. Appropriate personnel will review the UGI Operator Qualification program to ensure and necessary changes are incorporated into the plan as appropriate.

12.2 Concerns Raised by OPS or PUC

The Manager- Compliance should coordinate any response to concerns raised by the OPS, PA PUC or MD PSC. If an auditor raises a DIMP program concern during a local audit or inspection, the concern should be made known to the Vice President Operations – Planning & Implementation and Manager System Integration.

13.0 PERIODIC REPORTS TO GOVERNMENT AGENCIES (§192.1005(g))

13.1 Federal

UGI reports required information to the Pipeline and Hazardous Materials Safety Administration annually by March 15th of each year with appropriate copies to the PA PUC and the MD PSC. These data represent occurrences within the previous calendar year and are part of the annual report submitted by UGI to PHMSA. Reporting will be coordinated by the Manager Utility Facilities Data & Systems Operation and the Manager System Integration – System Operations via the PHMSA Portal following the most current filing instructions available through the PHMSA eForms link:
http://www.phmsa.dot.gov/pipeline/library/forms

13.2 Reporting Mechanical Fitting Failures

UGI tracks material failure through the material failure reporting form as outline in GOM 60.70.10 Reporting and Investigation of Material Failures. From this program, UGI will report "mechanical fitting" failures resulting in "hazardous leaks" as defined in Section 5.0 and required under §192.1009

13.3 Reports to the respective states will be mailed to the following address unless notified otherwise:

PA Public Utility Commission
Bureau of Transportation & Safety
Gas Safety Division
P.O. Box 3265
Harrisburg, PA 17105-3265

Assistant Chief Engineer
Public Service Commission of Maryland Engineering Division
William Donald Schaefer Tower
6 St. Paul Street
Baltimore, MD 21202-9806.

14.0 RECORDKEEPING

UGI maintains records sufficient to comply with the distribution integrity management regulations in Subpart P. Records are retained for a minimum of 10 calendar years from the year in which they are produced. Such records include:

14.1 Written Program

- Current version of the Program;
- Past versions of the Program;
- Description of significant changes; and
- Reason the change was made.

14.2 Asset Groups

- Identification and/or modification to groups;
- Threats determined for each group;
- Determination of likelihood and consequence factors;
- Risk rankings of groups;
- Risk management activities (A/A actions) implemented by groups and/or threats.

14.3 Performance Measures

- Analysis results of performance measures;
- Results of the seven performance measures detailed in Sections 10.1 Required Performance Measures and 10.2 Additional Measures;
- Information related to the reportable failures of mechanical fittings;
- Appropriate documents produced if deviations from required periodic inspections are requested; and
- Other reports pertinent to distribution system integrity to PHMSA, Pennsylvania PUC and Maryland PSC.

15.0 References

1. 49 CFR PART 192—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS with specific focus on Subpart P - Gas Distribution Pipeline Integrity Management (IM)

2. GPTC Guide Material Appendix G-192-8 Distribution Integrity Management Program (DIMP) (current edition)

3. ANSI GPTC Z380 Guide for Gas Transmission and Distribution Piping Systems (current edition)

4. Integrity Management for Gas Distribution, Report of the Phase 1 Investigations, December 2005

5. AGF Study "Safety Performance and Integrity of the Natural Gas Distribution Infrastructure." January 2005

6. PHMSA – "Gas Distribution Integrity Management Program: FAQs"

Appendix A

Current Inspection Required for Distribution Pipelines under PART 192 Regulations

- Buried pipeline cathodic protection P/S potential readings at test stations along the pipeline must be checked at least on a 1 year or 10 years cycle depending on pipeline length or classification.

- Cathodic protection rectifiers (impressed current power source) must be checked at least 6 times a year.

- Equipment monitoring for internal corrosion at points where the risk of such exists must be checked at least once in 6 months. See note (1) below.

- Distribution pipelines exposed to the atmosphere must be checked for external corrosion at least once in every 3 years.

- Whenever the operator has knowledge that any portion of its buried metallic distribution pipeline being exposed, the exposed portion must be examined for evidence of external corrosion or if the coating is deteriorated.

- If a segment of pipe is determined to be in unsatisfactory condition, but no immediate hazard exists, the operator must initiate a program to recondition that segment or phase it out. If this is not possible, the operator must reduce the operating pressure of the pipeline, in accordance with prescribed guidelines. If an immediate hazard exists, the operator must take prompt action to repair the segment.

- Distribution pipelines in places or structures where anticipate physical movement or external loading could take place must be patrolled at least 4 times a year in business districts and twice a year outside business districts.

- Distribution pipelines in business districts must be checked for leaks at least once a year including tests for gas presence in subterranean facilities and other areas near a leak.

- Distribution pipelines outside business districts must be checked for leaks at least once every 5 years. Where electrical readings for corrosion protection are impractical, the leak checks must be at least once every 3 years.

- Disconnected gas service lines must be re-tested before being reconnected.

- Each distribution line valve that may be necessary for the safe operation of the system must be inspected at intervals not exceeding one year.

- Each pressure limiting and pressure regulating station must be inspected and tested at least once a year. This includes inspection of the gas pressure history recorded at these stations.

- Relief Capacity of Regulator Station pressure relief devices be confirmed or tested at least once a year for the ability to protect the pipeline from over pressure.

- If larger than 200 cubic feet in size, each underground vault housing pressure regulating or pressure limiting equipment must be tested for gas leaks at least once a year.

- A combustible gas in a distribution line must contain a natural odorant or be odorized so that at a concentration in air of one-fifth of the lower explosive limit, the gas is readily detectable by a person with a normal sense of smell.

(1) UGI is not aware of any experienced distribution pipeline failures due to internal corrosion.

CPG

Last Updated: 3/25/2013

Pipeline Survey - Evaluation List	Data Origin	Data Access	Data to Field	Data to Office	Reporting Method	Coordinator
Distribution Main Leak Survey (Non Business-Districts, CP, PE)	Excel	Excel	ECIS & Maps	ECIS & Maps	Recorded in Excel	Denise Swatsworth
Distribution Main Leak Survey (Non Business Areas) - CI, WI, Non-CP or Bare Steel	Excel	Excel	ECIS & Maps	ECIS & Maps	Recorded in Excel	Denise Swatsworth
Service Line Leak Survey - Coated - CP, Plastic	ECIS & SLDB	ECIS & SLDB	Hard Copy Maps	ECIS & Excel	ECIS & SLDB	Denise Swatsworth
Service Line Leak Survey - CI, WI, Bare Steel, Cu	ECIS & SLDB	ECIS & SLDB	Hard Copy Maps	ECIS & Excel	ECIS & SLDB	Denise Swatsworth
Business Districts -Urban Area Leak Survey	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Denise Swatsworth
Key Valve Maintenance	Excel/Oracle/SW/MapFrame	Excel/Oracle/SW/MapFrame	Excel/CAD/MapFrame	Excel/CAD/SW/MapFrame	Excel/Oracle/SW/MapFrame	Denise Swatsworth/ Tammy Goodreau
Regulator Maintenance (Stations)	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Denise Swatsworth
Odorization Test	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Denise Swatsworth
Cathodic Protection Survey - Mains	Access/Excel	Access/Excel	ECIS & Access	ECIS & Excel	Access/Excel	Robert Correll
Cathodic Protection Survey - Services	ECIS & SLDB	ECIS & SLDB	ECIS & SLDB	ECIS & SLDB	ECIS & SLDB	Area Operations Supervisor
Miscellaneous Leak Surveys - Special	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Denise Swatsworth
Inside Meter-set Inspections for Leak Surveys and Atmospheric Corrosion	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Local Operations Supervisors
Outside meter-set Inspections for Atmospheric Corrosion (excl dist reg sta)	SLDB/Itron(as needed)	SLDB/ECIS	ECIS	ECIS	SLDB/ECIS	Tom Williams/Ken Dale
Pipe on Bridges or Suspension Sets	Excel	Excel	ECIS & Excel	ECIS & Excel	Excel	Denise Swatsworth
Substructure Damage	One Call/ Miss Utility	DOJM Ticket	DOJM	DOJM	SSD Portal	Kathy McQuiston
Locates	One Call/ Miss Utility	Email/ECIS	Email/ECIS	ECIS	ECIS/One Call	Andy Black/Dispatch
Leaks and Leak Repairs/Exposed Metallic Pipe Inspections	Hard Copy	Access	ECIS/Hard Copy	ECIS/Hard Copy	Access/SW/Optimain	Operations Supervisors/T Williams
Main Pipeline Information	Smallworld	Smallworld/MapFrame/ Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld	Tom Williams
Service Pipelines	Hard Copy	SLDB/Hard Copy	Excel/Paper	Paper	SLDB Query/SLDB extracts	Tom Williams
Customer Meter-Regulator Sets	Itron/ECIS	ECIS	ECIS	ECIS	ECIS/Excel	Tom Williams
DOT Reportable Incidents	Hard Copy/DOT	Hard Copy/Excel	NA	NA	Excel	Ben Hershock
Material - Equipment Failures	Hard Copy	DOT/Excel	NA	NA	DOT/Excel	Eladio Fuentes

PNG

Last Updated 3/25/2013

Pipeline Survey - Evaluation List	Data Origin	Data Access	Data to Field	Data to Office	Reporting Method	Coordinator	Comments	
Distribution Main Leak Survey (Non-Business, CP, PE)	Smallworld/Maps	Maps	Maps	Maps	Paper Maps	M. Shiner	Piloting Verotrack leak survey application	
Distribution Main Leak Survey (Non Business Areas) - CI, WI, Non-CP or Bare Steel	Smallworld/Maps	Maps	Maps	Maps	Paper Maps	M. Shiner	Piloting Verotrack leak survey application	
Service Line Leak Survey - Coated - CP, Plastic	Smallworld/Maps	Maps	Maps	Maps	Paper Maps	M. Shiner		
Service Line Leak Survey - CI, WI, Bare Steel, Cu	Smallworld/Maps	Maps	Maps	Maps	Paper Maps	M. Shiner		
Business District -Urban Area Leak Surveys	Paper	Paper	Paper	Paper	Paper Maps/List	M. Shiner		
Key Valve Maintenance	INGRES/Oracle/DOJM /SW/Mapframe	INGRES/Oracle/SW/ Mapframe	CAD/Mapframe	CAD/Mapframe	INGRES/Oracle/SW/ Mapframe	Operations Supervision/ Tammy Goodreau		
Regulator Maintenance (Stations)	Access DB	Access DB	Access DB	Access DB	Paper/Excel	M&R Supervisors		
Odorization Test	Excel Spread Sheet	Excel Spread Sheet	Excel Spread Sheet	Excel Spread Sheet	Excel	M&R Supervisors		
Cathodic Protection Survey - Mains	Allegro	Allegro	Allegro/email	Allegro/email	Paper	Corrosion Control Supervisors		
Cathodic Protection Survey - Services	Paper - INGRES	Paper - INGRES	Paper - INGRES	Paper - INGRES	Paper - INGRES	Corrosion Control Supervisors		
PE mechanical service tee leak surveys	various - depends on survey, Smallworld, paper	various - depends on survey, Smallworld, paper	various depends on survey, Smallworld, paper	various - depends on survey, Smallworld, paper	Paper Maps	M. Shiner		
Inside-SLIP/ Inspections for Atmospheric Corrosion (excl dist reg sta)	Productivity System	Productivity System	Productivity System	Productivity System	Productivity System	Local Operations Supervisors		
Pipe on Bridges	INGRES/Paper	INGRES/Paper	paper	paper	INGRES/Paper	M. Shiner		
Substructure Damage	Web Application/DOJM	Web Application/DOJM	DOJM	Web Application/DOJM	Discoverer/Crystal/CSSD Portal	Kathy McQuiston		
Locates	One Call	Dig Track	Dig Track	Dig Track	Dig Track	Carol Johns		
Leaks and Leak Repairs/Exposed Metallic Pipe Inspections	Hard Copy	INGRES/SW	Paper	Paper	INGRES/SW/Optima in	Oper - Corr Supervisors/T Williams		
Main Pipeline Information	Smallworld	Smallworld/MapFrame/Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld	Tom Williams		
Service Pipelines	Hard Copy	SLDB/Hard Copy	Excel/Paper	Paper	SLDB Query/SLDB extracts	Tom Williams		
Customer Meter-Regulator Sets	CIS	CIS	CIS	CIS	CIS	CIS		
DOT Reportable Incidents	Hard Copy	Hard Copy/Excel	NA	NA	Excel	Ben Hershock		
Material - Equipment Failures	Hard Copy	DOT/Excel	NA	NA	DOT/Excel	Eladio Fuentes		

Pipeline Evaluation Data Management
UGI

Appendix A-3

Last Updated 3/25/2013

Pipeline Survey - Evaluation List	Data Origin	Data Access	Data to Field	Data to Office	Reporting Method	Coordinator
Distribution Main Leak Survey (Non-Business, CP, PE)	Oracle/Smallworld	MapFrame	MapFrame	MapFrame	SmallWorld w/ Crystal Reports	R. Nekuza
Distribution Main Leak Survey (Non Business Areas) - CI, WI, Non-CP or Bare Steel	Oracle/Smallworld	MapFrame	MapFrame	MapFrame	SmallWorld w/ Crystal Reports	R. Nekuza
Service Line Leak Survey - Coated - CP, Plastic	Oracle/Smallworld	MapFrame/Paper	MapFrame	MapFrame	SmallWorld w/ Crystal Reports	R. Nekuza
Service Line Leak Survey - CI, WI, Bare Steel, Cu	Oracle/Smallworld	MapFrame/Paper	MapFrame	MapFrame	SmallWorld w/ Crystal Reports	R. Nekuza
Business District -Urban Area Leak Surveys	Oracle/Smallworld	MapFrame/Maps	MapFrame/Maps	MapFrame/Maps	SmallWorld w/ Crystal Reports/Maps	R. Nekuza
Key Valve Maintenance	Oracle	MapFrame	DOJM, MapFrame	DOJM, MapFrame	Discoverer	Operations Supervision/ Tammy Goodreau
UGI - main valve Inspections other than key valves	Oracle	MapFrame, Web	DOJM, MapFrame	DOJM, MapFrame	Discoverer	Operations Supervision
Dist Reg Sta Inspections(HBG is in access DB, all others on paper)	Paper/Excel/Access	Paper/Excel/Access	Paper	Paper	Paper/(Access HBG only)	M&R Supervisors (T. Witt Maintains Harrisburg Access Database)
Odorization Test						
UGI - Lehigh	Hard Copy	Hard Copy	Hard Copy	Hard Copy	Hard Copy	M&R Supervisors
UGI - Reading	Hard Copy	Excel Spread Sheet	Hard Copy	Hard Copy	Hard Copy	M&R Supervisors
UGI - Lancaster/Harrisburg	Hard Copy	Hard Copy	Hard Copy	Hard Copy	Hard Copy	M&R Supervisors
Cathodic Protection Survey - Mains	MainFrame	CRT/Batch	pagecenter report	hardcopy form #32	pagecenter	Corrosion Control Supervisors
Cathodic Protection Survey - Services	MainFrame	CRT/Batch	pagecenter report	hardcopy form #32	pagecenter	Corrosion Control Supervisors
UGI - Mechanical Tees/ leak surveys	Web App/MapFrame/Oracle/Excel	Web App/MapFrame/Oracle/Excel	Web App/MapFrame/Oracle/Excel	Web App/MapFrame/Oracle/Excel	Web App/MapFrame/Oracle/Excel	R. Nekuza
Inside-SLIP/ Inspections for Atmospheric Corrosion (excl dist reg sta)	PDA/CIS	PDA/Oracle	PDA/Oracle	PDA/Oracle	Discoverer/CIS	Oper Support Group
Pipe on Bridges	Access Database	Access Database	Paper	Paper	Access Database	Ralph Nekuza
Substructure Damage	Web Application/DOJM	Web Application/DOJM	DOJM	Web Application/DOJM	Discoverer/Crystal/CSSD Portal	Kathy McQuiston
Locates	One Call	SIAS/Oracle	One Call	One Call	Discoverer	Kathy McQuiston
Leaks and Leak Repairs/Exposed Metallic Pipe Inspections	Hard Copy	Access	ECIS/Hard Copy	ECIS/Hard Copy	Access/MapFrame/SW/Optimain	Area Operations Supervisors
Main Pipeline Information	Smallworld	Smallworld/MapFrame/Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld/MapFrame/Maps/As Builts	Smallworld	Tom Williams
Service Pipelines	Hard Copy	SLDB/Hard Copy	Excel/Paper	Paper	SLDB Query/SLDB extracts	Tom Williams
Customer Meter-Regulator Sets	CIS	CIS	CIS	CIS	CIS	CIS
DOT Reportable Incidents	Hard Copy	Hard Copy/Excel	NA	NA	Excel	Ben Hershock

Appendix B

[Confidential Information Redacted]

Appendix C

* To be implemented after re-qualification or GOM review.

Appendix D

[Confidential Information Redacted]

Appendix E

[Confidential Information Redacted]

Appendix G

[Confidential Information Redacted]

Appendix I

[Confidential Information Redacted]

Appendix J

Elements of an Effective Damage Prevention Program

The EDPG [Excavation Damage Prevention Group] under the DIMP Phase-1 initiative spent a significant amount of time reviewing existing industry and government practices and approaches to prevent or significantly reduce damage to underground facilities. This effort included, but was not limited to, the review of the CGA Best Practices, the review of a number of AGA member operator practices and processes, and the practices of several states with comprehensive damage prevention programs. As a result, EDPG has concluded that an effective damage prevention program must include the following elements.

1. Enhanced communication between operators and excavators
At the heart of any damage prevention program should be the exchange of accurate and timely information between excavators and operators of underground facilities. When an excavator plans to excavate, he/she must accurately capture certain information regarding the project and provide or transmit that information to the one-call center. The receipt of this information by the center marks the point in time from which the center and the operator/locator must accomplish their specific tasks in order to complete the marking of underground facilities before excavation begins. The communication between the excavator, the center, the operator and the locator continues throughout the life of the project. Obviously, the easier and more efficient this communication, the more effectively the two main stakeholders, the excavators and the operators, can "talk" about the actions of the excavator as they may impact the facilities of the operator. The CGA best practices address many of the elements of this communication process and how it can be improved.

A pilot project currently under consideration by PHMSA is to research, develop, and implement technologies that appear to have great potential to enhance the communication of accurate information between excavators and operators.

2. Fostering support and partnership of all stakeholders in all phases (enforcement, system improvement, etc.) of the program
All stakeholders in the damage prevention process must be partners. The excavators are a critical force within our local, regional and national economy. Similarly, the vast and complicated network of underground utility facilities provides essential services to our homes and supports our economy. Excavators, operators, one-call centers, locators and local, state and federal governments must foster partnership in all phases of the damage prevention process. Two examples may further illustrate this point. In Virginia and several other states, the enforcement of their laws is accomplished through review of damages/violations by a balanced committee of all stakeholders. The recommendations of the committees are then reviewed by the enforcing agencies.

These committees provide essential expertise and work together with one goal in mind – prevention of damage to facilities. Another example is outreach programs between operators and excavators working around the operators' facilities. This has resulted in the excavator seeking help with locating or other related issues by contacting the operator for help at the "eleventh hour" instead of taking a risk excavating and possibly causing damage, injury or death.

3. Operator's use of performance measures for persons performing locating of

pipelines and pipeline construction
Operators must have a quality assurance program in place to monitor and ensure that the locating and marking of their facilities are properly performed. Operators may complete locates using company personnel, or they may contract with locating companies to locate and mark the operator's facilities in response to notices of excavation. If locating services contracts are used, the contract should include performance measures with incentives and penalties to encourage the contract locator to provide accurate and timely marking of the facilities. CGA Best Practices for Locating and Marking of Facilities detail the components of an operator's audit of locators work. Operators also contract with utility contractors to construct pipeline facilities. Obviously, these contractors work in close proximity to the operators' facilities. A quality assurance program with performance measures tied to incentives and penalties must also be in place for these contractors to help reduce damage to the operators' facilities by these contractors.

4. Partnership in employee training
Effective training of those involved with excavation, the locating of facilities, and the one-call process is imperative in reducing damage to underground facilities. The operator, the one-call center, the enforcing agency and the excavators should partner to design and implement training for operator's, excavator's and locators' employees.

5. Partnership in public education
The majority of public education and awareness campaigns are carried out by the one-call centers on behalf of all operators that are members of the center. The gas pipeline operators are required to conduct excavator and public education under 49 CFR §192.614 and §192.616. CGA is promoting a number of best practices for public education. It is a proven fact that partnership by all stakeholders greatly contributes to the effectiveness of a damage prevention public education program.

6. Enforcement agencies' role as a partner and facilitator to help resolve issues
An active damage prevention program brings about many different issues that must be resolved in a timely manner. The resolutions may involve amending the existing laws, rules and policies. It may involve the use of new technologies or implementation of new training activities. The enforcing agency is best suited to bring the stakeholders together and facilitate productive discussions to resolve the issues. In this process, the agency must be a partner and ensure fairness for all stakeholders.

7. Fair and consistent enforcement of the law
The EDPG determined that although many current state damage prevention laws contain enforcement provisions, they may not be effective. States where enforcement of damage prevention laws is conducted by the agency responsible for pipeline safety have shown significant reduction in damages to pipeline facilities. Having recognized this, the EDPG concluded that fair and consistent enforcement is the key to establishing credibility for the enforcement program.

8. Use of technology to improve all parts of the process
The excavators, one-call centers, operators and locators should use existing and new technologies to improve the communication of accurate and complete information from the excavators to the one-call centers. The one-call center must employ the best technologies available to accurately depict the information received from the excavators on the center's maps and notify member-operators involved. The center must also be able to efficiently receive the operators' responses to the excavators' notices and make available these responses to the excavators. The operators must employ technologies to make available accurate facility maps to their locators. Locators must use the best available technologies to mark the facilities and communicate the marking status to the

center.

9. Analysis of data to continually evaluate/improve program effectiveness

In order to evaluate the damage prevention program, certain data must be collected and analyzed on a regular basis. The results should be used to improve program areas where necessary. For example, consistent reporting and complete analysis of damage data could show root causes of damage, parties responsible for the damages, and other useful trends. Such analysis can be used to justify amending laws, rules, regulations, procedures. The data can be used to properly allocate limited educational dollars where they are needed.

Appendix K

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.	OMB NO: 2137-0522 EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
Date Submitted:	3/15/2013
(DOT use only)	20131142-18353

ANNUAL REPORT FOR CALENDAR YEAR 2012 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

1. Name of Operator	UGI CENTRAL PENN GAS, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 Morgantown Road
2b. City and County	Reading
2c. State	PA
2d. Zip Code	19611
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	31467
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12th Street, Ste. 360
4b. City and County	Reading,US
4c. State	PA
4d. Zip Code	19612-2677
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B - SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	DUCTILE IRON	COPPER	CAST/ WROUGHT IRON	PLASTIC	OTHER	TOTAL
MILES OF MAIN	594.090	0.000	17.800	816.520	0.000	0.000	13.210	2271.230	0.000	3712.850
NO. OF SERVICES	407.000	0.000	0.000	6981.000	0.000	15.000	0.000	74031.000	0.000	81434.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	335.460	467.790	565.730	48.540	10.890	1428.410
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.390	7.630	3.130	2.000	0.060	13.210
PLASTIC PVC	0.000	28.730	3.550	0.000	0.000	0.000	32.280
PLASTIC PE	0.000	1511.830	642.200	84.730	0.190	0.000	2238.950
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	1876.410	1121.170	653.590	50.730	10.950	3712.850

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 88

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	6266.000	1044.000	67.000	11.000	0.000	7388.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	12.000	3.000	0.000	0.000	0.000	15.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	220.000	32.000	0.000	0.000	0.000	252.000
PLASTIC PE	0.000	64206.000	9356.000	210.000	7.000	0.000	73779.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	70704.000	10435.000	277.000	18.000	0.000	81434.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	692.180	41.340	27.510	128.630	438.570	452.380	613.290	844.210	409.030	65.710	3712.850
NUMBER OF SERVICES	0.000	1006.000	367.000	817.000	3726.000	9908.000	17406.000	26892.000	17862.000	3450.000	81434.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	507	285	89	48
NATURAL FORCES	16	7	8	2
EXCAVATION DAMAGE	51	5	64	8
OTHER OUTSIDE FORCE DAMAGE	1	0	0	0
MATERIAL OR WELDS	18	8	7	3
EQUIPMENT	55	25	12	3
INCORRECT OPERATIONS	5	2	2	2
OTHER	31	12	12	5

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 64

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 106

NUMBER OF EXCAVATION TICKETS : 57123

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 915

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 15981

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 3.39%

PART H - ADDITIONAL INFORMATION

9.36 Miles of Cast Iron
3.86 Miles of Wrought Iron

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager GIS & Records
(Preparer's Name and Title)

(610) 736-5771
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(610) 736-5805
(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
Date Submitted:	3/15/2013
(DOT use only)	20131134-18345

ANNUAL REPORT FOR CALENDAR YEAR 2012 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

1. Name of Operator	UGI CENTRAL PENN GAS, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 Morgantown Road
2b. City and County	Reading
2c. State	PA
2d. Zip Code	19611
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	31467
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12th Street, Ste. 360
4b. City and County	Reading,US
4c. State	PA
4d. Zip Code	19612-2677
5. STATE IN WHICH SYSTEM OPERATES	MD

PART B - SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	DUCTILE IRON	COPPER	CAST/ WROUGHT IRON	PLASTIC	OTHER	TOTAL
MILES OF MAIN	0.000	0.000	0.000	12.880	0.000	0.000	0.000	8.620	0.000	21.500
NO. OF SERVICES	0.000	0.000	0.000	143.000	0.000	0.000	0.000	360.000	0.000	503.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	1.610	2.820	8.450	0.000	0.000	12.880
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	4.710	2.460	1.450	0.000	0.000	8.620
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	6.320	5.280	9.900	0.000	0.000	21.500

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 88

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	137.000	5.000	1.000	0.000	0.000	143.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	351.000	8.000	1.000	0.000	0.000	360.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	488.000	13.000	2.000	0.000	0.000	503.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	2.340	0.000	0.000	0.000	10.600	0.930	2.050	1.220	4.360	0.000	21.500
NUMBER OF SERVICES	0.000	0.000	0.000	0.000	82.000	7.000	81.000	119.000	210.000	4.000	503.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	1	0	0	0
NATURAL FORCES	0	0	0	0
EXCAVATION DAMAGE	0	0	0	0
OTHER OUTSIDE FORCE DAMAGE	0	0	0	0
MATERIAL OR WELDS	0	0	0	0
EQUIPMENT	0	0	0	0
INCORRECT OPERATIONS	0	0	0	0
OTHER	0	0	0	0

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 0

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 0

NUMBER OF EXCAVATION TICKETS : 470

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 0

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 127

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 3.39%

PART H - ADDITIONAL INFORMATION

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager GIS & Records
(Preparer's Name and Title)

(610) 736-5771
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(610) 736-5805
(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
Date Submitted:	3/15/2013
(DOT use only)	20131129-18340

ANNUAL REPORT FOR CALENDAR YEAR 2012 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A: OPERATOR INFORMATION

1. Name of Operator	UGI PENN NATURAL GAS
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 Morgantown Road
2b. City and County	Reading
2c. State	PA
2d. Zip Code	19611
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	15259
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12th Street, Ste 360
4b. City and County	Reading,US
4c. State	PA
4d. Zip Code	19612-2677
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B: SYSTEM DESCRIPTION

1.GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	DUCTILE IRON	COPPER	CAST/ WROUGHT IRON	PLASTIC	OTHER	TOTAL
MILES OF MAIN	265.100	19.500	14.000	831.790	0.000	0.000	111.230	1372.730	0.000	2614.350
NO. OF SERVICES	1253.000	20377.000	36.000	9589.000	0.000	0.000	0.000	136630.000	0.000	167885.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2' OR LESS	OVER 2' THRU 4'	OVER 4' THRU 8'	OVER 8' THRU 12'	OVER 12'	TOTAL
STEEL	0.000	187.750	402.520	302.340	225.230	12.550	1130.390
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	10.210	86.060	13.960	1.000	111.230
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	814.100	374.320	180.250	4.060	0.000	1372.730
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	1001.850	787.050	568.650	243.250	13.550	2614.350

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 52

MATERIAL	UNKNOWN	1' OR LESS	OVER 1' THRU 2'	OVER 2' THRU 4'	OVER 4' THRU 8'	OVER 8'	TOTAL
STEEL	0.000	14508.000	16013.000	697.000	36.000	1.000	31255.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	122035.000	14394.000	183.000	18.000	0.000	136630.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	136543.000	30407.000	880.000	54.000	1.000	167885.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	0.000	6.000	110.970	702.870	332.940	324.940	567.890	357.930	41.440	169.370	2614.350
NUMBER OF SERVICES	45311.000	8793.000	1609.000	24225.000	15937.000	5413.000	13186.000	24969.000	21707.000	6735.000	167885.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	636	575	291	273
NATURAL FORCES	13	13	8	8
EXCAVATION DAMAGE	17	17	187	187
OTHER OUTSIDE FORCE DAMAGE	3	3	19	19
MATERIAL OR WELDS	123	114	397	371
EQUIPMENT	42	35	38	37
INCORRECT OPERATIONS	0	0	0	0
OTHER	48	37	76	66

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 686

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 236

NUMBER OF EXCAVATION TICKETS : 46223

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 1438

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 2583

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 0.52%

PART H - ADDITIONAL INFORMATION

60.87 Miles of Wrought Iron

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager GIS & Records
(Preparer's Name and Title)

(610) 736-5771
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(610) 736-5805
(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
Date Submitted:	3/15/2013
(DOT use only)	20131118-18327

ANNUAL REPORT FOR CALENDAR YEAR 2012 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A. OPERATOR INFORMATION

1. Name of Operator	UGI UTILITIES, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 Morgantown Road
2b. City and County	Reading
2c. State	PA
2d. Zip Code	19611
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	20010
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12th Street, Ste 360
4b. City and County	READING,US
4c. State	PA
4d. Zip Code	19612-2677
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B. SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	DUCTILE IRON	COPPER	CAST/ WROUGHT IRON	PLASTIC	OTHER	TOTAL
MILES OF MAIN	260.208	129.223	131.844	1612.924	0.000	0.124	347.537	2938.236	3.007	5423.103
NO. OF SERVICES	14311.000	9196.000	799.000	39621.000	0.000	10871.000	2.000	271696.000	23.000	346519.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	759.825	532.688	718.412	122.477	0.797	2134.199
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.124	0.000	0.000	0.000	0.000	0.124
CAST/WROUGHT IRON	0.000	0.001	187.820	134.697	23.250	1.770	347.538
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	1778.794	662.698	476.127	11.319	9.298	2938.236
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	2.981	0.025	0.000	3.006
TOTAL	0.000	2538.744	1383.206	1332.217	157.071	11.865	5423.103

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR | AVERAGE SERVICE LENGTH: 51.61

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	39203.000	24098.000	542.000	84.000	0.000	63927.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	10869.000	2.000	0.000	0.000	0.000	10871.000
CAST/WROUGHT IRON	0.000	0.000	0.000	1.000	1.000	0.000	2.000
PLASTIC PVC	0.000	48.000	0.000	0.000	0.000	0.000	48.000
PLASTIC PE	0.000	262072.000	8823.000	517.000	47.000	0.000	271459.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	208.000	4.000	0.000	0.000	0.000	212.000
TOTAL	0.000	312400.000	32927.000	1060.000	132.000	0.000	346519.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	1.774	508.072	77.110	536.616	729.613	421.245	693.216	1074.655	1214.004	166.798	5423.103
NUMBER OF SERVICES	0.000	6994.000	2486.000	7934.000	28763.000	43414.000	64516.000	80758.000	85726.000	25928.000	346519.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	755	137	293	151
NATURAL FORCES	57	24	47	23
EXCAVATION DAMAGE	24	18	75	66
OTHER OUTSIDE FORCE DAMAGE	17	13	24	20
MATERIAL OR WELDS	65	18	176	98
EQUIPMENT	331	48	34	34
INCORRECT OPERATIONS	14	1	9	8
OTHER	208	46	241	120

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 394

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 189

NUMBER OF EXCAVATION TICKETS : 117686

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 9387

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 177345

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 1.46%

PART H - ADDITIONAL INFORMATION

PART I - PREPARER AND AUTHORIZED SIGNATURE

Brian Shull,GIS SYSTEM SUPV
(Preparer's Name and Title)

(610) 736-5543
(Area Code and Telephone Number)

bshull@ugi.com
(Preparer's email address)

(610) 736-5805
(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
ID:	15666
(DOT use only)	20121164-16243

ANNUAL REPORT FOR CALENDAR YEAR 2011 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

1. Name of Operator	UGI CENTRAL PENN GAS, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 MORGANTOWN ROAD
2b. City and County	READING,BERKS
2c. State	PA
2d. Zip Code	19612
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	31467
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12TH STREET Suite 360
4b. City and County	READING,BERKS
4c. State	PA
4d. Zip Code	19612
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B - SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	TOTAL
MILES OF MAIN	601.100	0.000	17.800	820.300	2246.600	16.200	0.000	0.000	0.000	3702.000
NO. OF SERVICES	407.000	0.000	10.000	7261.000	72461.000	0.000	0.000	15.000	0.000	80154.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	338.300	476.400	565.100	48.600	10.800	1439.200
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.400	9.900	3.600	2.200	0.100	16.200
PLASTIC PVC	0.000	28.600	3.600	0.000	0.000	0.000	32.200
PLASTIC PE	0.000	1496.300	638.000	79.900	0.200	0.000	2214.400
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	1863.600	1127.900	648.600	51.000	10.900	3702.000

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 88

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	6431.000	1162.000	74.000	11.000	0.000	7678.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	12.000	3.000	0.000	0.000	0.000	15.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	220.000	32.000	0.000	0.000	0.000	252.000
PLASTIC PE	0.000	62687.000	9310.000	205.000	7.000	0.000	72209.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	69350.000	10507.000	279.000	18.000	0.000	80154.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	698.900	42.400	27.300	129.700	442.200	454.200	614.100	844.900	408.200	40.100	3702.000
NUMBER OF SERVICES	0.000	1020.000	383.000	873.000	3866.000	10038.000	17524.000	27019.000	17895.000	1536.000	80154.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	444	74	53	17
NATURAL FORCES	25	8	7	5
EXCAVATION DAMAGE	63	47	48	40
OTHER OUTSIDE FORCE DAMAGE	1	1	0	0
MATERIAL OR WELDS	14	5	1	0
EQUIPMENT	45	14	5	2
INCORRECT OPERATIONS	3	1	0	0
OTHER	22	7	6	1

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 144

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 120

NUMBER OF EXCAVATION TICKETS : 45961

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 1667

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 15066

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 2.16%

PART H - ADDITIONAL INFORMATION

4.5 Miles of Wrought Iron

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager, Utility Facilities
(Preparer's Name and Title)

(610) 736-5711
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
ID:	15588
(DOT use only)	20121143-16218

ANNUAL REPORT FOR CALENDAR YEAR 2011 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

1. Name of Operator	UGI CENTRAL PENN GAS, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 Morgantown Road
2b. City and County	Reading,Berks
2c. State	PA
2d. Zip Code	19612
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	31467
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N. 12th Street, Ste. 360
4b. City and County	Reading
4c. State	PA
4d. Zip Code	19612-2677
5. STATE IN WHICH SYSTEM OPERATES	MD

PART B - SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	TOTAL
MILES OF MAIN	0.000	0.000	0.000	12.800	8.600	0.000	0.000	0.000	0.000	21.400
NO. OF SERVICES	0.000	0.000	0.000	141.000	352.000	0.000	0.000	0.000	25.000	518.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	1.600	2.800	8.400	0.000	0.000	12.800
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	4.600	2.500	1.500	0.000	0.000	8.600
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	6.200	5.300	9.900	0.000	0.000	21.400

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 108

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	136.000	4.000	1.000	0.000	0.000	141.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	341.000	8.000	2.000	1.000	0.000	352.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	23.000	1.000	1.000	0.000	0.000	0.000	25.000
TOTAL	23.000	478.000	13.000	3.000	1.000	0.000	518.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	2.400	0.000	0.000	0.000	10.500	0.900	2.000	1.200	4.400	0.000	21.400
NUMBER OF SERVICES	31.000	0.000	0.000	0.000	62.000	8.000	81.000	120.000	213.000	3.000	518.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	0	0	0	0
NATURAL FORCES	0	0	0	0
EXCAVATION DAMAGE	0	0	0	0
OTHER OUTSIDE FORCE DAMAGE	0	0	0	0
MATERIAL OR WELDS	0	0	0	0
EQUIPMENT	0	0	0	0
INCORRECT OPERATIONS	0	0	0	0
OTHER	1	0	0	0

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 0

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 0

NUMBER OF EXCAVATION TICKETS : 340

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 3

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 127

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: 2.16%

PART H - ADDITIONAL INFORMATION

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager, Utility Facilities
(Preparer's Name and Title)

(610) 736-5711
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
ID:	15686
(DOT use only)	20121168-16249

ANNUAL REPORT FOR CALENDAR YEAR 2011 GAS DISTRIBUTION SYSTEM

PART A: OPERATOR INFORMATION

1. Name of Operator	UGI PENN NATURAL GAS
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	ONE UGI CENTER
2b. City and County	WILKES BARRE,LUZERNE
2c. State	PA
2d. Zip Code	18711
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	15259
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N 12th Street Suite 360
4b. City and County	Reading,Berks
4c. State	PA
4d. Zip Code	19612
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B: SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	TOTAL
MILES OF MAIN	268.700	19.500	14.000	831.200	1359.300	116.600	0.000	0.000	0.000	2609.300
NO. OF SERVICES	1564.000	20377.000	36.000	9532.000	134480.000	0.000	0.000	0.000	0.000	165989.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	188.300	404.400	303.200	225.400	12.100	1133.400
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	13.200	87.900	14.500	1.000	116.600
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	809.300	371.500	174.500	4.000	0.000	1359.300
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	997.600	789.100	565.600	243.900	13.100	2609.300

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 52

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0.000	14599.000	16168.000	702.000	39.000	1.000	31509.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CAST/WROUGHT IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	119888.000	14391.000	183.000	18.000	0.000	134480.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	134487.000	30559.000	885.000	57.000	1.000	165989.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	0.000	167.500	5.970	110.200	700.500	332.300	324.900	559.000	357.900	51.030	2609.300
NUMBER OF SERVICES	43764.000	8776.000	1607.000	24230.000	16012.000	5541.000	13274.000	25047.000	21763.000	5975.000	165989.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	562	72	383	120
NATURAL FORCES	16	7	6	2
EXCAVATION DAMAGE	20	19	189	189
OTHER OUTSIDE FORCE DAMAGE	2	0	10	0
MATERIAL OR WELDS	83	16	354	93
EQUIPMENT	31	5	260	92
INCORRECT OPERATIONS	0	0	0	0
OTHER	100	14	42	6

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 554

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 207

NUMBER OF EXCAVATION TICKETS : 45079

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 1188

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 1932

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: .76%

PART H - ADDITIONAL INFORMATION

61.9 miles wrought iron

PART I - PREPARER AND AUTHORIZED SIGNATURE

Thomas Williams,Manager, Facility Data
(Preparer's Name and Title)

(610) 736-5711
(Area Code and Telephone Number)

twilliams@ugi.com
(Preparer's email address)

(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 01/31/2014

U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Form Type:	INITIAL
ID:	15665
(DOT use only)	20121163-16242

ANNUAL REPORT FOR CALENDAR YEAR 2011 GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

1. Name of Operator	UGI UTILITIES, INC
2. LOCATION OF OFFICE (WHERE ADDITIONAL INFORMATION MAY BE OBTAINED)	
2a. Street Address	225 MORGANTOWN RD
2b. City and County	READING,BERKS
2c. State	PA
2d. Zip Code	19611
3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER	20010
4. HEADQUARTERS NAME & ADDRESS	
4a. Street Address	2525 N 12TH STREET, SUITE 360
4b. City and County	READING,BERKS
4c. State	PA
4d. Zip Code	19611
5. STATE IN WHICH SYSTEM OPERATES	PA

PART B - SYSTEM DESCRIPTION

1. GENERAL

	STEEL									
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED	PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	TOTAL
MILES OF MAIN	248.830	135.653	119.400	1635.450	2875.373	366.447	0.000	0.093	3.080	5384.326
NO. OF SERVICES	15199.000	9589.000	825.000	40481.000	263374.000	3.000	0.000	11418.000	18.000	340907.000

2.MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	TOTAL
STEEL	0.000	762.013	536.298	719.307	120.249	1.466	2139.333
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	0.093	0.000	0.000	0.000	0.000	0.093
CAST/WROUGHT IRON	0.000	0.001	201.305	139.082	24.289	1.770	366.447
PLASTIC PVC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PLASTIC PE	0.000	1736.005	651.476	465.518	13.076	9.298	2875.373
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	0.073	0.000	2.982	0.025	0.000	3.080
TOTAL	0.000	2498.185	1389.079	1326.889	157.639	12.534	5384.326

3.NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH: 51

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	1.000	40006.000	25428.000	575.000	84.000	0.000	66094.000
DUCTILE IRON	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COPPER	0.000	11416.000	2.000	0.000	0.000	0.000	11418.000
CAST/WROUGHT IRON	0.000	1.000	0.000	1.000	1.000	0.000	3.000
PLASTIC PVC	0.000	54.000	0.000	0.000	0.000	0.000	54.000
PLASTIC PE	0.000	254111.000	8655.000	511.000	43.000	0.000	263320.000
PLASTIC ABS	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER PLASTIC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER	0.000	16.000	2.000	0.000	0.000	0.000	18.000
TOTAL	1.000	305604.000	34087.000	1087.000	128.000	0.000	340907.000

4.MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	12.447	523.815	79.080	541.447	730.250	420.352	692.955	1073.712	1213.440	96.828	5384.326
NUMBER OF SERVICES	0.000	7463.000	2604.000	8336.000	29745.000	44810.000	66075.000	81333.000	85996.000	14545.000	340907.000

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING THE YEAR

CAUSE OF LEAK	MAINS		SERVICES	
	TOTAL	HAZARDOUS	TOTAL	HAZARDOUS
CORROSION	601	140	248	139
NATURAL FORCES	92	64	42	23
EXCAVATION DAMAGE	35	35	120	119
OTHER OUTSIDE FORCE DAMAGE	13	12	39	32
MATERIAL OR WELDS	46	27	195	93
EQUIPMENT	472	84	40	39
INCORRECT OPERATIONS	2	1	3	1
OTHER	173	33	551	104

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR : 366

PART D - EXCAVATION DAMAGE

NUMBER OF EXCAVATION DAMAGES: 186

NUMBER OF EXCAVATION TICKETS : 108494

PART E - EXCESS FLOW VALUE (EFV) DATA

NUMBER OF EFV'S INSTALLED THIS CALENDER YEAR ON SINGLE FAMILY RESIDENTIAL SERVICES: 6756

ESTIMATED NUMBER OF EFV'S IN SYSTEM AT THE END OF YEAR: 167571

PART F - LEAKS ON FEDERAL LAND

TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED TO REPAIR: 0

PART G - PERCENT OF UNACCOUNTED FOR GAS

UNACCOUUNTED FOR GAS AS A PERCENT OF TOTAL INPUT FOR THE 12 MONTHS ENDING JUNE 30 OF THE REPORTING YEAR.

INPUT FOR YEAR ENDING 6/30: .37%

PART H - ADDITIONAL INFORMATION

PART I - PREPARER AND AUTHORIZED SIGNATURE

Brian Shull,Supervisor GIS Sysytem
(Preparer's Name and Title)

(610) 736-5543
(Area Code and Telephone Number)

bshull@ugi.com
(Preparer's email address)

(610) 736-5805
(Area Code and Facsimile Number)

NOTICE: This report is required by 49 CFR Part 191. Failure to report may result in a civil penalty not to exceed $100,000 for each violation for each day the violation continues up to a maximum of $1,000,000 as provided in 49 USC 60122.

OMB No. 2137-0522
Expiration Date 01/31/2014

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

ANNUAL REPORT FOR CALENDAR YEAR 20_10__
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☒
SUPPLEMENTAL REPORT ☐

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per submission, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF OPERATOR
UGI Penn Natural Gas, Inc.

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER
/ 1 / 5 / 2 / 5 / 9 /

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
One UGI Center
Number and Street
Wilkes-Barre Luzerne
City and County
PA 18711
State and Zip Code

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT
2525 N. 12th Street Suite 360
Number and Street
Reading Berks
City and County
PA 19612
State and Zip Code

5. STATE IN WHICH SYSTEM OPERATES: / PA / (provide a separate report for each state in which system operates)

PART B - SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	SYSTEM TOTAL
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAIN	275	20	14	840	1330	122	0	0	0	2601
NO. OF SERVICES	1564	20377	36	9530	132216	0	0	0	0	163723

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	SYSTEM TOTALS
STEEL	0	189	408	305	226	21	1149
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	0	0	0	0	0	0
CAST/WROUGHT IRON	0	0	17	88	16	1	122
PLASTIC 1. PVC	0	0	0	0	0	0	0
2. PE	0	793	368	165	4	0	1330
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	982	793	558	246	22	2601

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR					AVERAGE SERVICE LENGTH 52 FEET		
MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0	14601	16165	701	39	1	31507
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	0	0	0	0	0	0
CAST/WROUGHT IRON	0	0	0	0	0	0	0
PLASTIC 1. PVC	0	0	0	0	0	0	0
2. PE	0	117746	14276	176	18	0	132216
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	132347	30441	877	57	1	163723

4. MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION	UN-KNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	0	176	6	111	703	333	325	568	358	21	2601
NUMBER OF SERVICES	45602	8804	1609	24233	16012	5541	13274	25047	21763	1838	163723

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING YEAR				
CAUSE OF LEAK	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	627	72	384	120
NATURAL FORCES	19	7	4	2
EXCAVATION DAMAGE	22	19	234	227
OTHER OUTSIDE FORCE DAMAGE	0	0	3	0
MATERIAL OR WELDS	90	16	243	93
EQUIPMENT	24	5	313	92
INCORRECT OPERATIONS	0	0	0	0
OTHER	151	14	17	6

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR 454

PART D – EXCAVATION DAMAGE	PART E – EXCESS FLOW VALVE (EFV) DATA
Number of Excavation Damages 256	Total Number Of EFVs on Single-family Residential Services Installed During Year 744
Number of Excavation Tickets 42688	Estimated Number of EFVs In System At End Of Year 1145

NOTICE: This report is required by 49 CFR Part 191. Failure to report may result in a civil penalty not to exceed $100,000 for each violation for each day the violation continues up to a maximum of $1,000,000 as provided in 49 USC 60122.

OMB No. 2137-0522
Expiration Date 01/31/2014

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

ANNUAL REPORT FOR CALENDAR YEAR 2010
GAS DISTRIBUTION SYSTEM

INITIAL REPORT X
SUPPLEMENTAL REPORT ☐

PART A - OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF OPERATOR
UGI Utilities, Inc

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
225 Morgantown Road
Number and Street
Reading Berks
City and County
PA 19611
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER
/ 2 / 0 / 0 / 1 / 0 /

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT
2525 N 12th Street, Suite 360
Number and Street
Reading Berks
City and County
PA 19612-2677
State and Zip Code

5. STATE IN WHICH SYSTEM OPERATES:/ P / A / (provide a separate report for each state in which system operates)

PART B - SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	SYSTEM TOTAL
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAIN	258.818	136.526	119.7	1637.28	2793.286	387.453	0	0.078	3.250	5336.394
NO. OF SERVICES	16225	9919	848	41084	257248	3	0	11784	15	337126

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	SYSTEM TOTALS
STEEL		766.324	540.679	721.031	123.494	0.793	2152.324
DUCTILE IRON							
COPPER		0.078	0	0	0	0	0.078
CAST/WROUGHT IRON		0.054	215.244	145.110	25.277	1.769	387.454
PLASTIC 1. PVC							
2. PE		1686.648	638.381	449.331	9.630	9.298	2793.288
3. ABS							
4. OTHER PLASTIC							
OTHER		0.073	0.170	2.982	0.025	0	3.250
SYSTEM TOTALS		2453.177	1394.473	1318.453	158.425	11.863	5336.394

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR					AVERAGE SERVICE LENGTH 51.32__ FEET		
MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	1	40593	26802	596	84	0	68076
DUCTILE IRON							
COPPER	0	11782	2	0	0	0	11784
CAST/WROUGHT IRON	0	1	0	1	1	0	3
PLASTIC 1. PVC	0	59	0	0	0	0	59
2. PE	0	248141	8493	512	43	0	257189
3. ABS							
4. OTHER PLASTIC							
OTHER	0	14	1	0	0	0	15
SYSTEM TOTALS	1	300590	35298	1109	128	0	337126

4. MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION											
	UN-KNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	1.919	545.137	82.299	550.447	732.320	420.878	693.464	1071.643	1205.136	33.149	5336.394
NUMBER OF SERVICES	0	7841	2704	8957	30459	45901	66929	81783	86205	6347	337126

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING YEAR				
CAUSE OF LEAK	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	618	116	296	152
NATURAL FORCES	55	42	29	16
EXCAVATION DAMAGE	21	18	39	39
OTHER OUTSIDE FORCE DAMAGE	18	14	20	17
MATERIAL OR WELDS	46	8	136	63
EQUIPMENT	306	34	37	37
INCORRECT OPERATIONS	1	0	5	1
OTHER	135	27	501	110

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR _379_____

PART D – EXCAVATION DAMAGE	PART E – EXCESS FLOW VALVE (EFV) DATA
Number of Excavation Damages __141_____	Total Number Of EFVs on Single-family Residential Services Installed During Year _1895____
Number of Excavation Tickets ____100100_____	Estimated Number of EFVs In System At End Of Year __147433_

NOTICE: This report is required by 49 CFR Part 191. Failure to report may result in a civil penalty not to exceed $100,000 for each violation for each day the violation continues up to a maximum of $1,000,000 as provided in 49 USC 60122.

OMB No. 2137-0522
Expiration Date 01/31/2014

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

ANNUAL REPORT FOR CALENDAR YEAR 20_10__
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☒
SUPPLEMENTAL REPORT ☐

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per submission, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF OPERATOR
UGI Central Penn Gas, Inc.

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
225 Morgantown Road
Number and Street
Reading Berks
City and County
PA 19612
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER
/ 3 / 1 / 4 / 6 / 7 /

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT
2525 N. 12th Street Suite 360
Number and Street
Reading Berks
City and County
PA 19612
State and Zip Code

5. STATE IN WHICH SYSTEM OPERATES:/ PA / (provide a separate report for each state in which system operates)

PART B - SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	SYSTEM TOTAL
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAIN	609.8	0	17.8	813.4	2231.5	17.6	0	0	0	3690.1
NO. OF SERVICES	407	0	10	7536	72036	0	0	15	0	80004

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	SYSTEM TOTALS
STEEL	0	343.5	477.3	561.4	48.0	10.8	1441.0
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	0	0	0	0	0	0
CAST/WROUGHT IRON	0	0.4	10.5	4.4	2.2	0.1	17.6
PLASTIC 1. PVC	0	28.6	3.6	0	0	0	32.2
2. PE	0	1487.4	633	78.7	0.2	0	2199.3
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	1859.9	1124.4	644.5	50.4	10.9	3690.1

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR					AVERAGE SERVICE LENGTH 88 FEET		
MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0	6604	1264	74	11	0	7953
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	12	3	0	0	0	15
CAST/WROUGHT IRON	0	0	0	0	0	0	0
PLASTIC 1. PVC	0	220	32	0	0	0	252
2. PE	0	62230	9344	203	7	0	71784
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	69066	10643	277	18	0	80004

4. MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION											
	UN-KNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	706.2	42.2	27.3	130.7	441.5	451.4	616.5	844.4	406.9	23	3690
NUMBER OF SERVICES	0	1026	423	955	4022	10166	17611	27098	17922	781	80004

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING YEAR				
	Mains		Services	
CAUSE OF LEAK	Total	Hazardous	Total	Hazardous
CORROSION	290	35	66	36
NATURAL FORCES	15	5	4	1
EXCAVATION DAMAGE	53	42	74	67
OTHER OUTSIDE FORCE DAMAGE	0	0	0	0
MATERIAL OR WELDS	11	2	4	4
EQUIPMENT	8	2	3	1
INCORRECT OPERATIONS	4	0	2	0
OTHER	34	8	11	7

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR 106

PART D – EXCAVATION DAMAGE	PART E – EXCESS FLOW VALVE (EFV) DATA
Number of Excavation Damages 127	Total Number Of EFVs on Single-family Residential Services Installed During Year 503
Number of Excavation Tickets 10,607	Estimated Number of EFVs In System At End Of Year 13399

NOTICE: This report is required by 49 CFR Part 191. Failure to report may result in a civil penalty not to exceed $100,000 for each violation for each day the violation continues up to a maximum of $1,000,000 as provided in 49 USC 60122.

OMB No. 2137-0522
Expiration Date 01/31/2014

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

ANNUAL REPORT FOR CALENDAR YEAR 20_10__
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☒
SUPPLEMENTAL REPORT ☐

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per submission, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF OPERATOR
UGI Central Penn Gas, Inc.

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
225 Morgantown Road
Number and Street
Reading Berks
City and County
PA 19612
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER
/ 3 / 1 / 4 / 6 / 7 /

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT
2525 N. 12th Street Suite 360
Number and Street
Reading Berks
City and County
PA 19612
State and Zip Code

5. STATE IN WHICH SYSTEM OPERATES:/ M/D / (provide a separate report for each state in which system operates)

PART B - SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	SYSTEM TOTAL
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAIN	0	0	0	12.9	8.62	0	0	0	0	21.5
NO. OF SERVICES	0	0	0	133	384	0	0	0	0	517

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	SYSTEM TOTALS
STEEL	0	1.61	2.82	8.45	0	0	12.88
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	0	0	0	0	0	0
CAST/WROUGHT IRON	0	0	0	0	0	0	0
PLASTIC 1. PVC	0	0	0	0	0	0	0
2. PE	0	4.71	2.46	1.45	0	0	8.62
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	6.32	5.28	9.9	0	0	21.50

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR					AVERAGE SERVICE LENGTH 108 FEET		
MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	0	127	4	2	0	0	133
DUCTILE IRON	0	0	0	0	0	0	0
COPPER	0	0	0	0	0	0	0
CAST/WROUGHT IRON	0	0	0	0	0	0	0
PLASTIC 1. PVC	0	0	0	0	0	0	0
2. PE	0	374	8	1	1	0	384
3. ABS	0	0	0	0	0	0	0
4. OTHER PLASTIC	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
SYSTEM TOTALS	0	501	12	3	1	0	517

4. MILES OF MAIN AND NUMBER OF SERVICES BY DECADE OF INSTALLATION											
	UN-KNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
MILES OF MAIN	0	2.3	0	0	10.6	0.9	2.1	1.2	4.4	0	21.5
NUMBER OF SERVICES	0	0	0	0	68	9	71	112	256	1	517

PART C - TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING YEAR				
CAUSE OF LEAK	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	0	0	0	0
NATURAL FORCES	0	0	0	0
EXCAVATION DAMAGE	0	0	0	0
OTHER OUTSIDE FORCE DAMAGE	0	0	0	0
MATERIAL OR WELDS	0	0	0	0
EQUIPMENT	0	0	0	0
INCORRECT OPERATIONS	0	0	0	0
OTHER	0	0	0	0

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR 0

PART D – EXCAVATION DAMAGE	PART E – EXCESS FLOW VALVE (EFV) DATA
Number of Excavation Damages 0	Total Number Of EFVs on Single-family Residential Services Installed During Year 0
Number of Excavation Tickets 425	Estimated Number of EFVs In System At End Of Year 122

Appendix L

Appendix L

Acronym List

A/A – Accelerated or Additional Action
AGF – American Gas Foundation
ASME – American Society of Mechanical Engineers
ASTM – American Society of Testing and Materials
BAA – Broad Agency Announcement
CP – Cathodic Protection
DIMP – Distribution Integrity Management Program
DOT – Department of Transportation
EDPG – Excavation Damage Prevention Group under the 2005 PHMSA sponsored investigation relative to implementing integrity management principles for gas distribution pipelines.
EFV – Excess Flow Valve
GIS – Geospatial Information System
GOM – Gas Operations Manual
GPTC – Gas Piping Technology Committee
IAFC – International Association of Fire Chiefs
IG – Inspector General
IM – Integrity Management
IMP – Integrity Management Program
LDC – Local Distribution Company
LEAKS – Leak Management Program Consisting of: Locate, Evaluate, Act, Keep Records, and Self-Assess
MD – State of Maryland
MOC – Management of Change
NAPSR – National Association of Pipeline Safety Representatives
NARUC – National Association of Regulatory Utility Commissioners
NCMS - National Compliance Management Services
PA – State of Pennsylvania
PHMSA – Pipeline and Hazardous Materials Safety Administration
PIM – Pipeline Integrity Management (transmission)
PSIA – Pipeline Safety Improvement Act of 2002
R&D – Research and Development
SME – Subject Matter Expert
SMYS – Specified Minimum Yield Strength

Appendix M

Organizations and Associations That UGI Actively Participates In

AGA – American Gas Association
CGA – Common Ground Alliance
EAP – Energy Association of Pennsylvania
GPTC – Gas Piping Technology Committee
NACE – National Association of Corrosion Engineers
Miss Utility/811
PA One Call/811

Appendix N

[Confidential Information Redacted]

UTILITIES, INC.

SUBJECT MATTER EXPERT (SME) RESUME

NAME	SME No. 1 (Example)			DATE	xx/xx/xx
				EMPLOYEE ID:	XXXXXX
POSITION	Manager-DIMP		DEPARTMENT Operations		
DIVISION	GUH	LOCATION Stone Pointe	DATE EMPLOYED-(UGI)	xx/xx/xx	DATE IN PRESENT POS. X years

EDUCATION: (GRADUATE, UNDERGRADUATE, SECONDARY)

SCHOOL	LOCATION	MAJOR	DATES	DEGREE(S) EARNED
Drexel University			1973	BS-EE

TRAINING: (DEVELOPMENT, OTHER)

PROGRAM OR COURSE/DATE	PROGRAM OR COURSE/DATE
1976 "Corrosion Course" Metals Engineering Institute 1976 Safety Requirements for Gas Pipeline Systems, DOT - Transportation Safety Institute 1978 Corrosion Prevention by Cathodic Protection - NACE, Philadelphia 1983 Management & Disposal of Hazardous Wastes Training, J. T. Baker Chemical Company 1986 "86" RCRA Update & Underground Storage Tank Registration 1986 Chemical Materials Handling Training 1997 PUC Emergency Response/Accident Investigation (one day) 2000 MEA Operator Qualification Seminar (3 days) 2000 PUC Safety Seminar (2 days) 2000 AGA Safety/Operator Qualifications Seminar (2 days) 2001 Pipeline Integrity Management (2 days) 2001 Operator Qualification Seminar (3 days) 2003 AGA Pipeline Integrity/Public Awareness Seminar (1 day) 2005 GTI Direct Assessment Seminar (3½ days)	Emergency Response Training for last number of years

INDUSTRY INVOLVEMENTS AND COMMITTEES

ACHIEVEMENT/DATE	OTHER PROFICIENCIES
1976-1982 Philadelphia Section NACE Education Committee (1981 Chairman) Liberty Bell Short Course 1979-1987 PGA - Corrosion Task Group Member 1987 to present - Gas Piping Technology Committee (GPTC) Member 1988 to 2007 - Gas Piping Technology Committee (GPTC) Main Body Member 1996 to 2004 - PGA Pipeline Safety Task Group (PSTG) 1998 to 2000 - PGA PSTG Chairperson 1998 to 2006 - GPTC Plastic Task Group Chairperson 2005 – present – EAPA IMP/ Corrosion Working Group 2006 to 2007 – Appointed DIMP Guidance Regulatory-Industry Team 2007 to 2009 – GPTC Executive Committee Chair/GPTC 1st Vice Chair	

			• Oversee utilities operations training • Led team in the development and implementation of OQ plan and program. • Oversight of GIS and pipeline facilities records management • Lead team in developing rationale and framework for Field Level Asset Management Environment (FLAME) initiative. • Oversee development of company-wide standards and procedures • Led team in the development and implementation of OQ plan and program. • Oversight of pipeline material and aspects of equipment evaluations and approvals • Review and approval of CP systems designs
2004 – Present		Gas Utility Headquarters	**Manager – DIMP** • Oversee pipeline integrity via leak management, corrosion control and pipeline integrity evaluation and assessment. • Led teams in development and implementation of TIMP and DIMP plans and programs • Assumed CPG oversight responsibilities for corrosion control, transmission IMP and HP pressure control hot tapping in 2008 • Assumed PNG oversight responsibilities for corrosion control, transmission IMP and and leak survey in 2011.

Employee's Signature _____ Date XX/XX/XX