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February 3, 2012

BY HAND DELIVERY

Ms. Ann Cole, Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

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COMMISSION
CLERK

In re: Joint Petition for Approval of Gas Reliability Infrastructure Program (GRIP) by Florida Public Utilities Company and the Florida Division of Chesapeake Utilities Corporation.

Dear Ms. Cole:

Enclosed for filing on behalf of Florida Public Utilities Company and the Florida Division of Chesapeake Utilities Corporation, please find the original and 15 copies of a Joint Petition for Approval of Gas Reliability Infrastructure Program (GRIP), along with the supporting exhibits. Included are copies of the following original, and revised, tariff sheets for Florida Public Utilities Company and the Florida Division of Chesapeake Utilities Corporation, respectively (clean and legislative format)(Attachment F):

Florida Public Utilities Company Gas Tariff, Third Revised Volume No. 1

Seventh Revised Sheet No. 35.4

Florida Division of Chesapeake Utilities Corporation, Tariff Original Volume No. 4

Original Sheet No. 105.1

Original Sheet No. 105.2

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Thank you very much for your assistance with this filing. If you would please acknowledge receipt on the enclosed copy of this cover letter, I would greatly appreciate it. As

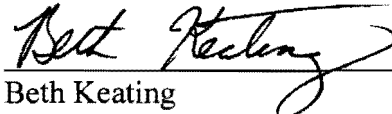
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Ms. Ann Cole, Clerk
February 3, 2012
Page 2

always, should you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Beth Keating", written over a horizontal line.

Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 South Monroe St., Suite 618
Tallahassee, FL 32301
(850) 521-1706

BK
Enclosures

cc: Cheryl Martin (FPUC)
J.R. Kelly/ Patricia Christensen (Office of Public Counsel)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Joint Petition for Approval of Gas Reliability Infrastructure Program (GRIP) by Florida Public Utilities Company and the Florida Division of Chesapeake Utilities Corporation	DOCKET NO. DATED: February 3, 2012
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**JOINT PETITION OF FLORIDA PUBLIC UTILITIES COMPANY AND THE
FLORIDA DIVISION OF CHESAPEAKE UTILITIES CORPORATION FOR
APPROVAL OF GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND
ASSOCIATED RECOVERY MECHANISM**

Florida Public Utilities Company, (herein "FPUC"), and the Florida Division of Chesapeake Utilities Corporation ("CHPK")(also referred to herein individually as "Company" and jointly as "Companies"), by and through their undersigned counsel, hereby file this Petition, pursuant to Section 366.06, Florida Statutes, seeking approval from the Florida Public Service Commission ("FPSC" or "Commission") of new programs for each Company that will enable each to recover costs, inclusive of an appropriate return on investment, associated with accelerating the replacement of qualifying distribution mains and services (defined as any material other than coated steel or plastic (Polyethylene)) in their respective systems. To be clear, while the Companies submit this Petition jointly, they are proposing two separate Gas Reliability Infrastructure Programs ("GRIP" or "Programs") for their respective systems. Nonetheless, the structures of the proposed programs, inclusive of the methodology used to calculate the surcharges, are identical and are based upon the same data previously used in FPUC last rate proceeding. Therefore, when coupled with the fact that the Companies' intend to consolidate these programs simultaneous to the integration of the Companies' tariffs and rates, the Companies determined that submitting these programs in the instant joint Petition for

Commission approval would serve the interest of administrative efficiency. Nevertheless, should the Commission see fit to bifurcate its consideration of these two programs, the Companies would not object. Likewise, to the extent Section 366.06(3) is deemed applicable, the Companies waive the 60-day requirement for Commission action on the tariffs submitted with this Petition. In support of this request, the Companies hereby state:

- 1) FPUC is a natural gas utility subject to the Commission's jurisdiction under Chapter 366, Florida Statutes.¹ Its principal business address is:

Florida Public Utilities Company
401 South Dixie Highway
West Palm Beach, FL 33401

- 2) CHPK is also a natural gas utility subject to the Commission's jurisdiction under Chapter 366, Florida Statutes. Its principal business address is:

Florida Division of Chesapeake Utilities
Corporation
1015 Sixth Street, NW
Winter Haven, FL 33881

- 3) The name and mailing address of the persons authorized to receive notices are:

Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 South Monroe St., Suite 601
Tallahassee, FL 32301
(850) 521-1706

Cheryl Martin
Florida Public Utilities
Company/Florida Division of
Chesapeake Utilities Corporation
P.O. Box 3395
West Palm Beach, FL
33402-33958

- 4) The Commission is vested with jurisdiction in this matter in accordance with Sections 366.04, 366.041, 366.05, and 366.06, Florida Statutes, pursuant to which the Commission is

¹ This Petition and request excludes FPUC's Indiantown Division, which does not have any qualifying distribution mains and services in their respective system that requires replacement under GRIP.

authorized to establish rates and charges for public utilities, including the relief requested herein, and to consider, among other things, the adequacy of facilities, as well as the utility's ability to improve such facilities. Likewise, in accordance with Section 368.05(2), Florida Statutes, the Commission has the authority to require improvements to natural gas distribution systems as may be necessary to promote the protection of the public.

BACKGROUND

5) The Companies believe that the proposed acceleration of the replacement of qualifying distribution mains and services programs is timely. Specifically, on December 4, 2009, the Department of Transportation/Pipeline and Hazardous Material Safety Administration amended the Federal Pipeline Safety Regulations to require natural gas distribution pipeline operators to develop and implement Integrity Management programs inclusive of a written plan. The amended rules became effective February 12, 2010, and required natural gas distribution pipeline operators to draft and implement Integrity Management plans by August 2, 2011. These rules emphasized the need for enhanced bare steel replacement. The Integrity Management Plans, which comply with the new regulations, for both FPUC and CHPK are reflected in Attachment A to this Petition. The DOT reports for 2010 for both FPUC and CHPK are reflected in Attachment B to this Petition.

6) The need to expedite these new Programs has been further prompted by recent tragic events that have heightened industry concerns regarding safety and the need to update infrastructure to remove facilities more susceptible to corrosion. Federal regulators are currently reviewing heightened standards for natural gas facilities, as emphasized by statements of US Department of Transportation Secretary Ray LaHood in April of last year in which he called

upon the industry, state leaders, and other key stakeholders to work together to improve the safety and efficiency of the nation's natural gas pipeline infrastructure. This was followed on August 25, 2011, by issuance of an Advanced Notice of Proposed Rulemaking (ANPRM) by the Department of Transportation/Pipeline and Hazardous Material Safety Administration.

7) In addition, the federal "Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011," H. Con. Res. 93, passed out of the 112th Congress on December 15, 2011, and was signed into law on January 3, 2012. Among other changes to the Natural Gas Pipeline Safety Act made by the new law, the law doubles the maximum fines that pipeline operators face for violations, and allows the Secretary of the Department of Transportation (DOT) to mandate automated shutoff valves on new or replaced pipelines to prevent spills. The new law also requires the DOT Secretary to review integrity management plans to evaluate, among other things, "[t]he continuing priority to enhance protections for public safety" and "[t]he continuing importance of reducing risk in high consequence areas." H.CON.RES.93, Section 5 (b) (1 & 2).

8) In response, many States have already launched initiatives to encourage pipelines and natural gas utilities to move more quickly to remove bare steel and cast iron facilities in their systems. For instance, as reflected in the May 2011 "Rate Round-Up" Report from the American Gas Association ("AGA"), 18 states, including neighboring Georgia, have implemented full infrastructure cost recovery mechanisms designed to facilitate expeditious infrastructure replacement by utilities, which ultimately will enhance the safety and reliability of these utility systems to the benefit of the utilities and their customers. As the AGA Report notes, "[T]he[se] mechanisms recognize that replacement investments will not lead to sale of additional

volumes of natural gas that might otherwise have been expected to help recover the investments' cost." Report, p. 28). See AGA website for details on this report.²

9) For both Companies, the need to proceed on an expedited basis is heightened by their review of the status of their respective systems' facilities. While the Companies emphasize that their facilities are safe and maintained in accordance with current state and federal safety standards, the replacement of certain system segments should be expedited consistent with current federal initiatives, as well as prudent planning considerations for addressing segments in higher population areas as soon as possible. Specifically, the Companies will prioritize replacements in areas that are more susceptible to corrosion or in more densely populated areas. Again, the Companies' systems are currently safe, but in view of recent events, both Companies wish to expedite infrastructure replacement, in a program that complies with applicable regulations and is not unduly burdensome to ratepayers, so that unnecessary risks to the public are avoided or reduced that may be associated with the suspect components.

10) Recognizing the national call to update natural gas facilities and assure customers of the safety of natural gas service, and the desire to proactively address such issues, FPUC and CHPK seek to implement these Gas Reliability Infrastructure Programs in order to responsibly manage the replacement of infrastructure in their systems in an expeditious manner that will also properly recognize the significant cost involved.

GAS RELIABILITY INFRASTRUCTURE PROGRAM

11) By this Petition, the Companies seek approval of the proposed Programs for FPUC's and CHPK's natural gas distribution systems. Commission approval of the proposed Programs would allow the Companies' to recover their respective revenue requirements on the actual

² [http://www.aga.org/our-issues/RatesRegulatoryIssues/ratesregpolicy/rateroundup/Pages/InfrastructureCostRecovery\(May2011\).aspx](http://www.aga.org/our-issues/RatesRegulatoryIssues/ratesregpolicy/rateroundup/Pages/InfrastructureCostRecovery(May2011).aspx)

investment amounts. The revenue requirements would be inclusive of the return on investment as calculated using the equity and debt components of the weighted average cost of capital from from each Companies' respective prior rate case, depreciation expense (respectively calculated using the currently approved depreciation rates), customer and general public notification expenses associated with GRIP and ad valorem taxes, grossed up for federal and state income taxes. The customer and general public notification expenses are expected to be incurred for 1) all customers regarding the implementation of the Programs and the approved surcharge factors; 2) the immediately affected customers where the eligible infrastructure is being replaced; and 3) the general public through publications (newspapers) covering the geographic areas of the eligible infrastructure replacement activities. Costs incurred to remove the existing eligible distribution mains and services would not be recoverable under the Programs. The primary goal of accelerating the replacement of this infrastructure is to proactively respond to public concerns regarding aging infrastructure's reliability and safety, not to expand the system to serve new customers or new load. Consequently, the Companies cannot offset the additional costs attributable to accelerated replacement through additional revenue. The Programs developed by the Companies will minimize impact to customers, but at the same time, allow the Companies to accelerate their replacement of Program-eligible infrastructure. Absent the proposed Programs, the Companies' rate of returns would deteriorate over time, assuming implementation of the accelerated Program, and the Companies would soon require the need for general base rate relief from the Commission, a much more costly mechanism for customers.

12) The Companies' each propose the implementation of a GRIP surcharge mechanism, with specific factors for each rate classification, using the cost of service methodology from each Companies' respective prior rate case for allocating mains and services costs. The resultant

surcharge factors for each rate classification would then be put in place for an initial 2-year period, beginning July 1, 2012. The Programs, as proposed by the Companies, would require filings by each Company every two years. The filings would detail the investments made, revenue requirements, net of existing bare steel program base rate revenues (if any), actual surcharge revenues collected, and calculation of the Program true-up for previous periods, and project the next two years investments, revenue requirements, net of existing bare steel program base rate revenues (if any), recovery/refund of historic true-up and proposed new surcharge factors. The filings would also provide for Commission review and audit of the program, as well as, continuous oversight of the effectiveness and rate impacts to customers. Thereafter, the new surcharge factors would be established for a subsequent 2-year periods, or until the investments and expenses can be rolled into the Companies' respective base rates³ resulting from a full base rate proceeding, at which time the surcharge would be reassessed and recalculated to ensure no duplicative recovery occurs.

13) In addition to the safety issue to be addressed, it is also worth noting that there will be significant workforce benefits associated with this expedited replacement program. The Companies anticipate the sub-contractors hired to do the bare steel replacement will need to employ additional workers over the course of the 10-year replacement period in order to complete the Program in the proposed time frame. FPUC and Chesapeake, together, have natural gas system facilities throughout much of peninsular Florida, as well as some facilities in the Panhandle. At a time when Florida's unemployment rate is still well-above the national average, the Companies believe that these Programs will provide a unique opportunity to spur employment in the construction labor segment that continues to trend downward, even while

³ If they have not yet been consolidated, or if they have, then in the base rates applicable to the consolidated entity.

other areas have seen slight gains⁴ By implementing the proposed Programs immediately, the Companies believe that the cost of installation by contractors will also be substantially lower than it would otherwise be in a robust construction market, resulting in reduced construction costs and resultant surcharge factors for ratepayers over the life of the Programs.

FLORIDA PUBLIC UTILITIES COMPANY

14) Currently, FPUC has a bare steel replacement and recovery program, which was originally approved in the Company's 2004 rate case proceeding.⁵ The Company requested some modifications to this program in its most recent 2008 rate proceeding. In that proceeding, the Company revised the replacement costs and added steel tubing to the replacement program. The Company also requested that all replacements be completed over a 60 year period for a total cost of \$37,386,365, with \$623,106 amortized annually. This amount of estimated total cost remains the Company's estimate (less actual replacement costs from the prior rate case to the implementation of the Program, if approved) for replacement of FPUC's qualified distribution mains and services. The Commission ultimately approved FPUC's requested revisions to its program, with the exception that the Commission reduced the replacement period and related amortization to 50 years. As a result, the annualized amortization amount associated with FPUC's bare steel replacement program that is currently embedded in base rates is \$747,727. See Attachment C for bare steel cost information approved in the rate proceeding. Thus, currently, FPUC's bare steel replacement program allows for recovery of costs to replace FPUC's existing bare steel mains and service lines with approved materials over a 50-year period.

⁴ See www.floridajobs.org, Florida Department of Economic Opportunity, December 2011 statistics, which reflects that the overall unemployment rate in Florida is currently 9.9 percent, compared with the national average of 8.5 percent. The latest report also reflects that while jobs have increased slightly, construction jobs have decreased over the past year (-0.5%). The Companies anticipate that labor employed to complete this project would largely come from the construction segment.

⁵ See Order No. PSC-04-1110-PAA-GU.

15) In preparation of the instant filing, FPUC has updated its review of the remaining eligible infrastructure, and developed a replacement plan with an accelerated period of 10 years. FPUC has prioritized the potential replacement projects focusing initially on areas of high consequence and areas more susceptible to corrosion. FPUC provides service to large metropolitan areas, including West Palm Beach. These areas also have a high percentage of mains and services constructed of eligible materials proposed for replacement under the Program. Replacement of eligible infrastructure in high density (urban) areas typically cost more than areas that are primarily rural. The results of the review indicate that approximately 34% of the total expected Program investments should be addressed and replaced in the first two years of the program (rather than a more typical 10% per year under the proposed 10-year Program), as shown on Attachment D, Schedules A and B (FPUC).

16) FPUC has developed its initial proposed GRIP surcharge rates for each rate classification utilizing the same investment data developed and approved in FPUC's most recent rate case. The Company has calculated the proposed surcharge factors for each rate classification, utilizing the methodology described above. Attachment D, Schedules A, B and C (FPUC) details the calculations. FPUC requests that the proposed surcharge factors, if approved, be implemented for the period beginning July 1, 2012 through June 30, 2014.

17) The proposed FPUC GRIP surcharge factors for the initial two-year period, if approved, would have a rate impact, net of the existing bare steel replacement program base rate recovery, for the typical FPUC residential customer using 250 therms annually of approximately \$0.04 per month or \$0.47 annually.

18) Finally, FPUC emphasizes that its existing Bare Steel Replacement program discussed above has been taken into account in order to avoid any concern of double recovery.

Specifically, the annual amount of bare steel amortization currently embedded in base rates would be incorporated into the GRIP surcharge computation as an adjustment to the surcharge amount and would be refunded through the GRIP surcharge mechanism. The embedded amortization would continue to be handled in this manner until removed from base rates in FPUC's next rate proceeding. FPUC will calculate a final true-up for the existing Bare Steel Replacement program for the period ending June 30, 2012 (assuming approval of the proposed July 1, 2012 GRIP implementation date) and any resulting adjustment would then be included with the true-up contemplated for the first two years of GRIP, as described herein. For example, if the amount of amortization recovered in base rates for the bare steel investment prior to the GRIP surcharge implementation is greater than actual expenditures for the same period, then the investment amount to be recovered would be reduced and customers would get a corresponding decrease in future surcharges.

FLORIDA DIVISION OF CHESAPEAKE UTILITIES CORPORATION

19) Unlike FPUC, CHPK does not have any formalized replacement plan, nor does CHPK have any recovery amount embedded in its base rates. In the past, CHPK has replaced its bare steel infrastructure as conditions warranted (based on leak history and results of its bare steel surveys). Replacement costs were capitalized and costs of removal were charged against accumulated depreciation in accordance with established FPSC accounting policy. In subsequent general rate increase proceedings, the replacement costs were included in rate base, while depreciation expense and ad valorem taxes were included as recoverable costs.

20) In preparation of the instant filing, CHPK has reviewed its remaining eligible infrastructure, and developed a replacement plan with an accelerated period of 10 years. CHPK has also prioritized the potential replacement projects focusing initially on areas of high

consequence and areas more susceptible to corrosion. CHPK has utilized the same per unit costs for its eligible replacement mains and services as FPUC for the initial surcharge calculations (see Attachment E, Schedule A (CHPK)). The results of the review indicate that approximately 20% of the total expected Program investments should be addressed and replaced in the first two years of the program, as shown on Attachment E, Schedules A and B (CHPK).

21) CHPK has developed its initial proposed GRIP surcharge rates for each rate classification, inclusive of fixed surcharge rates for Rate Schedules FTS-A (Experimental) through FTS-3.1 (Experimental), utilizing the methodology described above. Attachment E, Schedules A, B and C (CHPK) details the calculations. CHPK requests that the proposed surcharge factors, if approved, be implemented for the period beginning July 1, 2012 through June 30, 2014.

22) The proposed CHPK GRIP surcharge factors for the initial two-year period, if approved, would have a rate impact for the typical CHPK FTS-1 residential customer (under either the standard rate or experimental rate) using 277 therms annually of approximately \$0.22 per month or \$2.60 annually.

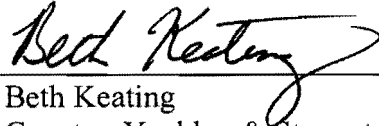
TARIFF SHEETS

23) The Companies' submit as Attachment F the required tariff sheets (in legislative and clean formats) for the GRIP Programs, reflecting the surcharge factors for each rate classification, for approval by the Commission.

WHEREFORE, Florida Public Utilities Company and the Florida Division of Chesapeake Utilities Corporation respectfully request that the Commission approve the

Companies' Gas Reliability Infrastructure Programs and associated tariff pages and surcharge factors as set forth herein with an effective date of July 1, 2012.

RESPECTFULLY SUBMITTED this 3rd day of February, 2012.

A handwritten signature in cursive script, reading "Beth Keating", written in black ink.

Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 South Monroe St., Suite 601
Tallahassee, FL 32301
(850) 521-1706

*Attorneys for Florida Public Utilities Company and
the Florida Division of Chesapeake Utilities
Corporation*



GAS DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM

REVISION CONTROL SHEET

Title: Distribution Integrity Management Plan

Section	Pages	Revision	Date	Comments

Table of Contents

<u>Section</u>	<u>Page</u>
1.0 COMPANY OVERVIEW.....	1
2.0 SCOPE	1
3.0 PURPOSE AND OBJECTIVES.....	2
4.0 DEFINITIONS.....	3
5.0 KNOWLEDGE OF FACILITIES.....	4
5.1 Type and Location of Records.....	4
5.2 Overview of Past Design, Operations and Maintenance	4
5.3 Characteristics of Design, Operations and Environmental Factors	5
5.4 Additional Information Needed	5
5.5 Data Capture for New Construction and Ongoing O&M.....	5
6.0 THREAT IDENTIFICATION	6
7.0 EVALUATION AND RANKING OF RISK.....	6
7.1 Objective	6
7.2 Risk Assessment Process	7
7.3 Risk Assessment	7
8.0 IDENTIFICATION AND IMPLEMENTATION OF MEASURES TO ADDRESS RISKS.....	8
8.1 Leak Management Program.....	8
8.1.1 Description of Existing Program.....	8
8.1.2 Key Performance Metrics & Analysis of Effectiveness.....	Error! Bookmark not defined.
8.2 Other Additional or Accelerated Actions	8
8.2.1 Corrosion	9

8.2.2	<i>Natural Forces</i>	9
8.2.3	<i>Excavation Damage</i>	9
8.2.4	<i>Other Outside Force</i>	10
8.2.5	<i>Material, Weld or Joint Failure</i>	10
8.2.6	<i>Equipment Failure</i>	11
8.2.7	<i>Incorrect Operation</i>	11
8.2.8	<i>Other</i>	12
9.0	MEASUREMENT OF PERFORMANCE, MONITORING RESULTS, AND EVALUATING EFFECTIVENESS	12
9.1	Number of Hazardous Leaks either Eliminated or Repaired, per §192.703(c), Categorized by Cause	12
9.2	Number of Excavation Damages	13
9.3	Number of Excavation Tickets (received from the notification center)	13
9.4	Total Number of Leaks either Eliminated or Repaired, Categorized by Cause	13
9.5	Number of Hazardous Leaks Either Eliminated or Repaired, per §192.703(c), Categorized by Material	13
9.6	Additional Performance Measures	Error! Bookmark not defined.
10.0	PERIODIC EVALUATION AND IMPROVEMENT	14
10.1	Plan Updating, Review Frequency and Documentation	14
10.2	Effectiveness Review	14
11.0	REPORTING RESULTS	14
11.1	State & Federal Annual Reporting Requirements	14
12.0	DOCUMENT AND RECORD RETENTION	15
	APPENDIX A KNOWLEDGE OF FACILITIES	17
	APPENDIX B THREAT IDENTIFICATION	59

APPENDIX C EVALUATION AND RANKING OF RISK.....	60
APPENDIX D IDENTIFICATION AND IMPLEMENTATION OF MEASURES TO ADDRESS RISKS.....	75
APPENDIX E MEASUREMENT OF PERFORMANCE, MONITORING RESULTS, AND EVALUATION EFFECTIVENESS	102
APPENDIX F PERIODIC EVALUATION AND IMPROVEMENT	112
APPENDIX G CROSS REFERENCE OF 49 CFR PART 192, SUBPART P REQUIREMENTS TO THE IM PLAN	126
APPENDIX H COPY OF 49 CFR PART 192, SUBPART P.....	147

1.0 COMPANY OVERVIEW

Headquartered in West Palm Beach, Florida, Florida Public Utilities (including Central Florida Gas Company) delivers natural gas and liquefied petroleum gas (propane) to more than eighty-one thousand (81,000) residential, commercial and industrial customers. The service territory is depicted in Figure 1.1.

Figure 1-1 Service Territory

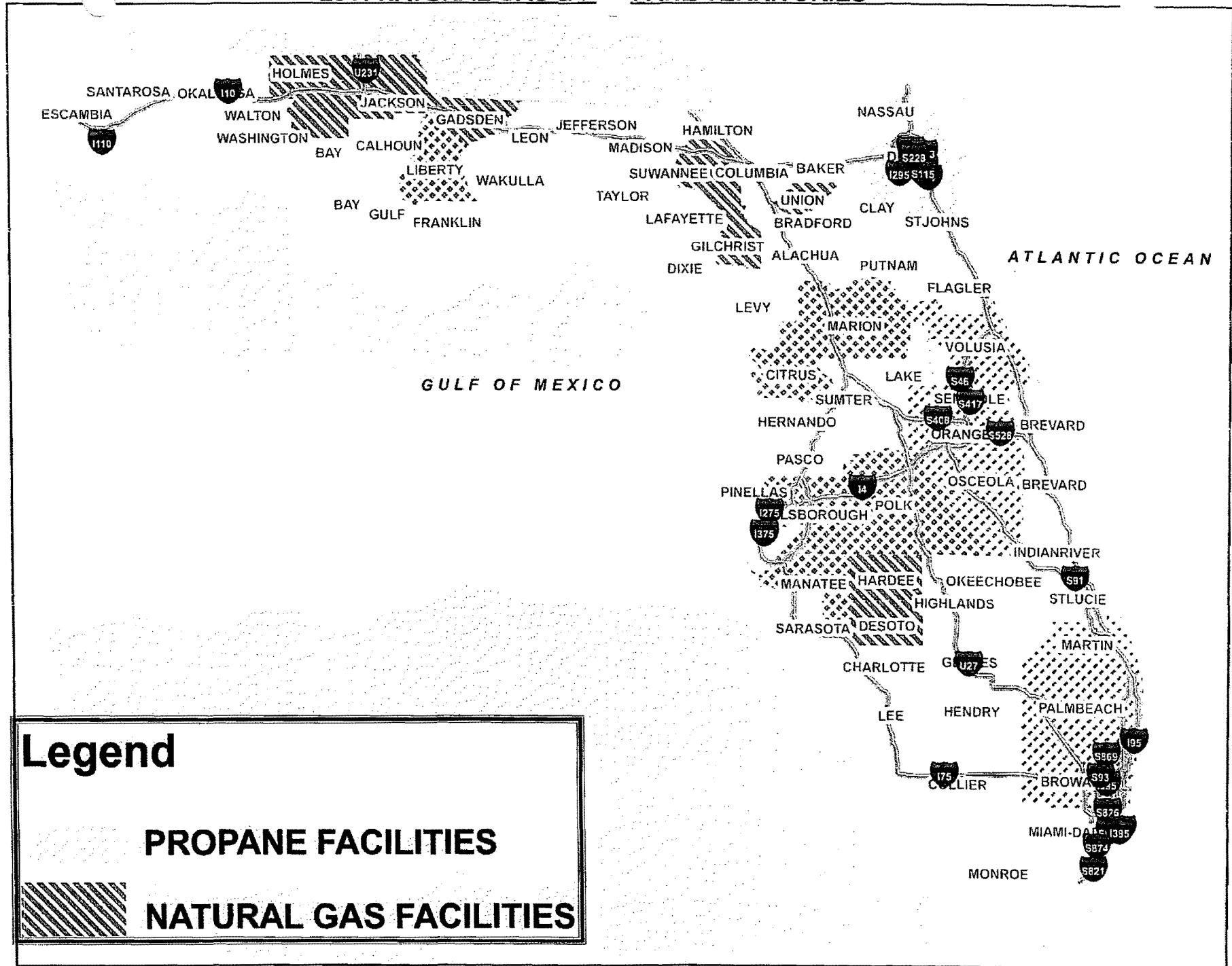
2.0 SCOPE

The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) amended the Federal Pipeline Safety Regulations on December 4, 2009 to require operators of gas distribution pipelines to develop and implement an integrity management (IM) program that includes a written integrity management plan.

The purpose of the IM program is to enhance safety by identifying and reducing gas distribution pipeline integrity risks. Operators must integrate reasonably available information about their pipelines to inform their risk decisions. The rule requires that operators identify risks to their pipelines where an incident could cause serious consequences and focus priority attention in those areas. The rule also requires that operators implement a program to provide greater assurance of the integrity of their pipeline.

The IM approach was designed to promote continuous improvement in pipeline safety by requiring operators to identify and invest in risk control measures beyond previously established regulatory requirements.

2011 NATURAL GAS & PROPANE TERRITORIES FIGURE 1.1



This written IM Plan addresses the IM Rule which requires operators to develop and implement an IM program that addresses 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

Because of the significant diversity among distribution pipeline operators and pipelines, the requirements in the IM Rule are high-level and performance-based. The IM Rule specifies the required program elements but does not prescribe specific methods of implementation.

3.0 PURPOSE AND OBJECTIVES

The purpose of the IM program is to enhance safety by identifying and reducing gas distribution integrity risks. Managing the integrity and reliability of the gas distribution pipeline has always been a primary goal for Florida Public Utilities; with design, construction, operations and maintenance activities performed in compliance with CFR Part 192 requirements. The objective of this IM Plan is to establish the requirements to comply with the Code of Federal Regulations (CFR 49) §§ 192.1005, 192.1007, 192.1009 and 192.1011, pertaining to integrity management for gas distribution pipelines. This IM Plan does not address how an operator may deviate from the required periodic inspections as provided for in §192.1013.

The IM Plan is comprised of seven elements depicted in Figure 3-1.

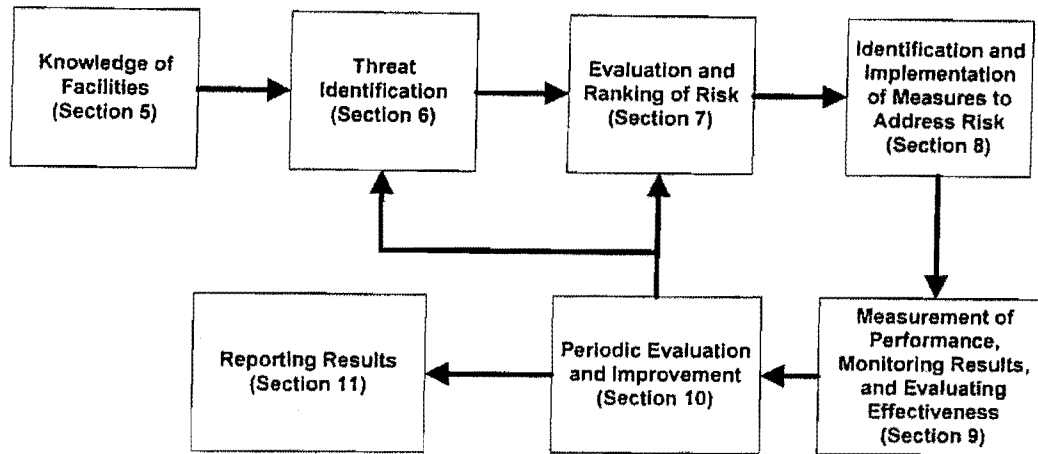


Figure 3-1 DIMP Elements

In addition to the key elements shown in Figure 3-1, the IM Plan also establishes requirements for reporting of mechanical coupling failures (Section 11.2) and maintaining records (Section 12).

All elements of this IM Plan shall be implemented by no later than August 2, 2011.

4.0 DEFINITIONS

The definitions provided in 49 CFR, §192.3 and §192.1001 shall apply to this IM Plan. The following additional definitions and acronyms shall also apply to this IM Plan.

DIMP: Distribution Integrity Management Program

Distribution Integrity Management Program Files: operator records, databases, and/or files that contain either material incorporated by reference in the Appendices of the IM Plan or outdated material that was once contained in the IM Plan Appendices but is being retained in order to comply with record keeping requirements.

EFV: Excess Flow Valve. An Excess Flow Valve is a safety device that is designed to shut off flow of natural gas automatically if the service line breaks.

IM Rule: 49 CFR Part 192, Subpart P

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

Risk: A relative measure of the likelihood of a failure associated with a threat and the potential consequences of such a failure.

Ticket: A notification from the one-call notification center to the operator providing information of pending excavation activity for which the operator is to locate and mark its facilities.

5.0 KNOWLEDGE OF FACILITIES

The objective of this section is to assemble as complete of an understanding of the company's infrastructure as possible using reasonably available information from past and ongoing design, operations and maintenance activities. In addition, this plan will identify what additional information is needed and provide a plan for gaining that information over time through normal activities.

5.1 Type and Location of Records

A summary of the existing records that are utilized by the IM Plan and where they are located is documented in Appendix A, Section 1. These records include, but are not limited to, incident and leak history, corrosion control records, continuing surveillance records, patrolling records, maintenance history and excavation damage experience.

5.2 Overview of Past Design, Operations and Maintenance

Record reviews, interviews with SMEs and other means were used to gain an understanding of past design, operations and maintenance history of the distribution system. This information includes operating pressures, materials used in construction and construction practices. This information is documented, or included by reference, in Appendix A, Section 2.

5.3 Characteristics of Design, Operations and Environmental Factors

Characteristics of the pipeline's design, operations and environmental factors that are necessary to assess the applicable threats and risks are documented, or included by reference, in Appendix A, Section 3.

5.4 Additional Information Needed

Additional information needed to support the IM plan (information that is not reasonably available today) is identified in Appendix A, Section 4. Plans for gaining additional information over time through normal activities conducted on the pipeline are documented, or included by reference, in Appendix A, Section 4.

5.5 Data Capture for New Construction and Ongoing O&M

Data is continuously collected for both construction of new facilities, reconstruction of existing facilities and ongoing operations and maintenance. In particular, the standard or procedure that require data capture for the location where the new pipeline is installed and the material of which it is constructed is contained in FPU Operations and Maintenance Manual Section 16.0.1.

5.6 Knowledge Capture – Subject Matter Experts

In addition to maps, records, and databases, valuable information for this IM plan was gathered and captured from SMEs. SMEs are individuals who have specialized knowledge based on their experience or training. SMEs were used to supplement existing, incomplete, or missing records and were the best source of information in subjects such as historical operations, maintenance, and construction practices. SME interviews were also utilized to ensure that all threats have been identified. All SME interviews have been documented and stored in the Distribution Integrity Management Program files.

A form documenting SME interviews is presented in Appendix A, Section 5.

6.0 THREAT IDENTIFICATION

The objective of this section of the plan is to identify existing and potential threats to the gas distribution pipeline. The following categories of threats shall be considered for each gas distribution pipeline:

- Corrosion
- Natural Forces
- Excavation Damage
- Other Outside Force
- Material, Weld or Joint Failure
- Equipment Failure
- Incorrect Operation
- Other concerns that could threaten the integrity of the pipeline.

A review of information gathered for Section 5 and interviews with Subject Matter Experts were used to identify existing and potential threats to the distribution system. A description of the process used to identify threats is referenced in Appendix B, Section 1. The threats identified as applicable to the gas distribution pipeline are documented in Appendix B, Section 2. Prior versions of the threat identification process and results that are not longer current shall be retained and stored in the Distribution Integrity Management Program files.

7.0 EVALUATION AND RANKING OF RISK

7.1 Objective

Risk analysis is an ongoing process of understanding what factors affect the risk posed by threats to the gas distribution pipeline and where they are relatively more important than others. The primary objectives of the evaluation and ranking of gas distribution pipeline risk are:

- Consider each applicable current and potential threat
- Consider the likelihood of failure associated with each threat
- Consider the potential consequences of such a failure

- Estimate and rank the risks (i.e. determine the relative importance) posed to the pipeline
- Consider the relevance of threats in one location to other areas

7.2 Risk Assessment Process

The current process used for Risk Assessment (the evaluation and ranking of risk) shall be documented, or included by reference, in Appendix C, Section 1. Prior risk assessment processes shall be retained and stored in the Distribution Integrity Management Program files.

7.3 Risk Assessment

The current risk assessment (likelihood, consequence, and resultant risk ranking) shall be documented, or included by reference, in Appendix C, Section 2. Prior risk assessment results shall be retained and stored in the Distribution Integrity Management Program files.

8.0 IDENTIFICATION AND IMPLEMENTATION OF MEASURES TO ADDRESS RISKS

The objective of this section of the IM Plan is to describe existing and proposed measures to address the risks that have been evaluated and prioritized in Section 7.

8.1 Leak Management Program

The Leak Management program is established in the Florida Public Utilities Procedure Manual in the section entitled "Leak Control".

8.1.1 Description of Existing Program

Florida Public Utilities Leak Management Program contains all the essential elements for an effective program. Procedures are in place to 1) Locate the leak, 2) Evaluate its severity, 3) Act appropriately to mitigate the leak, 4) Keep records; and 5) Self assess to determine if additional actions are necessary.

Florida Public Utilities Operations and Maintenance Manual and Emergency Manual address necessary components of effective leak control including, prompt and effective response to gas odor calls, classification of gas leaks, performing leakage surveys at prescribed regulatory intervals and system patrols.

Leaks are repaired in compliance with the prescribed time frames of Chapter 25-12.040 of the Florida Administrative Code.

A summary of the key elements of the Leak Management Program are documented, or included by reference, in Appendix D, Section 1.

8.2 Other Additional or Accelerated Actions

The following Sections 8.2.1 through 8.2.8 outline additional or accelerated actions that have been taken or are being planned in order to reduce the risks from failure of the gas distribution pipeline.

8.2.1 Corrosion

Corrosion is the second leading cause of leaks in FPU's gas distribution system. This is reflected in the number of leaks and the risk rankings. In FPU's South Division corrosion accounted for 29.34% of the total leaks in 2010 and 21.45% of the total leaks for the five year period from 2006 through 2010. In FPU's East Division corrosion accounted for 35.29% of the total leaks in 2010 and 32.66% of the total leaks for the five year period from 2006 through 2010. In FPU's West Division corrosion accounted for 13.04% of the total leaks in 2010 and 18.77% of the total leaks for the five year period from 2006 through 2010.

Additional or Accelerated Actions that are currently scheduled or in place in order to reduce the risks associated with corrosion are documented, or included by reference, in Appendix D, Section 3. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.2 Natural Forces

Leaks in FPU's gas distribution system due to the threat of natural forces are minimal and risk rankings are so low that they are negligible. In FPU's South Division natural forces accounted for 0% of leaks in 2010 and 0.366% of total leaks for the five year period of 2006 through 2010. In FPU's East Division natural forces accounted for 1.96% of the total leaks in 2010 and 1.34% of the total leaks for the five year period of 2006 through 2010. In FPU's West Division natural forces accounted for 1.086% of the total leaks for 2010 and 0.27% of the total leaks for the five year period of 2006 through 2010.

Because the number of leaks from natural forces is low, and risks rankings from this threat were minimal (maximum ranking 0.0137), no Additional or Accelerated Actions are scheduled. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.3 Excavation Damage

Excavation Damage is the leading cause of leaks in FPU's gas distribution system. This is reflected in the number of leaks and the risk rankings. In FPU's South Division excavation damage accounted for 37.65% of the total leaks in 2010 and 32.48% of the total leaks for the five

year period from 2006 through 2010. In FPU's East Division excavation damage accounted for 27.94% of the total leaks in 2010 and 30.32% of the total leaks for the five year period from 2006 through 2010. In FPU's West Division excavation damage accounted for 19.56% of the total leaks in 2010 and 41.08% of the total leaks for the five year period from 2006 through 2010.

Additional or Accelerated Actions that are currently scheduled or in place in order to reduce the risks associated with excavation damage are documented, or included by reference, in Appendix D, Section 5. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.4 Other Outside Force

Leaks in FPU's gas distribution system due to the threat of other outside forces are minimal and risk rankings are so low that they are negligible. In FPU's South Division other outside forces accounted for 0.856% of leaks in 2010 and 1.07% of total leaks for the five year period of 2006 through 2010. In FPU's East Division other outside forces accounted for 0% of the total leaks in 2010 and 0.111% of the total leaks for the five year period of 2006 through 2010. In FPU's West Division other outside forces accounted for 1.086% of the total leaks for 2010 and 3.129% of the total leaks for the five year period of 2006 through 2010.

Because the number of leaks from other outside forces is low, and risks rankings from this threat were minimal (maximum ranking 0.0412), no Additional or Accelerated Actions are scheduled. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.5 Material, Weld or Joint Failure

Leaks in FPU's gas distribution system due to the threat of material, weld or joint failure are minor and risk rankings are also low. In FPU's South Division material, weld or joint failure accounted for 2.69% of leaks in 2010 and 2.65% of total leaks for the five year period of 2006 through 2010. In FPU's East Division material, weld or joint failure accounted for 0.49% of the total leaks in 2010 and 0.557% of the total leaks for the five year period of 2006 through 2010. In FPU's West Division material, weld or joint failure accounted for 6.52% of the total leaks for 2010 and 7.34% of the total leaks for the five year period of 2006 through 2010.

The number of leaks and risk rankings are low for the threat of material, weld, or joint failure; however, additional actions are scheduled in an effort to identify where certain materials are in the gas distribution system in order to gain a better understanding of the risks associated with material, weld or joint failure. These actions are documented, or included by reference, in Appendix D, Section 7. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.6 Equipment Failure

Leaks in FPU's gas distribution system due to the threat of equipment failure varied between the divisions. In FPU's South Division equipment failure accounted for 2.57% of leaks in 2010 and 3.41% of total leaks for the five year period of 2006 through 2010. In FPU's East Division equipment failure accounted for 0% of the total leaks in 2010 and 0% of the total leaks for the five year period of 2006 through 2010. In FPU's West Division equipment failure accounted for 38.04% of the total leaks for 2010 and 11.70% of the total leaks for the five year period of 2006 through 2010. While the percentage of leaks due to equipment failure is significant in the West Division, virtually all of those were due to service regulators venting. Further discussions with Subject Matter Experts indicated that these service regulators were venting due to sand or debris in the distribution system and not from a defective service regulator.

Additional or Accelerated Actions that are currently scheduled or in place in order to reduce the risks associated with equipment failure are documented, or included by reference, in Appendix D, Section 8. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.7 Incorrect Operation

Leaks in FPU's gas distribution system due to the threat of incorrect operation are minimal and risk rankings are so low that they are negligible. In FPU's South Division incorrect operation accounted for 0.244% of leaks in 2010 and 0.70% of total leaks for the five year period of 2006 through 2010. In FPU's East Division incorrect operation accounted for 0% of the total leaks in 2010 and 0.111% of the total leaks for the five year period of 2006 through 2010. In FPU's West Division incorrect operation accounted for 1.086% of the total leaks for 2010 and 0.136% of the total leaks for the five year period of 2006 through 2010.

Because the number of leaks from incorrect operation is low, and risks rankings from this threat were minimal, no Additional or Accelerated Actions are scheduled. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

8.2.8 Other

Leaks in FPU's gas distribution system due to other causes were significant. In FPU's South Division other causes accounted for 26.65% in 2010 and 37.86% in the five year period from 2006 through 2010. The overwhelming majority of these were due to the practice of cold wrapping anodeless risers. In FPU's East Division other causes accounted for 34.31% in 2010 and 34.89% of the total leaks for the five year period from 2006 through 2010. In FPU's West Division other causes accounted for 19.56% of the total leaks in 2010 and 17.55% of the total leaks for the five year period from 2006 through 2010.

Additional or Accelerated Actions that are currently scheduled or in place in order to reduce the risks associated with other causes are documented, or included by reference, in Appendix D, Section 10. Prior documentation shall be retained and stored in the Distribution Integrity Management Program files.

9.0 MEASUREMENT OF PERFORMANCE, MONITORING RESULTS, AND EVALUATING EFFECTIVENESS

The objective of this section of the plan is to establish performance measures that shall be monitored from an established baseline in order to evaluate the effectiveness of the IM program. The performance measures detailed in Sections 9.1 through 9.6 have been established in order to monitor performance and assist in the ongoing evaluation of threats.

9.1 Number of Hazardous Leaks either Eliminated or Repaired, per §192.703(c), Categorized by Cause

The baseline and ongoing performance of the number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause, shall be documented, or included by reference, in Appendix E, Section 1.

9.2 Number of Excavation Damages

The baseline and ongoing performance of the number of excavation damages shall be documented, or included by reference, in Appendix E, Section 2.

9.3 Number of Excavation Tickets (received from the Sunshine State One Call of Florida notification center)

The baseline and ongoing performance of the number of excavation tickets received from the notification center(s) shall be documented, or included by reference, in Appendix E, Section 3.

9.4 Total Number of Leaks either Eliminated or Repaired, Categorized by Cause

The baseline and ongoing performance of the total number of leaks either eliminated or repaired, categorized by cause, shall be documented, or included by reference, in Appendix E, Section 4.

9.5 Number of Hazardous Leaks Either Eliminated or Repaired, per §192.703(c), Categorized by Material

The baseline and ongoing performance of the number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by material, shall be documented, or included by reference, in Appendix E, Section 5.

10.0 PERIODIC EVALUATION AND IMPROVEMENT

The objective of this section of the plan is to periodically re-evaluate threats and risks on the entire pipeline and periodically evaluate the effectiveness of its program.

10.1 Plan Updating, Review Frequency and Documentation

This written integrity management plan shall be reviewed annually and updated as required to reflect changes and improvements that have occurred in process, procedures and analysis for each element of the program. A complete program re-evaluation shall be completed every five years. All changes to the written plan, inclusive of material from the appendices, shall be recorded on the Revision Control Sheet on page ii. However, changes to material in the appendices that is included by reference need not be recorded on the Revision Control Sheet.

10.2 Effectiveness Review

An assessment of the performance measures described in Sections 9.1 through 9.6 shall be performed. In cases where the re-evaluation criteria specified is met or exceeded, a re-evaluation of the associated threats and risks shall be completed. An emerging threat in one or more location shall be evaluated for relevance to other areas. The re-evaluation of threats and risks shall be documented in Appendix F and the results of the re-evaluation shall be documented in Appendices B and C. The review shall also establish whether a complete program re-evaluation shall be completed in a shorter timeframe than five years; this decision shall also be documented. Past effectiveness reviews that are no longer current shall be retained and stored in the Distribution Integrity Management Program files.

11.0 REPORTING RESULTS

11.1 State & Federal Annual Reporting Requirements

The following four measures shall be reported, annually by March 15, to PHMSA as part of the annual report required by 49 CFR, § 191.11:

- Number of hazardous leaks either eliminated or repaired (or total number of leaks if all leaks are repaired when found), per § 192.703(c), categorized by cause

- Number of excavation damages
- Number of excavation tickets (receipt of information by the underground facility operator(Florida Public Utilities) from the Sunshine State One Call of Florida notification center)
- Total number of leaks either eliminated or repaired, categorized by cause
- Information related to failure of mechanical couplings, excluding those that result only in nonhazardous leaks, shall be reported to PHMSA as part of the annual report required by §191.11 beginning with the report submitted March 15, 2011. This information must include, as available, location of the failure in the pipeline, nominal pipe size, material type, nature of failure including any contribution of local pipeline environment, coupling manufacturer, lot number and date of manufacture, and other information that can be found in markings on the failed coupling.

The State of Florida also exercises jurisdiction over the pipeline; therefore, these five measures shall also be reported to the Florida Public Service Commission. A copy of the reports shall be maintained in the Distribution Integrity Management Program files.

12.0 DOCUMENT AND RECORD RETENTION

The following records shall be retained in the Distribution Integrity Management Program files.

- The most current as well as prior versions of this written IM Plan
- Documents supporting Knowledge of Facilities (material supporting Appendix A of the IM Plan)
- Documents supporting threat identification (material supporting Appendix B of the IM Plan)
- Documents supporting risk evaluation and ranking (material supporting Appendix C of the IM Plan)
- Documents supporting the identification and implementation of measures to address risks (material supporting Appendix D of the IM Plan)
- Documents supporting measurement of performance, monitoring results and evaluating effectiveness (material supporting Appendix E of the IM Plan)
- Effectiveness Reviews (material supporting Appendix F of the IM Plan)

- Annual Reports to PHMSA (as required by §191.11) and State pipeline safety authorities
- Mechanical Coupling Failure Reports

Documentation demonstrating compliance with the requirements of 49 CFR, Part 192, Subpart P shall be retained for at least 10 years.

**APPENDIX A
KNOWLEDGE OF FACILITIES**

Appendix A. Section 1. Table 5-1: IM Program Records Summary

Record	Record Type – Database, Electronic Record, Paper Record	Applicable Standard, Policy, or Guideline	Extent of Missing Records	Location of Records	Key Contact
Graphic Information System (GIS) database	Database		Largely Unpopulated	FPU Server	GIS Administrator
Wall Maps / Plats	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Gas Service Record Cards	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
As-Built Construction Drawings / records	Electronic Record, Paper Record		Much data is missing	Division Offices	Division Engineering Departments
Gas Leak Repair Records	Paper Record		Complete but needs to capture more information	Division Offices	Division Operations Supervisors
Gas Leak Repair Database	NA		NA	NA	NA
Gas Leak Survey Records	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
DOT/PHMSA Incident Reports	Paper Records		Fairly Complete	Division Offices	Division Operations Manager
Other Incident Reports	Paper Records		Fairly Complete	Division Offices	Division Operations Manager

Appendix A. Section 1. Table 5-1: IM Program Records Summary (continued)

Record	Record Type – Database, Electronic Record, Paper Record	Applicable Standard, Policy, or Guideline	Extent of Missing Records	Location of Records	Key Contact
CP Maintenance of Isolated Mains and Services subject to 10% annual inspection	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Cathodic Protection Maintenance Areas (Rectifier and Pipe-to-Soil inspection)	Paper Records		Fairly Complete	Division Offices	Division Operations Supervisors
Atmospheric Corrosion Inspection Records	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Patrol Records	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Valve Maintenance Records	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Regulator Station Maintenance Records	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Requests to Locate Gas Facilities	Electronic Record		Fairly Complete	Division Offices	Division Operations Supervisors
3 rd Party Damage Claims	Paper Record		Fairly Complete	Division Offices	Division Operations Supervisors
Pipe Type Maps	Paper Record		South and East Divisions only, marginal information	Division Offices	Division Operations Supervisors
Exposed Main & Services Reports	Paper Record		Much Data Missing	Division Offices	Division Operations Supervisors

Appendix A. Section 1. Table 5-1: IM Program Records Summary (continued)

Record	Record Type – Database, Electronic Record, Paper Record	Applicable Standard, Policy, or Guideline	Extent of Missing Records	Location of Records	Key Contact
Environmental Factor: Areas subject to flood	NA		NA	NA	NA
Environmental Factor: Areas subject to landslide	NA		NA	NA	NA
Environmental Factor: Population Density Records	NA		NA	NA	NA
Environmental Factor: Areas of Wall-to-Wall Paving	NA		NA	NA	NA
SME Interview Records	Paper Record		Complete	DIMP Master File	Manager of Engineering

Appendix A. Section 2. Table 5-2: Summary of System Design by Operating Pressure

Maximum Operating Pressure	Miles of Main
Low-Pressure (2 psig or less)	Unknown
Intermediate Pressure – 2 psig to 60 psig	Unknown
High Pressure – greater than 60 psig	Unknown

Appendix A. Section 2. Table 5-3: Summary of Material Types and Years Installed (all divisions)

Material Type	Mains		Services	
	Current Miles of Main	Years Installed (of remaining)	Number of Services	Years Installed (of remaining)
Cast Iron	4	Unknown	0	0
Wrought Iron	0	0	0	0
Bare Steel – with CP	22	Unknown	1,950	Unknown
Bare Steel – No CP	328	Unknown	6,792	Unknown
Coated Steel – with CP	998	Unknown	17,097	Unknown
Coated Steel – no CP	0	0	0	0
Ductile Iron	0	0	0	0
Copper	0	0	0	0
Plastic - PVC	0	0	0	0
Plastic - ABS	0	0	0	0
Plastic – Century MDPE 2306	0	0	0	0
Plastic – Aldyl-A	Unknown	Unknown	0	Unknown
Plastic – HDPE 3306	0	0	0	0
Plastic – All Others	1,102	~1980 Thru Present	56,131	~1980 Thru Present

Appendix A. Section 2. Table 5-4: Example Summary of Construction Practices

Material Type	Year first deployed	Year Ceased
Replacement via insertion of Copper	NA	NA
Replacement via Insertion of Plastic	~1976	Practice Continues
Replacement via insertion and pipe bursting/splitting	NA	NA
Internal lining / slip-lining	NA	NA
Joint Trench with other utilities	Not Used (West) ~1965 (South) ~1985 (East)	Practice Continues in East and South Divisions
Unguided Bore – soil displacement/ram	~1985	Practice Continues
Guided Directional Bore / Drill	~1990	Practice Continues
Blasting	NA	NA
Plow-in	NA	NA

Appendix A. Section 3. Table 5-5: Miles of Mains and Number of Services by Material Type

[Part B1 of PHMSA Form F 7100.1-1 incorporated by reference (all divisions)]

Appendix A. Section 3. Table 5-6: Miles of Mains and Number of Service lines by material and nominal diameter

[Part B2 & B3 of PHMSA Form F 7100.1-1 incorporated by reference (all divisions)]

Appendix A. Section 3. Table 5-7: Miles of Mains and Number of Services by material and decade

[Part B4 of PHMSA Form F 7100.1-1 incorporated by reference (all divisions)]

Appendix A. Section 3. Table 5-8: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause (all divisions)

Cause of Leak	Number of Hazardous Leaks – 2010 *
Corrosion	94
Natural Forces	6
Excavation	355
Other Outside Force	5
Material, Weld or Joint Failure	0
Equipment Failure	4
Incorrect Operation	2
Other	63

Appendix A. Section 3. Table 5-9: Number of Excavation Damages (all divisions)

Year	Number of Excavation Damages
2010	383
2009	237
2008	353
2007	386
2006	355

Appendix A. Section 3. Table 5-10: Number of Excavation Tickets (all divisions)

Year	Number of Excavation Tickets
2010	74,978
2009	77,297
2008	102,873
2007	114,694
2006	118,328

Appendix A. Section 3. Table 5-11: Number of leaks either eliminated or repaired, categorized by cause (all divisions)

Cause of Leak	Number of leaks eliminated or repaired– 2010
Corrosion	324
Natural Forces	7
Excavation	383
Other Outside Force	9
Material, Weld or Joint Failure	41
Equipment Failure	62
Incorrect Operation	3
Other	306

Appendix A. Section 3. Table 5-20: Corrosion Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Frequency of Failure		
	Miles Main	# Services	Mains	Services	Main Leaks/Mile	Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Corrosion							
Cast Iron	4	0	9	0	2.25	0	2.25
Bare Steel	185	14,685	91	23	0.5583	0.4025	0.6162
Ductile Iron	0	0	0	0	0	0	0
Copper	0	0	0	0	0	0	0
Coated Steel (with CP)	450	7021	2	16	0.0044	0.2279	0.0400
Coated Steel (No CP)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Corrosion							
Cast Iron	0	0	1	0	9	2	Y
Bare Steel	54	35	66	41	91	57.4	Y
Ductile Iron	0	0	0	0	0	0	NA
Copper	0	0	0	0	0	0	NA
Coated Steel (with CP)	3	2	2	2	2	2	N
Coated Steel (No CP)	0	0	0	0	0	0	NA
Other	0	0	0	0	0	0	NA

Appendix A. Section 3. Table 5-21: Natural Forces Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			Total Leaks / Facility Mile (mains & svcs)
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	
Natural Forces										
Seismic	1,073	40,839		0	0		0	0		0
Earth Movement / Landslide	1,073	40,839		0	0		0	0		0
Tree Roots	1,073	40,839		Unk	Unk		Unk	Unk		Unk
Frost Heave / Temperature	1,073	40,839		0	0		0	0		0
Flood	1,073	40,839		0	0		0	0		0
Ice/Snow Blockage of Control Equip			NA							
Other	1,073	40,839		1	2		0.0001	0.0049		0.0028

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Natural Forces							
Seismic	NA	NA	NA	NA	NA	NA	NA
Earth Movement / Landslide	NA	NA	NA	NA	NA	NA	NA
Tree Roots	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Frost Heave / Temperature	NA	NA	NA	NA	NA	NA	NA
Flood	0	0	0	0	0	0	N
Ice/Snow Blockage of Control Equip	NA	NA	NA	NA	NA	NA	NA

Other	0	2	5	4	3	2.8	N
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Appendix A. Section 3. Table 5-22: Excavation Damage Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010							
	Quantity			Leaks Repaired			Frequency of Failure	
	System Miles Main	System Number of Services	System Number of Tickets	Number of Main Repairs	Number of Service Repairs	Total System Repairs	Leaks per 1000 Tickets	Leaks per System Mile
Excavation Damage - All	1,073	40,839	40,848	26	256	282	6.9036	0.2628

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Excavation Damage							
Tickets	58,928	63,556	51,790	41,342	40,848	51,293	
Leaks	266	224	192	150	282	223	
Leaks per 1000 Tickets	4.5140	3.5244	3.7073	3.6283	6.9036	4.4555	Y
Leaks per System Mile	0.2639	0.2162	0.1818	0.1412	0.2628	0.2132	

Appendix A. Section 3. Table 5-23: Outside Force Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/ Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Outside Force										
Vehicle Damage	1073	40,839	2	0	2		0	0.0049	NA	0.0019
Vandalism	1,073	40,839	0	0	0		0	0	NA	0
Fire / Explosion	1,073	40,839	0	0	0		0	0	NA	0
Previous Damage	1,073	40,839	0	0	0		0	0	NA	0
Other	1,073	40,839	4	4	0		0.0037	0	NA	0.0037

Threat/ Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Outside Force							
Vehicle Damage	0	16(?)	0	3(?)	2(?)	4.2	N
Vandalism	0	0	0	0	0	0	N
Fire / Explosion	0	0	0	0	0	0	N
Previous Damage	0	0	0	0	0	0	N
Other	0	0	0	2	4	1.2	N

Appendix A. Section 3. Table 5-24: Material, Weld or Joint Failure Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Main Leaks/Mile	Frequency of Failure	
	Miles Main	# Services	Mains	Services		Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Material, Weld or Joint Failure							
PVC	0	0	0	0	0	0	0
ABS	0	0	0	0	0	0	0
Aldyl A	Unk	0	Unk	0	Unknown	0	Unknown
Century Products (incl PE 2306)	0	0	0	0	0	0	0
PE 3306	0	0	0	0	0	0	0
Other Plastic Pipe	0	0	0	0	0	0	0
Delrin Insert Tap Tees	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Plexco Service Tee Celcon Caps	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Pre 1940 OA girth welds	Unk	0	0	0	0	0	0
Other	1,073	40,839	3	7	0.0028	0.1714	0.0093

Appendix A. Section 3. Table 5-24: Material, Weld or Joint Failure Threat – Frequency and Trend (continued South Florida Division)

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Material, Weld or Joint Failure							
PVC	0	0	0	0	0	0	NA
ABS	0	0	0	0	0	0	NA
Aldyl A	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Century Products (incl PE 2306)	0	0	0	0	0	0	NA
PE 3306	0	0	0	0	0	0	NA
Other Plastic Pipe	0	0	0	0	0	0	NA
Delrin Insert Tap Tees	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Plexco Service Tee Celcon Caps	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Pre 1940 OA girth welds	0	0	0	0	0	0	0
Other	43	6	1	18	10	15.6	N

Appendix A. Section 3. Table 5-25: Equipment Failure Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Equipment Failure										
Valves	1,073	40,839	Unk	Unk	Unk		0	0	NA	N
Service Regulators	1,073	40,839	Unk	Unk	Unk		0	0	NA	N
Control/Relief Station	1,073	40,839	0	0	0		0	0	NA	N
Mechanical Couplings	1,073	40,839	Unk	Unk	Unk		0	0	NA	N
Other	1,073	40,839	0	2	13		0.0019	0.0318	NA	0.0140

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Equipment Failure							
Valves	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Service Regulators	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Control/Relief Station	0	0	0	0	0	0	N
Mechanical Couplings	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Other	10	0	3	81	15	21.8	N

Appendix A. Section 3. Table 5-26: Incorrect Operation Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010									
	Quantity			Incidents			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Incidents/Mile	Service Incidents/100	Equip/Fitting Incidents/100	Total Incidents / Facility Mile (mains & svcs)
Incorrect Operation										
Operating Error	1,073	40,839		0	0		0	0	NA	0
Service Line bored thru Sewer	1,073	40,839		0	0		0	0	NA	0
Other	1,073	40,839		0	2		0	0.0049	NA	0.0019

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Incorrect Operation							
Operating Error	0	0	0	0	0	0	N
Service Line bored thru Sewer	0	0	0	0	0	0	N
Other	4	3	0	15	2	4.8	N

Appendix A. Section 3. Table 5-27: Other Threat – Frequency and Trend (South Florida Division)

Threat / Sub-Threat	2010								
	Quantity			Leaks Repaired		Frequency of Failure			
	Miles Main	Number Services	Number Copper Services	Mains	Services	Main Leaks/Mile	All Services Leaks / 100	Copper Services Only Leaks / 100	Total Leaks / Facility Mile (mains & svcs)
Other									
Bell Joint leaks	4	0	0	0	0	0	0	0	0
Copper Pipe Puncture	0	0	0	0	0	0	0	0	0
Copper Sulfide	0	0	0	0	0	0	0	0	0
Other	1,073	40,839	0	22	196	0.0205	0.4799	0	0.2032

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Other							
Bell Joint Leaks	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Copper Pipe Puncture	NA	NA	NA	NA	NA	NA	NA
Copper Sulfide	NA	NA	NA	NA	NA	NA	NA

Appendix A. Section 3. Table 5-28: Corrosion Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Frequency of Failure		
	Miles Main	# Services	Mains	Services	Main Leaks/Mile	Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Corrosion							
Cast Iron	0	0	0	0	0	0	0
Bare Steel	152.083	0	9	2	.0592	.02	.0723
Ductile Iron	0	0	0	0	0	0	0
Copper	0	0	0	0	0	0	0
Coated Steel (with CP)	265.498	0	0	0	0	0	0
Coated Steel (No CP)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Corrosion							
Cast Iron	0	0	0	0	0	0	NA
Bare Steel	29	24	35	16	9	22.6	N
Ductile Iron	0	0	0	0	0	0	NA
Copper	0	0	0	0	0	0	NA
Coated Steel (with CP)	0	2	1	0	0	.6	N
Coated Steel (No CP)	0	0	0	0	0	0	NA
Other	0	0	0	0	0	0	NA

Appendix A. Section 3. Table 5-29: Natural Forces Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Natural Forces										
Seismic	774.292	17,753		0						
Earth Movement / Landslide	774.292	17,753		NA	NA		NA	NA		NA
Tree Roots	774.292	17,753		1	0		.00129	0		.00129
Frost Heave / Temperature	774.292	17,753		NA	NA		NA	NA		NA
Flood	774.292	17,753		0	0		0	0		0
Ice/Snow Blockage of Control Equip										
Other	774.292	17,753		0	0		0	0		0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Natural Forces							
Seismic	NA	NA	NA	NA	NA	NA	NA
Earth Movement / Landslide	NA	NA	NA	NA	NA	NA	NA
Tree Roots	0	1	0	0	1	2	N
Frost Heave / Temperature	NA	NA	NA	NA	NA	NA	NA
Flood	0	0	0	0	0	0	NA
Ice/Snow Blockage of Control Equip	NA	NA	NA	NA	NA	NA	NA

Appendix A. Section 3. Table 5-30: Excavation Damage Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010							
	Quantity			Leaks Repaired			Frequency of Failure	
	System Miles Main	System Number of Services	System Number of Tickets	Miles Mains	Number of Services	Total System Miles	Leaks per Ticket	Leaks per System Mile
Excavation Damage - All	774.29	17,753	14,475	6	14	20	.02	.1147

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Excavation Damage							
Tickets	27,996	23,349	28,135	16,781	14,475	22,147.20	N
Leaks	87	81	69	28	20	57	N
Leaks per Ticket	.087	.081	.069	.028	.020	.057	N
Leaks per System Mile	.1198	.1095	.0920	.0366	.0258	.07674	N

Appendix A. Section 3. Table 5-31: Outside Force Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Outside Force										
Vehicle Damage	774.292	17,753		0	0		0	0	NA	0
Vandalism	774.292	17,753		0	0		0	0	NA	0
Fire / Explosion	774.292	17,753		0	0		0	0	NA	0
Previous Damage	774.292	17,753		0	0		0	0	NA	0
Other	774.292	17,753		0	0		0	0	NA	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Outside Force							
Vehicle Damage	1	2	0	0	0	1.5	N
Vandalism	0	0	0	0	0	0	N
Fire / Explosion	0	0	0	0	0	0	N
Previous Damage	0	0	0	0	0	0	N
Other	0	1	0	0	0	.2	N

Appendix A. Section 3. Table 5-32: Material, Weld or Joint Failure Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Frequency of Failure		
	Miles Main	# Services	Mains	Services	Main Leaks/Mile	Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Material, Weld or Joint Failure							
PVC	774.292	17,753	NA	NA	NA	NA	NA
ABS	774.292	17,753	NA	NA	NA	NA	NA
Aldyl A	774.292	17,753	NA	NA	NA	NA	NA
Century Products (incl PE 2306)	774.292	17,753	NA	NA	NA	NA	NA
PE 3306	774.292	17,753	NA	NA	NA	NA	NA
Other Plastic Pipe	774.292	17,753	NA	NA	NA	NA	NA
Delrin Insert Tap Tees	774.292	17,753	UNK	UNK	UNK	UNK	UNK
Plexco Service Tee Celcon Caps	774.292	17,753	UNK	UNK	UNK	UNK	UNK
Pre 1940 OA girth welds	774.292	17,753	NA	NA	NA	NA	NA
Other	774.292	17,753	NA	NA	NA	NA	NA

Appendix A. Section 3. Table 5-32: Material, Weld or Joint Failure Threat – Frequency and Trend (West Division continued)

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Material, Weld or Joint Failure							
PVC	NA	NA	NA	NA	NA	NA	NA
ABS	NA	NA	NA	NA	NA	NA	NA
Aldyl A	NA	NA	NA	NA	NA	NA	NA
Century Products (incl PE 2306)	NA	NA	NA	NA	NA	NA	NA
PE 3306	NA	NA	NA	NA	NA	NA	NA
Other Plastic Pipe	NA	NA	NA	NA	NA	NA	NA
Delrin Insert Tap Tees	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Plexco Service Tee Celcon Caps	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Pre 1940 OA girth welds	NA	NA	NA	NA	NA	NA	NA
Other	4	0	1	2	0	1.4	N

Appendix A. Section 3. Table 5-33: Equipment Failure Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Equipment Failure										
Valves	774.292	17,753		0	0		0	0	0	0
Service Regulators	774.292	17,753		0	0		0	0	0	0
Control/Relief Station	774.292	17,753		0	0		0	0	0	0
Mechanical Couplings	774.292	17,753		0	0		0	0	0	0
Other	774.292	17,753		1	1		.00134	.01	NA	.00269

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Equipment Failure							
Valves	0	0	0	0	0	0	N
Service Regulators	0	0	0	0	0	0	N
Control/Relief Station	0	0	0	0	0	0	N
Mechanical Couplings	0	0	0	0	0	0	N
Other	1	0	0	1	1	.6	N

Appendix A. Section 3. Table 5-34: Incorrect Operation Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010									
	Quantity			Incidents			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Incidents/Mile	Service Incidents/100	Equip/Fitting Incidents/100	Total Incidents / Facility Mile (mains & svcs)
Incorrect Operation										
Operating Error	774.292	17,753		0	0		0	0	NA	0
Service Line bored thru Sewer	774.292	17,753		0	0		0	0	NA	0
Other	774.292	17,753		0	0		0	0	NA	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Incorrect Operation							
Operating Error	0	0	0	0	0	0	N
Service Line bored thru Sewer	0	0	0	0	0	0	N
Other	1	0	0	0	0	.2	N

Appendix A. Section 3. Table 5-35: Other Threat – Frequency and Trend (West Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired		Frequency of Failure				
	Miles Main	Number Services	Number Copper Services	Mains	Services	Main Leaks/Mile	All Services Leaks / 100	Copper Services Only Leaks / 100	Total Leaks / Facility Mile (mains & svcs)	
Other										
Bell Joint leaks	774.29	17.753	0	0	0		0	0	0	
Copper Pipe Puncture	774.29	17.753	0	0	0		0	0	0	
Copper Sulfide	774.29	17.753	0	0	0		0	0	0	
Other	774.29	17.753	0	0	0		0	0	0	

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Other							
Bell Joint Leaks	0	0	0	0	0	0	N
Copper Pipe Puncture	0	0	0	0	0	0	N
Copper Sulfide	0	0	0	0	0	0	N

Appendix A. Section 3. Table 5-36: Corrosion Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Frequency of Failure		
	Miles Main	# Services	Mains	Services	Main Leaks/Mile	Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Corrosion							
Cast Iron	0	0	0	0	0	0	0
Bare Steel	13	316	5	0	38	0	0
Ductile Iron	0	0	0	0	0	0	0
Copper	0	0	0	0	0	0	0
Coated Steel (with CP)	277	6604	3	56	.011	.56	.213
Coated Steel (No CP)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Corrosion							
Cast Iron	0	0	0	0	0	0	NA
Bare Steel	.17	.44	1	.29	.38	.45	N
Ductile Iron	0	0	0	0	0	0	NA
Copper	0	0	0	0	0	0	NA
Coated Steel (with CP)	.0036	0	.022	.011	.011	.0094	N
Coated Steel (No CP)	0	0	0	0	0	0	NA
Other	NA	NA	NA	NA	NA	NA	NA

Appendix A. Section 3. Table 5-37: Natural Forces Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			Total Leaks / Facility Mile (mains & svcs)
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	
Natural Forces										
Seismic	577	22173		0	0		0	0		0
Earth Movement / Landslide	577	22173		0	0		0	0		0
Tree Roots	577	22173		0	5		0	.05		.0087
Frost Heave / Temperature	577	22173		0	0		0	0		0
Flood	577	22173		0	0		0	0		0
Ice/Snow Blockage of Control Equip			0						0	
Other	577	22173		0	0		0	0		0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Natural Forces							
Seismic	NA	NA	NA	NA	NA	NA	NA
Earth Movement / Landslide	NA	NA	NA	NA	NA	NA	NA
Tree Roots	0	1	0	0	0	.2	N
Frost Heave / Temperature	NA	NA	NA	NA	NA	NA	NA
Flood	0	0	0	0	0	0	N
Ice/Snow Blockage of Control Equip	NA	NA	NA	NA	NA	NA	NA

Appendix A. Section 3. Table 5-38: Excavation Damage Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010							
	Quantity			Leaks Repaired			Frequency of Failure	
	System Miles Main	System Number of Services	System Number of Tickets	Miles Mains	Number of Services	Total System Miles	Leaks per Ticket	Leaks per System Mile
Excavation Damage - All	577	22,173	19655	8	53	61	.061	.1057

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Excavation Damage							
Tickets	31,404	27,789	22,948	19,174	19,655	24,194	
Leaks	116	81	85	59	60	80.2	N
Leaks per Ticket	.116	.081	.085	.059	.060	.0802	N
Leaks per System Mile	.2109	.1449	.1499	.1035	.1426	.1426	

Appendix A. Section 3. Table 5-39: Outside Force Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Outside Force										
Vehicle Damage	577	22,173		0	0	0	0	0	NA	0
Vandalism	577	22,173		0	0	0	0	0	NA	0
Fire / Explosion	577	22,173		0	0	0	0	0	NA	0
Previous Damage	577	22,173		0	0	0	0	0	NA	0
Other	577	22,173		0	0	0	0	0	NA	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Outside Force							
Vehicle Damage	0	1	0	0	0	.2	N
Vandalism	0	0	0	0	0	0	N
Fire / Explosion	0	0	0	0	0	0	N
Previous Damage	0	0	0	0	0	0	N
Other	0	0	0	0	0	0	N

Appendix A. Section 3. Table 5-40: Material, Weld or Joint Failure Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010						
	Quantity		Leaks Repaired		Main Leaks/Mile	Frequency of Failure	
	Miles Main	# Services	Mains	Services		Service Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Material, Weld or Joint Failure							
PVC	NA	NA	NA	NA	NA	NA	NA
ABS	NA	NA	NA	NA	NA	NA	NA
Aldyl A	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Century Products (incl PE 2306)	NA	NA	NA	NA	NA	NA	NA
PE 3306	NA	NA	NA	NA	NA	NA	NA
Other Plastic Pipe	NA	NA	NA	NA	NA	NA	NA
Delrin Insert Tap Tees	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Plexco Service Tee Celcon Caps	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Pre 1940 OA girth welds	NA	NA	NA	NA	NA	NA	NA
Other	0	0	0	0	0	0	0

Appendix A. Section 3. Table 5-41: Material, Weld or Joint Failure Threat – Frequency and Trend (East Division continued)

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Material, Weld or Joint Failure							
PVC	NA	NA	NA	NA	NA	NA	NA
ABS	NA	NA	NA	NA	NA	NA	NA
Aldyl A	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Century Products (incl PE 2306)	NA	NA	NA	NA	NA	NA	NA
PE 3306	NA	NA	NA	NA	NA	NA	NA
Other Plastic Pipe	NA	NA	NA	NA	NA	NA	NA
Delrin Insert Tap Tees	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Plexco Service Tee Celcon Caps	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Pre 1940 OA girth welds	NA	NA	NA	NA	NA	NA	NA
Other	0	0	0	0	0	0	0

Appendix A. Section 3. Table 5-42: Equipment Failure Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010									
	Quantity			Leaks Repaired			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Leaks/Mile	Service Leaks/100	Equip/Fitting Leaks/100	Total Leaks / Facility Mile (mains & svcs)
Equipment Failure										
Valves	577	22,173		0	0		0	0	0	0
Service Regulators	577	22,173		Unk	Unk		Unk	Unk	Unk	Unk
Control/Relief Station	577	22,173		0	0		0	0	0	0
Mechanical Couplings	577	22,173		0	0		0	0	0	0
Other	577	22,173		0	0		0	0	0	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Equipment Failure							
Valves	0	1	0	0	0	0.2	N
Service Regulators	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Control/Relief Station	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Mechanical Couplings	Unk	Unk	Unk	Unk	Unk	Unk	Unk
Other	5	3	5	3	0	3.2	N

Appendix A. Section 3. Table 5-43: Incorrect Operation Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010									
	Quantity			Incidents			Frequency of Failure			
	Miles Main	# Services	# of Units	Mains	Services	Units	Main Incidents/Mile	Service Incidents/100	Equip/Fitting Incidents/100	Total Incidents / Facility Mile (mains & svcs)
Incorrect Operation										
Operating Error	577	22,173		0	0		0	0	0	0
Service Line bored thru Sewer	577	22,173		0	0		0	0	0	0
Other	577	22,173		0	0		0	0	0	0

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Incorrect Operation							
Operating Error	0	1	0	0	0	0.2	N
Service Line bored thru Sewer	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Appendix A. Section 3. Table 5-44: Other Threat – Frequency and Trend (East Division)

Threat / Sub-Threat	2010								
	Quantity			Leaks Repaired		Frequency of Failure			
	Miles Main	Number Services	Number Copper Services	Mains	Services	Main Leaks/Mile	All Services Leaks / 100	Copper Services Only Leaks / 100	Total Leaks / Facility Mile (mains & svcs)
Other									
Bell Joint leaks	577	22,173	0	0	0	0	0	0	0
Copper Pipe Puncture	577	22,173	0	0	0	0	0	0	0
Copper Sulfide	577	22,173	0	0	0	0	0	0	0
Other	577	22,173	0	0	2	0	.02	0	.02

Threat / Sub-Threat	Leak Ratio						Is Leak Frequency Increasing? Y/N
	2006	2007	2008	2009	2010	5-Year Average	
Other							
Bell Joint Leaks	0	0	0	0	0	0	N
Copper Pipe Puncture	0	0	0	0	0	0	N
Copper Sulfide	0	0	0	0	0	0	N

Appendix A. Section 4. Table 5-36: Identification of Additional Information Needed for IM Program

Area of incomplete records or Knowledge	Can it be acquired over time through normal activities? Y / N	Does Action Plan Exist? Y / N
Vintage years of facilities	No	No, but will be developed
Exact location of pipe facilities including Aldyl A, Mechanical Couplings, Delrin Insert Tap Tees, Plexco Celcon Tap Service Tees, Pre 1940 OA Girth Welds	Yes	Yes
Greater detail on Subthreats of Causes	Yes	Yes

Appendix A. Section 4. Table 5-37: Action Plans to Gain Additional Information Over Time

Action Plan Scope Gaining Additional Information	Schedule	Completion Date	Officer / Manager Responsible
Exact location of pipe facilities including Aldyl A, Mechanical Couplings, Delrin Insert Tap Tees, Plexco Celcon Tap Service Tees, Pre 1940 OA Girth Welds – Gained through Exposed Piping Reports and Leak Reports		Ongoing Project	Division Operations Managers, Manager of Engineering & Gas Standards Engineer
Greater detail on Subthreats of Causes – Gained through modified Leak Reports and additional training on their completion		Ongoing Project	Division Operations Managers & Gas Standards Engineer

Appendix A. Section 5. Sample of Subject Matter Expert Information Interview Form

SME Name	Current Job Title Role	Yrs Experience	Comment(s) re: Qualification & Experience

Written record

Describe nature of information (First Hand witness or direct experience vs. Second Hand)

Date:	
-------	--

Interviewer Name:	
Interviewer Title:	

Signature of Interviewer (Reqd):	
Signature of SMEs (Optional):	

APPENDIX B
THREAT IDENTIFICATION

Appendix B. Section 1.

Section 1. Threat Identification Process

*[Southern Gas Association, Northeast Gas Association and Structural Integrity Associates, Inc.
Subject Matter Expert(SME) Evaluation of Threats Applicable to the Gas Distribution System,
incorporated by reference (all divisions)]*

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Cast Iron Pipe	Does Cast Iron pipe exist in the system?	Yes- South Division	Yes – South Division
		Is there a known history of body-of-pipe leaks, fractures, or graphitization?	Yes	
		Are certain diameters or parts of the system known to be more prone to failure and leakage than others?	No	
	Ductile Iron	Do ductile iron pipes exist in the system?	No	No
		Is there a known history of body-of-pipe leaks, fractures, or graphitization?	No	
		Are certain diameters or parts of the system known to be more prone to failure and leakage than others?	No	
	Bare Steel Pipe (no CP)	Do bare (uncoated) steel main or services exist in the system that are not under CP?	Yes – South, East West Divisions	Yes – South, East, West Division
		Is there known evidence of active external corrosion on bare steel pipes not under CP?	Yes	
		Is there a history of leakage on bare steel pipes not under CP?	Yes	
	Bare Steel Pipe (with CP)	Do bare (uncoated) steel main or services exist in the system that are under CP?	Yes – South Division	Yes – South Division
		Is there known evidence of <u>active</u> external corrosion on bare steel pipes under CP?	Yes	
		Is there a known history of leakage on bare steel pipes under CP?	Yes	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Coated Steel with CP	Is there known evidence of active external corrosion on coated steel pipe with CP?	Yes – South, East West Divisions	Yes – All Divisions
		Is there a known history of leakage on coated steel pipe with CP?	Yes – South, East West Divisions	
		Are some CP systems frequently down (not achieving the required level of protection); more than 10% of the time?	No	
	Coated Steel w/o CP	Is there known evidence of active external corrosion on coated steel pipe without CP?	No	No
		Is there a known history of leakage on coated steel pipe without CP?	No	
	Copper Services	Are direct buried or inserted copper services known to exist in the system?	No	No
		Is there a known history of leakage on copper services?	No	
	Stray Current	Do distribution facilities exist near DC transit systems, high voltage DC transmission systems or other known sources of DC current?	Yes – All Divisions	No
		Are any facilities known to be impacted by sources of stray DC current that has or may result in corrosion?	No	
	Internal Corrosion	Are liquids known to exist within any portions of the distribution system?	No	No
		Is there known evidence of past or active internal corrosion on steel pipe?	No	
		Is there a known history of leakage caused by internal corrosion of steel pipe?	No	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Atmospheric Corrosion	Do above ground distribution facilities exist in areas exposed to marine atmosphere, high humidity, atmospheric pollutants or agricultural chemicals?	Yes – All Divisions	Yes – All Divisions
		Is there known evidence of past or active external atmospheric corrosion on exposed steel pipe, equipment or fittings?	Yes – South, East, West Divisions	
		Is there a known history of leakage caused by atmospheric corrosion of steel pipe?	Yes – South, East, West Divisions	
	Corrosion of carrier pipe in Cased Crossing	Do steel carrier pipes exist within cased crossings?	Yes – South, East, West Divisions	Yes – South, East, West Divisions
		Are there any existing known contacts between carrier pipes and casings?	Yes – South Division	
		Is there known evidence of past or active external corrosion on cased steel pipe?	No	
		Is there a known history of leakage caused by corrosion on cased steel pipe?	No	
Natural Forces	Seismic Activity	Are there any seismically active zones or fault lines that exist in the area?	No	No
		Is there a history of leakage associated with Seismic activity?	No	
	Earth Movement / Landslide	Are there any areas susceptible to earth movement or landslide in the area?	No	No
		Is there a known history of leakage associated with landslide or earth movement?	No	
	Frost Heave	Are there any areas susceptible to frost heave that exist in the area?	No	No

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Natural Forces	Frost Heave	Is there a known history of leakage associated with frost heave?	No	No
	Flooding	Are there any areas within the gas system that are subject to flooding?	Yes – All Divisions	Yes – All Divisions
		Is there a known history of leakage or damage associated with flooding?	No	
	Over-pressure due to snow/ice blockage	Are pressure control equipment vents subject to ice blockage during the winter?	No	No
		Is there a known history of over-pressure events as a result of snow/ice blockage?	No	
	Tree Roots	Is there a known history of leakage to pipe or fittings as a result of tree root damage?	Yes – South, East, West Divisions	Yes – All Divisions
	Other	Is there a known history of leakage or damage due to other natural force causes: including but not limited to lightning, wild fire or high winds (tornados)?	Yes – South, East, West Divisions	Yes – All Divisions
Excavation Damage	Improper Excavation Practice	Has damage requiring repair or replacement occurred on properly marked facilities due to the failure of the excavator to follow proper excavation rules and procedures?	Yes – South, East, West Divisions	Yes – All Divisions
	Facility not located or marked	Has damage requiring repair or replacement occurred due to failure to locate a valid and timely locate request?	Yes – South, East, West Divisions	
	One-call notification center error	Has damage requiring repair or replacement occurred due to an error made at the one-call notification center?	Yes – South, East, West Divisions	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Excavation Damage	Mis-Marked Facilities	Has damage requiring repair or replacement occurred due to the mis-marking of facilities?	Yes – South, East, West Divisions	Yes – All Divisions
	Incorrect Facility Records	Has damage requiring repair or replacement occurred due incorrect facility records?	Yes – South, East, West Divisions	Yes – All Divisions
	Other	Has damage requiring repair or replacement occurred due other causes including the inability to locate facility (e.g. no locating wire on plastic main), wrong or incorrect information provided to the one call center, deteriorated facilities and previous damage?	Yes – South, East, West Divisions	
Other Outside Force Damage	Vehicle Damage to Riser/Meter	Are existing risers and/or meters exposed to damage from vehicular damage that do not have barriers or other protection conforming to current design requirements?	Yes – South, East, West Divisions	Yes – All Divisions
		Has known leakage occurred due to vehicle damage to risers/meters.	Yes – South, East, West Divisions	
	Vehicle Damage to above-ground equip/station	Are HPRs and/or regulator stations exposed to damage from vehicular damage that do not have barriers or other protection conforming to current design requirements?	No	Yes – All Divisions
		Has known leakage occurred due to vehicle damage to HPRs and/or regulator stations?	Yes – South Division	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Other Outside Force Damage	Vandalism	Are gas valves or station equipment susceptible to damage by vandalism that has the potential to pose a risk to employees or the public?	No	No
		Has leakage or other unsafe condition been created by vandalism?	No	
Other Outside Force Damage	Structure Fire	Is there a history of damage to gas meters or other equipment due to structure fires?	Yes – South, East, West Divisions	Yes – All Divisions
		Is there a history of lack of properly designed or maintained service shut-off valves resulting in a delay in inability to shut off gas service to structures that are on fire?	No	
Material, Weld or Joint Failure	Century Products (MDPE 2306)	Is Century Products (MDPE 2306) pipe known to exist in the system?	No	No
		Is there a history of leakage of Century Products (MDPE 2306) pipe?	No	
	Aldyl A	Is Aldyl A pipe known to exist in the system?	Yes – South and East Divisions	Yes – South and East Divisions
		Is there a history of leakage of Aldyl A pipe?	Yes – South and East Divisions	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Material, Weld or Joint Failure	HDPE 3306	Is HDPE 3306 pipe known to exist in the system?	No	No
		Is there a history of leakage of HDPE 3306 pipe?	No	
	PVC – Polyvinyl Chloride	Is PVC pipe known to exist in the system?	No	No
		Is there a history of leakage of PVC pipe?	No	
	ABS – Acrylonitrile Butadiene Styrene	Is ABS pipe known to exist in the system?	No	No
		Is there a history of leakage of ABS pipe?	No	
	CAB – Cellulose Acetate Butyrate	Is CAB A pipe known to exist in the system?	No	No
		Is there a history of leakage of CAB pipe?	No	
	PB - Polybutylene	Is PB pipe known to exist in the system?	No	No
		Is there a history of leakage of PB pipe?	No	
	Delrin Insert Tap Tees	Are Delrin Insert Tap Tees known to exist in the system?	Yes – South, East, West Divisions	Yes – South, East, West Divisions
		Is there a history of leakage of Delrin Insert Tap Tees?	Yes – South, East, West Divisions	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Material, Weld, or Joint Failure	Plexco Service Tee Celcon Caps	Are Plexco Service Tee Celcon Caps known to exist in the system?	Yes – South, East, West Divisions	Yes – South, East, West Divisions
		Is there a history of leakage of Plexco Service Tee Celcon Caps?	Yes – South, East, West Divisions	
	PE Fusion failure	Is there a history of PE Fusion Failures or leakage in the system?	No	No
		Are any types of PE fusion (type, material, size, age, process, geographic area) more prone to leakage or failure?	No	
	Pre-1940 Oxy-Acetylene Girth Weld	Do pre-1940 Oxy-Acetylene Girth Welds exist on pipe greater than 4 inch?	Yes – South Divisions	Yes – South Division
		Is there a history of pre-1940 Oxy-Acetylene Girth Weld failures or leakage in the system?	No	
	Other	Do other material failures occur that present a possible current or future risk? (Kerotest Gate Valves	Yes – South and East Divisions	Yes – South And East
	Mechanical Couplings	Is there a history of Mechanical Coupling failures or leakage in the system due to pullout?	No	No
		Is there a history of Mechanical Coupling failures or leakage in the system due to seal leakage?	Yes – South, East, West Divisions	Yes – South, East, West
		Are any types of mechanical coupling (type, material, size, age, manufacturer, geographic area) more prone to leakage or failure due to seal leakage?	No	No

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Equipment Failure	Valves	Are valves inoperable, inaccessible and or paved over without timely identification and repairs?	Yes – South Division	Yes – South Division
		Are certain types or makes of valves more likely to leak? Kerotest Gate Valves	Yes	Yes – South and East
	Service Regulators	Is there a history of service regulator failures that present a threat to the public or employees?	No	No
		Are certain types or makes of service regulator more likely to create a risk?	No	
	Control/Relief Station Equipment	Is there a history of control or relief station equipment failures that present a threat to the public or employees?	No	No
		Are certain types or makes of station equipment more likely to create a risk?	No	
	Other	Is there a history of other equipment failures that present a threat to the public or employees?	No	No
		Are certain types or makes of other equipment more likely to create a risk?	No	
Incorrect Operations	Operating Error	Have leaks or other safety incidents been caused by an inadequate procedure?	No	Yes – All Divisions
		Have leaks or other safety incidents been caused by failure to follow an adequate procedure?	Yes – South, East, West Divisions	
		Have bypass valves or MAOP separation valves been found to not have proper locks after maintenance?	No	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Incorrect Operations	Operating Error	Have employees been found to have falsified maintenance documents and thus not have completed operations and maintenance tasks in the manner or timeframe required?	No	No
		Has improper regulator station maintenance ever resulted in an overpressure incident?	No	No
		Have butt-fusions been found to be leaking due to improper fusion due to failure to follow the correct procedure?	Yes – South, East, West Divisions	Yes – South, East, West Divisions
		Have leak repairs or other mandated maintenance not been made in the time required by standard due to a process breakdown or ineffective process?	No	No
		Has gas leak detection equipment used for a leak survey been found afterwards to be out of calibration?	No	No
		Has the failure to accurately or timely record or map facilities resulted in failure to perform mandated maintenance or locates?	No	No
	Gas lines bored through Sewers	Have pipes been installed via unguided or guided bore without proper procedures to ensure other facilities are not damaged?	Yes – South, East, West Divisions	Yes – All Divisions
		Have pipes unknowingly bored through sewer lines been damaged by sewer line cleaning operations?	No	

Appendix B. Section 2. Table 6-3: Summary SME Evaluation of Threats Applicable to the Gas Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Other	Bell Joint Leakage	Does Cast Iron pipe exist in the system?	Yes- South Division	Yes – South Division
		Is there a history of bell joint leaks?	Yes – South Division	Yes – South Division
		Are certain diameters or parts of the system known to be more prone to bell joint failure or leakage than others?	No	
	Inserted Copper Puncture	Do copper services inserted in steel exist in the system?	No	No
		Is there a history of leakage of copper services due to galvanic action between the copper and steel?	No	
	Copper Sulfide	Do copper services exist in the system and is there a history of hydrogen sulfide greater than 0.3 grains per 100 standard cubic feet of gas?	No	No
		Have any safety incidents occurred as a result of copper sulfide in copper services or service regulators?	No	
	Construction over gas mains & services	Have others constructed over gas facilities or taken other action that prevents effective leak survey and other maintenance?	Yes- South Division	Yes – All Divisions
		When identified, is construction that impacts required maintenance corrected in a timely manner?	Yes – South Division	

APPENDIX C
EVALUATION AND RANKING OF RISK

Appendix C. Section 1.

Section 1. Risk Assessment Process

*[Southern Gas Association, Northeast Gas Association and Structural Integrity Associates, Inc.
Blended Risk (Subject Matter Expert and Data) Evaluation and Ranking Process, incorporated
by reference (all divisions)]*

Appendix C. Section 2. Table 7-1: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Corrosion	Cast Iron		0	0.61	0
		Ductile Iron		NA	NA	NA
		Bare Steel (No CP)		2.0625	0.61	1.2581
		Bare Steel (w/CP)		0.5	0.61	0.305
		Coated Steel (No CP)		NA	NA	NA
		Coated Steel (w/CP)		0.1	0.65	0.065
		Copper Services		NA	NA	NA
		Stray Current		NA	NA	NA
		Internal Corrosion		NA	NA	NA
		Atmospheric Corrosion		0.5625	0.61	0.3431

Appendix C. Section 2. Table 7-2: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Natural Forces	Seismic Activity		NA	NA	NA
		Earth Movement/ Landslide		NA	NA	NA
		Frost Heave		NA	NA	NA
		Flooding		0	0	0
		Overpressure due to Snow-Ice Blockage		NA	NA	NA
		Tree Roots		0.0625	0.6	0.0375

Appendix C. Section 2. Table 7-3: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Excavation Damage	Improper Excavation Practice		0.125	0.61	0.0762
		No Call for Locate		0.3375	0.61	0.2058
		Late or No Locate		0.1375	0.61	0.0839
		Mis-marked Facilities		0.125	0.61	0.07625
		Incorrect Facility Records		0.045	0.61	0.0274

Appendix C. Section 2. Table 7-4: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Other Outside Force	Vehicle Damage to Riser		0.01	0.61	0.0061
		Vehicle Damage to above ground equipment or station (not risers)		0	0.61	0
		Vandalism		0	0.61	0
		Structure Fire		0.0045	0.61	0.0027

Appendix C. Section 2. Table 7-5: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Material, Weld or Joint Failure	MDPE 2306		NA	NA	NA
		Aldyl A		0.045	0.61	0.0274
		HDPE 3306		NA	NA	NA
		PVC		NA	NA	NA
		ABS		NA	NA	NA
		CAB		NA	NA	NA
		PB		NA	NA	NA
		Delrin Insert Tap Tees and/or Plexco Service Tee Celcon Caps		0.0018	0.61	0.0010
		PE Fusion Failure		0.0018	0.61	0.0011
		Pre 1940 Oxy-Acetylene Girth Welds		0	0.61	0

Appendix C. Section 2. Table 7-6: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Equipment Failure	Valves		0.00225	0.20	0.0004
		Service Regulators		0	0.61	0
		Control or Relief Station Equipment		0	0.61	0
		Mechanical Couplings		0.0045	0.61	0.0027

Appendix C. Section 2. Table 7-7: Documentation of Risk Assessment Results (South Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
South	Incorrect Operation	Operating Errors		0	0.61	0
		Service Lines Bored Thru Sewer		0	0.61	0
		Bell Joints		0	0.61	0
		Copper Services Pipe Puncture		NA	NA	NA

Appendix C. Section 2. Table 7-8: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Corrosion	Cast Iron		NA	NA	NA
		Ductile Iron		NA	NA	NA
		Bare Steel (No CP)		1.0125	0.61	0.6176
		Bare Steel (w/CP)		NA	NA	NA
		Coated Steel (No CP)		NA	NA	NA
		Coated Steel (w/CP)		0.0563	0.55	0.0309
		Copper Services		NA	NA	NA
		Stray Current		NA	NA	NA
		Internal Corrosion		NA	NA	NA
		Atmospheric Corrosion		0.225	0.61	0.1372

Appendix C. Section 2. Table 7-9: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	GOF Score	Relative Risk
West	Natural Forces	Seismic Activity		NA	NA	NA
		Earth Movement/ Landslide		NA	NA	NA
		Frost Heave		NA	NA	NA
		Flooding		0	0	0
		Overpressure due to Snow-Ice Blockage		NA	NA	NA
		Tree Roots		0.0225	0.61	0.01372

Appendix C, Section 2. Table 7-10: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Excavation Damage	Improper Excavation Practice		0.0225	0.61	0.01372
		No Call for Locate		0.1875	0.61	0.1144
		Late or No Locate		0.0225	0.61	0.01372
		Mis-marked Facilities		0.0225	0.61	0.01372
		Incorrect Facility Records		0.0225	0.61	0.01372

Appendix C. Section 2. Table 7-11: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Other Outside Force	Vehicle Damage to Riser		0.0675	0.61	0.0412
		Vehicle Damage to above ground equipment or station (not risers)		0	0.61	0
		Vandalism		0	0.61	0
		Structure Fire		0	0.61	0

Appendix C. Section 2. Table 7-12: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Material, Weld or Joint Failure	MDPE 2306		NA	NA	NA
		Aldyl A		NA	NA	NA
		HDPE 3306		NA	NA	NA
		PVC		NA	NA	NA
		ABS		NA	NA	NA
		CAB		NA	NA	NA
		PB		NA	NA	NA
		Delrin Insert Tap Tees and/or Plexco Service Tee Celcon Caps		0.0018	0.61	0.0011
		PE Fusion Failure		0.0018	0.61	0.0011
		Pre 1940 Oxy-Acetylene Girth Welds		NA	NA	NA

Appendix C. Section 2. Table 7-13: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Equipment Failure	Valves		0	0.70	0
		Service Regulators		0	0.61	0
		Control or Relief Station Equipment		0	0.61	0
		Mechanical Couplings		0.0045	0.61	0.0028

Appendix C, Section 2. Table 7-14: Documentation of Risk Assessment Results (West Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
West	Incorrect Operation	Operating Errors		0.0009	0.61	0.0005
		Service Lines Bored Thru Sewer		0	0.61	0
		Bell Joints		NA	NA	NA
		Copper Services Pipe Puncture		NA	NA	NA

Appendix C. Section 2. Table 7-15: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Corrosion	Cast Iron		NA	NA	NA
		Ductile Iron		NA	NA	NA
		Bare Steel (No CP)		0.45	0.61	0.2745
		Bare Steel (w/CP)		NA	NA	NA
		Coated Steel (No CP)		NA	NA	NA
		Coated Steel (w/CP)		0.1	0.05	0.0050
		Copper Services		NA	NA	NA
		Stray Current		NA	NA	NA
		Internal Corrosion		NA	NA	NA
		Atmospheric Corrosion		4.05	0.55	2.2275

Appendix C. Section 2. Table 7-16: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Natural Forces	Seismic Activity		NA	NA	NA
		Earth Movement/ Landslide		NA	NA	NA
		Frost Heave		NA	NA	NA
		Flooding		0	0	0
		Overpressure due to Snow-Ice Blockage		NA	NA	NA
		Tree Roots		0	0.61	0

Appendix C. Section 2. Table 7-17: Documentation of Risk Assessment Results (East Divison)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Excavation Damage	Improper Excavation Practice		0.045	0.61	0.0274
		No Call for Locate		0.375	0.61	0.2288
		Late or No Locate		0.045	0.61	0.0274
		Mis-marked Facilities		0.045	0.61	0.0274
		Incorrect Facility Records		0.045	0.61	0.0274

Appendix C. Section 2. Table 7-18: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Other Outside Force	Vehicle Damage to Riser		0	0.61	0
		Vehicle Damage to above ground equipment or station (not risers)		0	0.61	0
		Vandalism		0	0.61	0
		Structure Fire		0	0.61	0

Appendix C. Section 2. Table 7-19: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Material, Weld or Joint Failure	MDPE 2306		NA	NA	NA
		Aldyl A		0	0.61	0
		HDPE 3306		NA	NA	NA
		PVC		NA	NA	NA
		ABS		NA	NA	NA
		CAB		NA	NA	NA
		PB		NA	NA	NA
		Delrin Insert Tap Tees and/or Plexco Service Tee Celcon Caps		0	0.61	0
		PE Fusion Failure		0	0.61	0
		Pre 1940 Oxy-Acetylene Girth Welds		0	0.61	0

Appendix C. Section 2. Table 7-20: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Equipment Failure	Valves		0	0.2	0
		Service Regulators		0	0.61	0
		Control or Relief Station Equipment		0	0.61	0
		Mechanical Couplings		0	0.61	0

Appendix C. Section 2. Table 7-21: Documentation of Risk Assessment Results (East Division)

Region	Primary Threat	Sub-Threat	Facility Type	FOF Score	COF Score	Relative Risk
East	Incorrect Operation	Operating Errors		0	0.61	0
		Service Lines Bored Thru Sewer		0	0.61	0
		Bell Joints		NA	NA	NA
		Copper Services Pipe Puncture		NA	NA	NA

Appendix C. Section 2. Table 7-22: Summary of Risk Evaluation and Ranking Results

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Corrosion						
Cast Iron Mains	0.3050	0.3050	0	0	33	0
Bare Steel Mains	1.2581	0.2745	66	0	33	0
Ductile Iron Mains	NA	NA	NA	NA	NA	NA
Copper Services	NA	NA	NA	NA	NA	NA
Coated Steel Mains(with CP)	0.065	0.0050	0	0	0	0
Coated Steel Svcs (with CP)						
Coated Steel Mains (No CP)	NA	NA	NA	NA	NA	NA
Coated Steel Svcs (No CP)	NA	NA	NA	NA	NA	NA
Other Mains	NA	NA	NA	NA	NA	NA
Other Services	NA	NA	NA	NA	NA	NA
Natural Forces						
Seismic Mains	NA	NA	NA	NA	NA	NA
Seismic Services	NA	NA	NA	NA	NA	NA
Earth Movement / Landslide Mains	NA	NA	NA	NA	NA	NA
Earth Movement / Landslide Services	NA	NA	NA	NA	NA	NA
Tree Roots Mains	0.0137	0	0	0	0	0
Frost Heave / Temperature Mains	NA	NA	NA	NA	NA	NA
Frost Heave / Temperature Services	NA	NA	NA	NA	NA	NA
Flood Mains	0	0	0	0	0	0
	0	0	0	0	0	0

Appendix C. Section 2. Table 7-22: Summary of Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Ice/Snow Blockage of Control Equip - Mains	NA	NA	NA	NA	NA	NA
Ice/Snow Blockage of Control Equip - Services	NA	NA	NA	NA	NA	NA
Excavation Damage						
Excavation Damage – Improper Excavation Practice	0.07625	0.0137	0	0	0	0
Excavation Damage – No Call for Locate	0.2288	0.1144	0	0	0	100
Excavation Damage – Late or No Locate	0.0839	0.0137	0	0	0	0
Excavation Damage – Mis-marked Facilities	0.07625	0.0137	0	0	0	0
Excavation Damage – Incorrect Facility Records	0.02745	0.0137	0	0	0	0
Other Outside Force						
Vehicle Damage Mains	0	0	0	0	0	0
Vehicle Damage Services	0.0412	0.0061	0	0	0	0
Vandalism Mains	0	0	0	0	0	0
Vandalism Services	0	0	0	0	0	0
Fire / Explosion Mains	0.0027	0	0	0	0	0
Material, Weld or Joint Failure						
PVC Mains	NA	NA	NA	NA	NA	NA
ABS Mains	NA	NA	NA	NA	NA	NA

Appendix C. Section 2. Table 7-22: Summary of Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Material, Weld or Joint Failure (continued)						
Aldyl A Mains	0.0274	0	0	0	0	0
MDPE 2306 Mains	NA	NA	NA	NA	NA	NA
HDPE 3306 Mains	NA	NA	NA	NA	NA	NA
Other Plastic Pipe Mains	NA	NA	NA	NA	NA	NA
Delrin Insert Tap Tees Fittings	0.0011	0	0	0	0	0
Plexco Service Tee Celcon Caps Fittings	0.0011	0	0	0	0	0
Pre 1940 OA girth welds	0	0	0	0	0	0
Equipment Failure						
Valves Mains	0.0004	0	0	0	0	0
Service Regulators	0	0	0	0	0	0
Control/Relief Station	0	0	0	0	0	0
Mechanical Couplings	0.0028	0	0	0	0	0
Other	0	0	0	0	0	0

Appendix C, Section 2. Table 7-22: Summary of Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Incorrect Operation						
Operating Error	0	0	0	0	0	0
Service Line bored thru Sewer	0	0	0	0	0	0
Other	0	0	0	0	0	0
Other						
Bell Joint Leakage	0	0	0	0	0	0
Copper Pipe Puncture - Svcs	NA	NA	NA	NA	NA	NA
Other	0	0	0	0	0	0

APPENDIX D
IDENTIFICATION AND IMPLEMENTATION OF MEASURES TO ADDRESS RISKS

Appendix D. Section 1. Table 8-1: Key Requirements of the Leak Management Program

Program Element	Reference to Requirement Established in the Standard or Procedure
Qualification/Training requirements for personnel conducting leak survey	FPU Operator Qualification Program
Auditing and Quality Assurance of Leak Survey Equipment	FPU Procedure LC-5
Criteria for leak severity classification	FPU Procedure LC-4
Established Frequency of Leak Survey in Business Districts, at intervals not exceeding 15 months, but at least once each calendar year.	FPU O&M Manual Section 1.2.1.1
Established Frequency of Leak Survey for Cathodically Unprotected Lines subject to §192.465(e) on which electrical surveys for corrosion are impractical, at least once every 3 calendar years at intervals not exceeding 39 months.	FPU O&M Manual Section 1.2.1.2
Established Frequency of Leak Survey of Remaining Lines at least once every 5 calendar years at intervals not exceeding 63 months.	FPU O&M Manual Section 1.2.1.2
Hazardous Leaks Requiring Immediate Repair – Ongoing action required	FPU Procedure LC-4, FPU O&M Manual Section 1.2.2.1
Non-hazardous Leaks Requiring Scheduled Repair – Time limit is established to Eliminate Leak	FPU Procedure LC-4, FPU O&M Manual Section 1.2.2.1
Non-Hazardous Leak NOT requiring scheduled repair– Monitoring Requirements established	FPU Procedure LC-4, FPU O&M Manual Section 1.2.2.1
Records and Data Management procedures defined	Florida Administrative Code Chapter 25-12, 12.060

Appendix D. Section 3. Table 8-3: Corrosion Action Plans

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Cast Iron Pipe			
	Implement a replacement program that prioritizes the replacement schedule based on highest risk areas/segments	In Progress	Manager of Engineering
Bare Steel (No CP)	Review leak records annually to determine whether to increase Leak Survey Frequency on areas of highest risk	In Progress	Division Operations Managers & Gas Standards Engineer
	Implement or increase schedule of a replacement program that prioritizes the replacement schedule based on highest risk areas/segments	In Progress	Division Operations Managers & Gas Standards Engineer

Appendix D. Section 3. Table 8-3: Corrosion Action Plans (continued)

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Bare Steel (with CP)	Review leak records annually to determine whether to increase Leak survey frequency on areas of highest risk	In Progress	Division Operations Managers & Gas Standards Engineer
	Implement a replacement program that prioritizes the replacement schedule based on highest risk areas/segments	In Progress	Division Operations Managers & Gas Standards Engineer
	Assess effectiveness of existing CP	In Progress	Division Operations Managers & Gas Standards Engineer
Coated Steel with CP	No Additional or Accelerated Actions Planned		

Appendix D. Section 5. Table 8-5: Excavation Damage Action Plans

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Improper Excavation Practice	Track dig-ins and identify problem excavators. Implement repeat offender policy that includes: Formal letter of warning to excavator and their insurance provider; targeted education, targeted field inspections.	To Start Fourth Quarter 2011	Division Operations Managers & Gas Standards Engineer
	Provide One Call literature to Equipment Rental Companies, etc. to increase awareness	To Start Fourth Quarter 2011	Division Operations Managers
	Conduct pre-construction meeting or site-visits for excavation near critical or high risk facilities.	In Progress	Division Operations Managers
	Special patrols or job site visits for high-risk excavators or high-risk excavation practices.	In Progress	Division Operations Managers
Facility Not Located or Marked	Analyze root cause and implement corrective action. Require written investigation of each incident.	To Start Fourth Quarter 2011	Division Operations Managers & Gas Standards Engineer

Appendix D. Section 5. Table 8-5: Excavation Damage Action Plans (continued)

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Lack of Tracer Wire	Contact excavator regarding the pertinent facilities and pothole if necessary. Attempt to create records of said facilities for future excavation.	In Progress	Division Operations Managers & Gas Standards Engineer
Mis-marked Facilities	Monitor and track for dig-ins resulting from mis-marked facilities. Analyze root cause and implement corrective action. Requires written investigation of each incident.	In Progress	Division Operations Managers & Gas Standards Engineer
	Conduct sample audits of locates to monitor performance.	In Progress	Division Operations Managers & Gas Standards Engineer
Incorrect Facility Records			
	Monitor timeliness of as-built mapping for new and/or reconstructed facilities. Implement process for indicating existence of plans for new construction or reconstruction on facility maps/records.	In Progress	Division Operations Managers

Table 8-7: Example Material, Weld or Joint Failure Action Plans

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Aldyl A	Provide training and process to identify Aldyl A whenever facilities are exposed and maintain records to identify where Aldyl A exists.	In Progress	Division Operations Managers & Gas Standards Engineer
	Determine whether leak history on Aldyl A warrants additional or accelerated actions.	In Progress	Division Operations Managers & Gas Standards Engineer
Delrin Insert Tap Tees	Provide training and process to identify these Tees whenever facilities are exposed and maintain records to identify where these facilities exist.	In Progress	Division Operations Managers & Gas Standards Engineer
Plexco Service Tee Celcon Caps	Determine whether leak history warrants additional or accelerated actions.	In Progress	Division Operations Managers & Gas Standards Engineer

Appendix D. Section 8. Table 8-8: Equipment Failure Action Plans

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Valves – Kerotest Gate Valves, South and East Division	Determine location of these valves during normal maintenance activities and records review.	In Progress	Division Operations Managers
	Perform inspections on these valves to determine if they are functioning properly.	In Progress	Division Operations Managers
Service Regulators	Gather more data on the cause of service regulator failures and document the manufacturer of the service regulator.	In Progress	Division Operations Managers
	Establish or advance existing replacement program if failure history warrants	In Progress	Division Operations Managers & Gas Standards Engineer

Appendix D. Section 10. Table 8-10: Other Action Plans

Sub-Threat	Damage Prevention Action Plan Scope	Status	Officer / Manager Responsible
Wrapping of Anodeless Risers (South Division)	Discontinue practice of wrapping anodeless risers	In Progress	Division Operations Managers
	Replace corroded risers as they are encountered	In Progress	Division Operations Managers
Incorrect Records Completion	Provide Training on categories of leak causes and accurate completion of paperwork	In Progress	Gas Standards Engineer

APPENDIX E
MEASUREMENT OF PERFORMANCE, MONITORING RESULTS, AND
EVALUATION EFFECTIVENESS

Appendix E. Section 1. Table 9-1: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause
(South Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re-evaluation of Threats and Risks	Re- Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired - Corrosion	.0446	.075	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Natural Forces	.0029	.0092	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Excavation Damage	.23	.28	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other Outside Force Damage	.0029	.0037	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Material, Weld or Joint Failure	.0067	.0018	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Equipment Failure	.0021	.0028	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Incorrect Operation	.0015	.00092	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other	.0021	.00092	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 1. Table 9-1: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause

(East Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re-evaluation of Threats and Risks	Re- Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired - Corrosion	.036	.016	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Natural Forces	.0053	.0069	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Excavation Damage	.136	.099	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other Outside Force Damage	.0036	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Material, Weld or Joint Failure	.0028	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Equipment Failure	.0029	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Incorrect Operation	.00107	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other	.056	.024	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 1. Table 9-1: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause
(West Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re-evaluation of Threats and Risks	Re- Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired - Corrosion	.010	.0052	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Natural Forces	.00053	.0013	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Excavation Damage	.071	.021	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other Outside Force Damage	.0016	.0013	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Material, Weld or Joint Failure	.0011	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Equipment Failure	.0013	.0039	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Incorrect Operation	.00026	.0013	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Other	.00052	.0026	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 2. Table 9-2: Number of Excavation Damages (All Divisions)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Number of Excavation Damages	343	383	2010 damages resulting in need to repair or replace	Increase of 5% or more from established baseline	

Appendix E. Section 3. Table 9-3: Number of Excavation Tickets (All Divisions)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Number of Excavation Tickets received from the notification center	97,634	74,978	2010 number of excavation tickets	Increase of 5% or more from established baseline	

Appendix E. Section 4. Table 9-4: Number of leaks either eliminated or repaired, categorized by cause (South Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Total Number of Leaks Eliminated or Repaired - Corrosion	.15	.22	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Natural Forces	.0028	.0028	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Excavation Damage	.217	.28	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Other Outside Force Damage	.0072	.0064	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Material, Weld or Joint Failure	.0179	.020	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Equipment Failure	.023	.019	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Incorrect Operation	.0047	.0018	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired – Other	.25	.20	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 5. Table 9-5: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by material
(South Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired – Cast Iron	.0024	.0055	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Bare Steel	.060	.092	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Coated Steel with CP	.028	.039	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Polyethylene All other	.2	.16	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired –	N/A	N/A	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Plastic Aldyl-A	UNK	UNK	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 4. Table 9-4: Number of leaks either eliminated or repaired, categorized by cause (East Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Total Number of Leaks Eliminated or Repaired - Corrosion	.150	.12	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Natural Forces	.0053	.0069	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Excavation Damage	.208	.099	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Other Outside Force Damage	.00218	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Material, Weld or Joint Failure	.0039	.0017	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Equipment Failure	.00036	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Incorrect Operation	.00071	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Other	.104	.12	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 5. Table 9-5: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by material
(East Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired – Cast Iron	0	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Bare Steel	.0039	.0017	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Coated Steel with CP	.079	.059	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Polyethylene All other	.121	.081	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Plastic Aldyl-A	N/A	N/A	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 4. Table 9-4: Number of leaks either eliminated or repaired, categorized by cause (West Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Total Number of Leaks Eliminated or Repaired - Corrosion	.044	.21	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Natural Forces	.00053	.0013	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Excavation Damage	.081	.39	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Other Outside Force Damage	.0061	.030	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Material, Weld or Joint Failure	.015	.071	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Equipment Failure	.023	.11	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Incorrect Operation	.0014	.0065	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Total Number of Leaks Eliminated or Repaired - Other	.035	.17	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

Appendix E. Section 5. Table 9-5: Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by material
(West Division)

Performance Measure	5-Year Average 2006-10	Year 2010	Established Baseline	Criteria for Re- evaluation of Threats and Risks	Re-Evaluation Required? Y / N
Number of Hazardous Leaks Eliminated or Repaired – Cast Iron	0	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Bare Steel	.019	.013	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Coated Steel with CP	.0043	0	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Polyethylene All other	.061	.019	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	
Number of Hazardous Leaks Eliminated or Repaired – Plastic Aldyl-A	N/A	N/A	5-Yr Average Leaks/Mile/Yr	Moving 5-Yr Average is an increase of 5% or more from established baseline	

APPENDIX F
PERIODIC EVALUATION AND IMPROVEMENT

Appendix F, Table 10-1: Documentation of Re-evaluation of Threats and Risks

Performance Measures that Exceeded Baseline				
Region	Performance Measure	Actual Performance for Year _____	Established Baseline	Re-evaluation criteria
Existing Date for Complete Program re-evaluation: _____ Is a shorter timeframe for complete program re-evaluation warranted? : _____				

Required frequency	Program Re-evaluation Element	Date Completed
Required Annually	Update Baseline and on-going performance measures	
Required Annually	Update Knowledge of System Characteristics, Environmental Factors and Threats	
As needed*	Update Threat Identification Process	
As needed*	Update Threat Identification	
As needed*	Update Risk Evaluation and Ranking Process	
As needed*	Update Evaluation of Risks	
As needed*	Update Risk Evaluation and Ranking Validation	
As needed*	Update Risk Evaluation and Ranking Process Improvement Action Plans	
As needed*	Update Action Plans	

* as needed to address the risk category whose performance measure was exceeded

SUPPLEMENTAL SECTION A
PHMSA JURISDICTIONAL LIQUEFIED PROPANE GAS SYSTEMS
THREAT IDENTIFICATION

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Cast Iron Pipe	Does Cast Iron pipe exist in the system?	NO	NO
		Is there a known history of body-of-pipe leaks, fractures, or graphitization?	NO	
		Are certain diameters or parts of the system known to be more prone to failure and leakage than others?	NO	
	Ductile Iron	Do ductile iron pipes exist in the system?	NO	NO
		Is there a known history of body-of-pipe leaks, fractures, or graphitization?	NO	
		Are certain diameters or parts of the system known to be more prone to failure and leakage than others?	NO	
	Bare Steel Pipe (no CP)	Do bare (uncoated) steel main or services exist in the system that are not under CP?	NO	NO
		Is there known evidence of active external corrosion on bare steel pipes not under CP?	NO	
		Is there a history of leakage on bare steel pipes not under CP?	NO	
	Bare Steel Pipe (with CP)	Do bare (uncoated) steel main or services exist in the system that are under CP?	NO	NO
		Is there known evidence of active external corrosion on bare steel pipes under CP?	NO	
		Is there a known history of leakage on bare steel pipes under CP?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Coated Steel with CP	Is there known evidence of active external corrosion on coated steel pipe with CP?	YES – South Division	YES – South Division
		Is there a known history of leakage on coated steel pipe with CP?	YES – South Division	
		Are some CP systems frequently down (not achieving the required level of protection); more than 10% of the time?	NO	
	Coated Steel w/o CP	Is there known evidence of active external corrosion on coated steel pipe without CP?	NO	NO
		Is there a known history of leakage on coated steel pipe without CP?	NO	
	Copper Services	Are direct buried or inserted copper services known to exist in the system?	NO	NO
		Is there a known history of leakage on copper services?	NO	NO
	Stray Current	Do distribution facilities exist near DC transit systems, high voltage DC transmission systems or other known sources of DC current?	NO	NO
		Are any facilities known to be impacted by sources of stray DC current that has or may result in corrosion?	NO	
	Internal Corrosion	Are liquids known to exist within any portions of the distribution system?	NO	NO
		Is there known evidence of past or active internal corrosion on steel pipe?	NO	
		Is there a known history of leakage caused by internal corrosion of steel pipe?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Corrosion	Atmospheric Corrosion	Do above ground distribution facilities exist in areas exposed to marine atmosphere, high humidity, atmospheric pollutants or agricultural chemicals?	YES – All Divisions	YES – All Divisions
		Is there known evidence of past or active external atmospheric corrosion on exposed steel pipe, equipment or fittings?	YES – All Divisions	
		Is there a known history of leakage caused by atmospheric corrosion of steel pipe?	YES	
	Corrosion of carrier pipe in Cased Crossing	Do steel carrier pipes exist within cased crossings?	NO	NO
		Are there any existing known contacts between carrier pipes and casings?	NO	
		Is there known evidence of past or active external corrosion on cased steel pipe?	NO	
		Is there a known history of leakage caused by corrosion on cased steel pipe?	NO	
Natural Forces	Seismic Activity	Are there any seismically active zones or fault lines that exist in the area?	NO	NO
		Is there a history of leakage associated with Seismic activity?	NO	
	Earth Movement / Landslide	Are there any areas susceptible to earth movement or landslide in the area?	NO	NO
		Is there a known history of leakage associated with landslide or earth movement?	NO	
	Frost Heave	Are there any areas susceptible to frost heave that exist in the area?	NO	NO

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Natural Forces	Frost Heave	Is there a known history of leakage associated with frost heave?	NO	NO
	Flooding	Are there any areas within the gas system that are subject to flooding?	NO	NO
		Is there a known history of leakage or damage associated with flooding?	NO	
	Tree Roots	Is there a known history of leakage to pipe or fittings as a result of tree root damage?	NO	NO
	Other	Is there a known history of leakage or damage due to other natural force causes; including but not limited to lightning, wild fire or high winds (tornados)?	NO	NO
Excavation Damage	Improper Excavation Practice	Has damage requiring repair or replacement occurred on properly marked facilities due to the failure of the excavator to follow proper excavation rules and procedures?	YES – South Division	YES – All Divisions
	Facility not located or marked	Has damage requiring repair or replacement occurred due to failure to locate a valid and timely locate request?	NO	
	One-call notification center error	Has damage requiring repair or replacement occurred due to an error made at the one-call notification center?	NO	
	Mis-Marked Facilities	Has damage requiring repair or replacement occurred due to the mis-marking of facilities?	YES – South Division	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Excavation Damage	Incorrect Facility Records	Has damage requiring repair or replacement occurred due incorrect facility records?	NO	Yes – All Divisions
	Other	Has damage requiring repair or replacement occurred due other causes including the inability to locate facility (e.g. no locating wire on plastic main), wrong or incorrect information provided to the one call center, deteriorated facilities and previous damage?	NO	
Other Outside Force Damage	Vehicle Damage to Riser/Meter	Are existing risers and/or meters exposed to damage from vehicular damage that do not have barriers or other protection conforming to current design requirements?	NO	Yes- All Divisions
		Has known leakage occurred due to vehicle damage to risers/meters.	NO	
	Vehicle Damage to above-ground equip/station	Are HPRs and/or regulator stations exposed to damage from vehicular damage that do not have barriers or other protection conforming to current design requirements?	NO	NO
		Has known leakage occurred due to vehicle damage to HPRs and/or regulator stations?	NO	
	Vandalism	Are gas valves or station equipment susceptible to damage by vandalism that has the potential to pose a risk to employees or the public?	NO	NO
		Has leakage or other unsafe condition been created by vandalism?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Other Outside Force Damage	Structure Fire	Is there a history of damage to gas meters or other equipment due to structure fires?	Yes – South Division	Yes – All Divisions
		Is there a history of lack of properly designed or maintained service shut-off valves resulting in a delay in inability to shut off gas service to structures that are on fire?	NO	
Material, Weld or Joint Failure	Century Products (MDPE 2306)	Is Century Products (MDPE 2306) pipe known to exist in the system?	NO	NO
		Is there a history of leakage of Century Products (MDPE 2306) pipe?	NO	
	Aldyl A	Is pre-1973 Aldyl A pipe known to exist in the system?	NO	NO
		Is there a history of leakage of pre-1973 Aldyl A pipe?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Material, Weld or Joint Failure	HDPE 3306	Is HDPE 3306 pipe known to exist in the system?	NO	NO
		Is there a history of leakage of HDPE 3306 pipe?	NO	
	PVC – Polyvinyl Chloride	Is PVC pipe known to exist in the system?	NO	NO
		Is there a history of leakage of PVC pipe?	NO	
	ABS – Acrylonitrile Butadiene Styrene	Is ABS pipe known to exist in the system?	NO	NO
		Is there a history of leakage of ABS pipe?	NO	
	CAB – Cellulose Acetate Butyrate	Is CAB A pipe known to exist in the system?	NO	NO
		Is there a history of leakage of CAB pipe?	NO	
	PB - Polybutylene	Is PB pipe known to exist in the system?	NO	NO
		Is there a history of leakage of PB pipe?	NO	
	Delrin Insert Tap Tees	Are Delrin Insert Tap Tees known to exist in the system?	NO	NO
		Is there a history of leakage of Delrin Insert Tap Tees?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Material, Weld, or Joint Failure	Plexco Service Tee Celcon Caps	Are Plexco Service Tee Celcon Caps known to exist in the system?	NO	NO
		Is there a history of leakage of Plexco Service Tee Celcon Caps?	NO	
	PE Fusion failure	Is there a history of PE Fusion Failures or leakage in the system?	NO	NO
		Are any types of PE fusion (type, material, size, age, process, geographic area) more prone to leakage or failure?	NO	
	Pre-1940 Oxy-Acetylene Girth Weld	Do pre-1940 Oxy-Acetylene Girth Welds exist on pipe greater than 4 inch?	NO	NO
		Is there a history of pre-1940 Oxy-Acetylene Girth Weld failures or leakage in the system?	NO	
	Other	Do other material failures occur that present a possible current or future risk?	NO	NO
	Mechanical Couplings	Is there a history of Mechanical Coupling failures or leakage in the system due to pullout?	NO	NO
		Is there a history of Mechanical Coupling failures or leakage in the system due to seal leakage?	NO	NO
		Are any types of mechanical coupling (type, material, size, age, manufacturer, geographic area) more prone to leakage or failure due to seal leakage?	NO	NO

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Equipment Failure	Valves	Are valves inoperable, inaccessible and or paved over without timely identification and repairs?	YES – South Division	YES – South Division
		Are certain types or makes of valves more likely to leak?	NO	NO
	Service Regulators	Is there a history of service regulator failures that present a threat to the public or employees?	NO	NO
		Are certain types or makes of service regulator more likely to create a risk?	NO	
	Control/Relief Station Equipment	Is there a history of control or relief station equipment failures that present a threat to the public or employees?	NO	NO
		Are certain types or makes of station equipment more likely to create a risk?	NO	
	Other	Is there a history of other equipment failures that present a threat to the public or employees?	NO	NO
		Are certain types or makes of other equipment more likely to create a risk?	NO	
Incorrect Operations	Operating Error	Have leaks or other safety incidents been caused by an inadequate procedure?	NO	NO
		Have leaks or other safety incidents been caused by failure to follow an adequate procedure?	NO	
		Have bypass valves or MAOP separation valves been found to not have proper locks or other appropriate security replaced after completion of maintenance?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Incorrect Operations	Operating Error	Have employees been found to have falsified maintenance documents and thus not have completed operations and maintenance tasks in the manner or timeframe required?	NO	NO
		Has improper regulator station maintenance ever resulted in an overpressure incident?	NO	NO
		Have butt-fusions been found to be leaking due to improper fusion due to failure to follow the correct procedure?	NO	NO
		Have leak repairs or other mandated maintenance not been made in the time required by standard due to a process breakdown or ineffective process?	NO	NO
		Has gas leak detection equipment used for a leak survey been found afterwards to be out of calibration?	NO	NO
		Have unauthorized repair, maintenance or operations practices been used or are still in use?	NO	NO
		Has the failure to accurately or timely record or map facilities resulted in failure to perform mandated maintenance or locates?	NO	NO
	Gas lines bored through Sewers	Have pipes been installed via unguided or guided bore without proper procedures to ensure other facilities are not damaged?	NO	NO
		Have pipes unknowingly bored through sewer lines been damaged by sewer line cleaning operations?	NO	

Supplemental Table S-1: SME Evaluation of Threats Applicable to the LP Distribution System (continued)

Service territory covered by this Assessment: All Divisions				
Primary Threat Category	Sub-Threat	SME's to Consider the following	SME Evaluation/Answer	Threat Applicable? SME – Yes / No
Other	Bell Joint Leakage	Does Cast Iron pipe exist in the system?	NO	NO
		Is there a history of bell joint leaks?	NO	NO
		Are certain diameters or parts of the system known to be more prone to bell joint failure or leakage than others?	NO	NO
	Inserted Copper Puncture	Do copper services inserted in steel exist in the system?	NO	NO
		Is there a history of leakage of copper services due to galvanic action between the copper and steel?	NO	NO
	Copper Sulfide	Do copper services exist in the system and is there a history of hydrogen sulfide greater than 0.3 grains per 100 standard cubic feet of gas?	NO	NO
		Have any safety incidents occurred as a result of copper sulfide in copper services or service regulators?	NO	NO
	Construction over gas mains & services	Have others constructed over gas facilities or taken other action that prevents effective leak survey and other maintenance?	YES – South Division	YES – South Division
		When identified, is construction that impacts required maintenance corrected in a timely manner?	NO	NO

SUPPLEMENTAL SECTION B

PHMSA JURISDICTIONAL LIQUEFIED PROPANE SYSTEMS

EVALUATION AND RANKING OF RISKS

Supplemental Table S-2: Summary of LP Risk Evaluation and Ranking Results

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Corrosion						
Coated Steel Mains(with CP)	.0061	0	0	0	0	0
Coated Steel Svcs (with CP)	0	0	0	0	0	0
Natural Forces						
Tree Roots Mains	0	0	0	0	0	0
Flood Mains	0	0	0	0	0	0

Supplemental Table S-2: Summary of LP Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.25 – 0.50	0.10 – 0.25
Excavation Damage						
Excavation Damage Mains	.1625	0	0	0	0	33
Excavation Damage Svcs	0	0	0	0	0	0
Other Outside Force						
Vehicle Damage Mains	0	0	0	0	0	0
Vandalism Mains	0	0	0	0	0	0
Fire / Explosion Mains	0	0	0	0	0	0

Supplemental Table S-2: Summary of LP Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Material, Weld or Joint Failure						
Plastic Pipe Main	0	0	0	0	0	0
Plastic Pipe Services	0	0	0	0	0	0
Mechanical Couplings	0	0	0	0	0	0
Equipment Failure						
Valves Mains	.001575	0	0	0	0	0
Valves Services	0	0	0	0	0	0
Service Regulators	.001925	0	0	0	0	0
Control/Relief Station	0	0	0	0	0	0
Other	0	0	0	0	0	0

Supplemental Table S-2: Summary of LP Risk Evaluation and Ranking Results (Continued)

Threat	Max Risk Score in any Region	Min Risk Score in any Region	% of Regions in System with Risk Score Range			
			0.76 – 1.00	0.51 – 0.75	0.26 – 0.50	0.10 – 0.25
Incorrect Operation						
Operating Error	0	0	0	0	0	0
Service Line bored thru Sewer	0	0	0	0	0	0
Other	0	0	0	0	0	0
Other						
Other	0	0	0	0	0	0

APPENDIX G
CROSS REFERENCE OF 49 CFR PART 192, SUBPART P REQUIREMENTS TO THE
IM PLAN

The table below provides a cross reference between 49 CFR Part 192, Subpart P (Gas Distribution Pipeline Integrity Management) and this Gas Distribution Integrity Management Plan.

49 CFR Part 192, Subpart P	IM Plan Reference
§192.1005 No later than August 2, 2011 a gas distribution operator must develop and implement an integrity management program that includes a written integrity management plan as specified in § 192.1007.	3.0
§192.1007 A written integrity management plan must contain procedures for developing and implementing the following elements:	
§192.1007 (a) <i>Knowledge</i> . An operator must demonstrate an understanding of its gas distribution system developed from reasonably available information.	5.0, 5.1, 5.2, 5.3, 5.4, 5.5
§192.1007 (a) (1) Identify the characteristics of the pipeline's design and operations and the environmental factors that are necessary to assess the applicable threats and risks to its gas distribution pipeline.	5.3
§192.1007 (a) (2) Consider the information gained from past design, operations, and maintenance.	5.2
§192.1007 (a) (3) Identify additional information needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities).	5.4
§192.1007 (a) (4) Develop and implement a process by which the IM program will be reviewed periodically and refined and improved as needed.	10.1, 10.2
§192.1007 (a) (5) Provide for the capture and retention of data on any new pipeline installed. The data must include, at a minimum, the location where the new pipeline is installed and the material of which it is constructed.	5.5
§192.1007 (b) <i>Identify threats</i> . The operator must consider the following categories of threats to each gas distribution pipeline: corrosion, natural forces, excavation damage, other outside force damage, material, weld or joint failure, equipment failure, incorrect operation, and other concerns that could threaten the integrity of the pipeline.	6.0
§192.1007 (b) An operator must consider reasonably available information to identify existing and potential threats. Sources of data may include, but are not limited to, incident and leak history, corrosion control records, continuing surveillance records, patrolling records, maintenance history, and excavation damage experience.	5.1, 6.0,
§192.1007 (c) <i>Evaluate and rank risk</i> . An operator must evaluate the risks associated with its distribution pipeline. In this evaluation, the operator must determine the relative importance of each threat and estimate and rank the risks posed to its pipeline. This evaluation must consider each applicable current and potential threat, the likelihood of failure associated with each threat, and the potential consequences of such a failure.	7.1, 7.2
§192.1007 (c) An operator may subdivide its pipeline into regions with similar characteristics (e.g., contiguous areas within a distribution pipeline consisting of mains, services and other appurtenances; areas with common materials or environmental factors), and for which similar actions likely would be effective in reducing risk.	Non-Mandatory

49 CFR Part 192, Subpart P	IM Plan Reference
§192.1007 (d) <i>Identify and implement measures to address risks.</i> Determine and implement measures designed to reduce the risks from failure of its gas distribution pipeline. These measures must include an effective leak management program (unless all leaks are repaired when found).	8.1, 8.2
§192.1007 (e) (1) <i>Measure performance, monitor results, and evaluate effectiveness.</i> Develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program. These performance measures must include the following: (i) Number of hazardous leaks either eliminated or repaired, per § 192.703(c), categorized by cause; (ii) Number of excavation damages; (iii) Number of excavation tickets (receipt of information by the underground facility operator from the notification center); (iv) Total number of leaks either eliminated or repaired, categorized by cause; (v) Number of hazardous leaks either eliminated or repaired per § 192.703(c), categorized by material; and (vi) Any additional measures the operator determines are needed to evaluate the effectiveness of the operator's IM program in controlling each identified threat.	9.1 – 9.6
§192.1007 (e) (1) <i>Measure performance, monitor results, and evaluate effectiveness.</i> ... An operator must consider the results of its performance monitoring in periodically re-evaluating the threats and risks.	10.2
§192.1007 (f) <i>Periodic Evaluation and Improvement.</i> An operator must re-evaluate threats and risks on its entire pipeline and consider the relevance of threats in one location to other areas.	7.1, 10.1
§192.1007 (f) Each operator must determine the appropriate period for conducting complete program evaluations based on the complexity of its system and changes in factors affecting the risk of failure. The operator must conduct a complete program reevaluation at least every five years. The operator must consider the results of the performance monitoring in these evaluations.	10.2
§192.1007 (g) <i>Report results.</i> Report, on an annual basis, the four measures listed in paragraphs (e)(1)(i) through (e)(1)(iv) of this section, as part of the annual report required by § 191.11. An operator also must report the four measures to the state pipeline safety authority if a state exercises jurisdiction over the operator's pipeline.	11.1
§192.1009 Each operator must report, on an annual basis, information related to failure of compression couplings, excluding those that result only in nonhazardous leaks, as part of the annual report required by §191.11 beginning with the report submitted March 15, 2011. This information must include, at a minimum, location of the failure in the system, nominal pipe size, material type, nature of failure including any contribution of local pipeline environment, coupling manufacturer, lot number and date of manufacture, and other information that can be found in markings on the failed coupling. An operator also must report this information to the state pipeline safety authority if a state exercises jurisdiction over the operator's pipeline.	11.1
§192.1011 An operator must maintain records demonstrating compliance with the requirements of this subpart for at least 10 years. The records must include copies of superseded integrity management plans developed under this subpart.	12.0

49 CFR Part 192, Subpart P	IM Plan Reference
<p>§ 192.1013 (a) An operator may propose to reduce the frequency of periodic inspections and tests required in this part on the basis of the engineering analysis and risk assessment required by this subpart. (b) An operator must submit its proposal to the PHMSA Associate Administrator for Pipeline Safety or, in the case of an intrastate pipeline facility regulated by the State, the appropriate State agency. The applicable oversight agency may accept the proposal on its own authority, with or without conditions and limitations, on a showing that the operator's proposal, which includes the adjusted interval, will provide an equal or greater overall level of safety. (c) An operator may implement an approved reduction in the frequency of a periodic inspection or test only where the operator has developed and implemented an integrity management program that provides an equal or improved overall level of safety despite the reduced frequency of periodic inspections.</p>	<p>Not covered by IM Plan</p>

APPENDIX H
COPY OF 49 CFR PART 192, SUBPART P

Subpart P—Gas Distribution Pipeline Integrity Management (IM)

§ 192.1001 What definitions apply to this subpart?

The following definitions apply to this subpart:

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.

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.

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.

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

Small LPG Operator means an operator of a liquefied petroleum gas (LPG) distribution pipeline that serves fewer than 100 customers from a single source.

§ 192.1003 What do the regulations in this subpart cover?

General. This subpart prescribes minimum requirements for an IM program for any gas distribution pipeline covered under this part, including liquefied petroleum gas systems. A gas distribution operator, other than a master meter operator or a small LPG operator, must follow the requirements in §§ 192.1005–192.1013 of this subpart. A master meter operator or small LPG operator of a gas distribution pipeline must follow the requirements in § 192.1015 of this subpart.

§ 192.1005 What must a gas distribution operator (other than a master meter or small LPG operator) do to implement this subpart?

No later than August 2, 2011 a gas distribution operator must develop and implement an integrity management program that includes a written integrity management plan as specified in § 192.1007.

§ 192.1007 What are the required elements of an integrity management plan?

A written integrity management plan must contain procedures for developing and implementing the following elements:

(a) *Knowledge.* An operator must demonstrate an understanding of its gas distribution system developed from reasonably available information. (1) Identify the characteristics of the pipeline's design and operations and the environmental factors that are necessary to assess the applicable threats and risks to its gas distribution pipeline. (2) Consider the information gained from past design, operations, and maintenance. (3) Identify additional information needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities). (4) Develop and implement a process by which the IM program will be reviewed periodically and refined and improved as needed. (5) Provide for the capture and retention of data on any new pipeline installed. The data must include, at a minimum, the location where the new pipeline is installed and the material of which it is constructed.

(b) *Identify threats.* The operator must consider the following categories of threats to each gas distribution pipeline: Corrosion, natural forces, excavation damage, other outside force damage, material, weld or joint failure (including compression coupling), equipment failure, incorrect operation, and other concerns that could threaten the integrity of its pipeline. An operator must consider reasonably available information to identify existing and potential threats. Sources of data may include, but are not limited to, incident and leak history, corrosion control records, continuing surveillance records, patrolling records, maintenance history, and excavation damage experience.

(c) *Evaluate and rank risk.* An operator must evaluate the risks associated with its distribution pipeline. In this evaluation, the operator must determine the relative importance of each threat and estimate and rank the risks posed to its pipeline. This evaluation must consider each applicable current and potential threat, the likelihood of failure associated with each threat, and the potential consequences of such a failure. An operator may subdivide its pipeline into regions with similar characteristics (e.g., contiguous areas within a distribution pipeline consisting of mains, services and other appurtenances; areas with common materials or environmental factors), and for which similar actions likely would be effective in reducing risk.

(d) *Identify and implement measures to address risks.* Determine and implement measures designed to reduce the risks from failure of its gas distribution pipeline. These measures must include an effective leak management program (unless all leaks are repaired when found).

(e) *Measure performance, monitor results, and evaluate effectiveness.* (1) Develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program. An operator must consider the results of its performance monitoring in periodically re-evaluating the threats and risks. These performance measures must include the following: (i) Number of hazardous leaks either eliminated or repaired as required by § 192.703(c) of this subchapter (or total number of leaks

if all leaks are repaired when found), categorized by cause; (ii) Number of excavation damages; (iii) Number of excavation tickets (receipt of information by the underground facility operator from the notification center); (iv) Total number of leaks either eliminated or repaired, categorized by cause; (v) Number of hazardous leaks either eliminated or repaired as required by § 192.703(c) (or total number of leaks if all leaks are repaired when found), categorized by material; and (vi) Any additional measures the operator determines are needed to evaluate the effectiveness of the operator's IM program in controlling each identified threat.

(f) *Periodic Evaluation and Improvement* An operator must reevaluate threats and risks on its entire pipeline and consider the relevance of threats in one location to other areas. Each operator must determine the appropriate period for conducting complete program evaluations based on the complexity of its system and changes in factors affecting the risk of failure. An operator must conduct a complete program re-evaluation at least every five years. The operator must consider the results of the performance monitoring in these evaluations.

(g) *Report results.* Report, on an annual basis, the four measures listed in paragraphs (e)(1)(i) through (e)(1)(iv) of this section, as part of the annual report required by § 191.11. An operator also must report the four measures to the state pipeline safety authority if a state exercises jurisdiction over the operator's pipeline.

§ 192.1009 What must an operator report when compression couplings fail?

Each operator must report, on an annual basis, information related to failure of compression couplings, excluding those that result only in nonhazardous leaks, as part of the annual report required by § 191.11 beginning with the report submitted March 15, 2011. This information must include, at a minimum, location of the failure in the system, nominal pipe size, material type, nature of failure including any contribution of local pipeline environment, coupling manufacturer, lot number and date of manufacture, and other information that can be found in markings on the failed coupling. An operator also must report this information to the state pipeline safety authority if a state exercises jurisdiction over the operator's pipeline.

§ 192.1011 What records must an operator keep?

An operator must maintain records demonstrating compliance with the requirements of this subpart for at least 10 years. The records must include copies of superseded integrity management plans developed under this subpart.

§ 192.1013 When may an operator deviate from required periodic inspections under this part?

(a) An operator may propose to reduce the frequency of periodic inspections and tests required in this part on the basis of the engineering analysis and risk assessment required by this subpart. (b) An operator must submit its proposal to the PHMSA Associate Administrator for Pipeline Safety or, in the case of an intrastate pipeline facility regulated by the State, the appropriate State agency. The applicable oversight agency may accept the proposal on its own authority, with or without conditions and limitations, on a showing that the operator's proposal, which includes the adjusted interval, will provide an equal or greater overall level of safety. (c) An operator may implement an approved reduction in the frequency of a periodic inspection or test only where the operator has developed and implemented an integrity management program that provides an equal or improved overall level of safety despite the reduced frequency of periodic inspections.

§ 192.1015 What must a master meter or small liquefied petroleum gas (LPG) operator do to implement this subpart?

(a) *General.* No later than August 2, 2011 the operator of a master meter system or a small LPG operator must develop and implement an IM program that includes a written IM plan as specified in paragraph (b) of this section. The IM program for these pipelines should reflect the relative simplicity of these types of pipelines. (b) *Elements.* A written integrity management plan must address, at a minimum, the following elements: (1) *Knowledge.* The operator must demonstrate knowledge of its pipeline, which, to the extent known, should include the approximate location and material of its pipeline. The operator must identify additional information needed and provide a plan for gaining knowledge over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities). (2) *Identify threats.* The operator must consider, at minimum, the following categories of threats (existing and potential): Corrosion, natural forces, excavation damage, other outside force damage, material or weld failure, equipment failure, and incorrect operation. (3) *Rank risks.* The operator must evaluate the risks to its pipeline and estimate the relative importance of each identified threat. (4) *Identify and implement measures to mitigate risks.* The operator must determine and implement measures designed to reduce the risks from failure of its pipeline. (5) *Measure performance, monitor results, and evaluate effectiveness.* The operator must monitor, as a performance measure, the number of leaks eliminated or repaired on its pipeline and their causes. (6) *Periodic evaluation and improvement.* The operator must determine the appropriate period for conducting IM program evaluations based on the complexity of its pipeline and changes in factors affecting the risk of failure. An operator must re-evaluate its entire program at least every five years. The operator must consider the results of the performance monitoring in these evaluations. (c) *Records.* The operator must maintain, for a period of at least 10 years, the following records: (1) A written IM plan in accordance with this section, including superseded IM plans; (2) Documents supporting threat identification; and (3) Documents showing the location and material of all piping and appurtenances that are installed after the effective date of the operator's IM program and, to the extent known, the location and material of all pipe and appurtenances that were existing on the effective date of the operator's program.

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT B

2010

So. Fla

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 15 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 (PHS-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

PART A - OPERATOR INFORMATION

SOUTH FLORIDA DIVISION

DOT USE ONLY

1. NAME OF OPERATOR

FLORIDA PUBLIC UTILITIES

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER

0 / 5 / 3 / 3 / 0 /

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED

401 SOUTH DIXIE HIGHWAY

Number and Street

WEST PALM BEACH, PALM BEACH

City and County

FLORIDA 33401

State and Zip Code

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT

Number and Street

City and County

State and Zip Code

5. STATE IN WHICH SYSTEM OPERATES: F / L / (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	163		22	450	434	4				1073
NO. OF SERVICES	5714		1950	7021	26154					40839

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		327	113	186	2	7	635
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON		1	3				4
PLASTIC 1. PVC							
2. PE		310	120	4			434
3. ABS							
4. OTHER PLASTIC							
OTHER							
SYSTEM TOTALS		638	236	190	2	7	1073

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH 65 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL		14216	457	9	3		14685
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON							
PLASTIC							
1. PVC							
2. PE		23612	2493	49			26154
3. ABS							
4. OTHER PLASTIC							
OTHER							
SYSTEM TOTALS		37828	2950	58	3		40839

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			102	51	239	157	170	203	139	12	1073
NUMBER OF SERVICES			1833	2065	6532	2734	6110	9044	11924	597	40839

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

CAUSE OF LEAK	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	47	32	193	49
NATURAL FORCES	1	0	2	1
EXCAVATION DAMAGE	26	26	256	256
OTHER OUTSIDE FORCE DAMAGE	4	2	2	2
MATERIAL OR WELDS	3	0	7	0
EQUIPMENT	2	0	13	1
INCORRECT OPERATIONS	0	0	2	1
OTHER	22	18	196	29
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR <u>7</u>				

PART D - EXCAVATION DAMAGE

Number of Excavation Damages 282

Number of Excavation Tickets 40848

PART E - EXCESS FLOW VALVE (EFV) DATA

Total Number Of EFVs on Single-family Residential Services Installed During Year 453

Estimated Number of EFVs In System At End Of Year 2362

**PART F - TOTAL NUMBER OF LEAKS ON FEDERAL LAND
REPAIRED OR SCHEDULED FOR REPAIR**

0

PART G - PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for the 12 months ending June 30 of the reporting year.

[(Purchased gas + produced gas) minus (customer use + company use + appropriate adjustments)] divided by (purchased gas + produced gas) equals percent unaccounted for.

Input for year ending 6/30 0 %.

PART H - ADDITIONAL INFORMATION

PART I - PREPARER AND AUTHORIZED SIGNATURE

J.K. JOYCE, SYSTEM OP'S SUPERVISOR

(Type or print) Preparer's Name and Title

KJOYCE@FPUC.COM

Preparer's email address

Name and Title of Person Signing

Authorized Signature

561-838-1803

Area Code and Telephone Number

561-838-1826

Area Code and Facsimile Number

Area Code and Telephone Number

2010 DeBary

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 <u>10</u> GAS DISTRIBUTION SYSTEM		INITIAL REPORT <input checked="" type="checkbox"/> SUPPLEMENTAL REPORT <input type="checkbox"/>	
<small>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 (PHS-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.</small>					
PART A - OPERATOR INFORMATION			DOT USE ONLY		
1. NAME OF OPERATOR <u>Florida Public Utilities Co.</u>			3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER <u>101513101</u>		
2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED <u>450 S Hwy 17-92</u> Number and Street <u>DeBary, Volusia</u> City and County <u>Florida 32713</u> State and Zip Code			4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT <u>401 S Dixie Highway</u> Number and Street <u>West Palm Beach, Palm Beach</u> City and County <u>Florida 33401</u> State and Zip Code		
5. STATE IN WHICH SYSTEM OPERATES: <u>F / L</u> (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		13			277	287					577
NO. OF SERVICES		316			6604	15253					22173

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		193	34	63			290
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON							
PLASTIC 1. PVC							
2. PE		227	60				287
3. ABS							
4. OTHER PLASTIC							
OTHER							
SYSTEM TOTALS		420	94	63			577

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR		AVERAGE SERVICE LENGTH <u>65</u> FEET
--	--	---------------------------------------

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL		6915	1	4			6920
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON							
PLASTIC							
1. PVC							
2. PE							
3. ABS							
4. OTHER PLASTIC		14844	402	7			15253
OTHER							
SYSTEM TOTALS		21759	403	11			22173

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					63	50	73	91	293	7	577
NUMBER OF SERVICES					1688	2433	3294	2529	12151	78	22173

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

CAUSE OF LEAK	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	6	0	66	9
NATURAL FORCES	0	0	4	4
EXCAVATION DAMAGE	8	8	49	49
OTHER OUTSIDE FORCE DAMAGE	0	0	0	0
MATERIAL OR WELDS	1	0	0	0
EQUIPMENT	0	0	0	0
INCORRECT OPERATIONS	0	0	0	0
OTHER	3	1	67	13
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR <u>9</u>				

PART D - EXCAVATION DAMAGE

Number of Excavation Damages 57

Number of Excavation Tickets 19,655

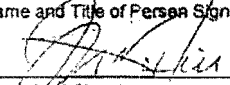
PART E - EXCESS FLOW VALVE (EFV) DATA

Total Number Of EFVs on Single-family Residential Services Installed During Year 217


Estimated Number of EFVs In System At End Of Year 344

PART F - TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR	PART G - PERCENT OF UNACCOUNTED FOR GAS
<p style="text-align: center;">0</p>	<p>Unaccounted for gas as a percent of total input for the 12 months ending June 30 of the reporting year.</p> <p>[(Purchased gas + produced gas) minus (customer use + company use + appropriate adjustments)] divided by (purchased gas + produced gas) equals percent unaccounted for.</p> <p>Input for year ending 6/30 _____ %.</p>

PART H - ADDITIONAL INFORMATION	
--	--

PART I - PREPARER AND AUTHORIZED SIGNATURE	
Glenn Pendleton, System Operations Supervisor	386-668-2600
(Type or print) Preparer's Name and Title	Area Code and Telephone Number
gpendleton@fpuc.com	386-668-9830
Preparer's email address	Area Code and Facsimile Number
Johnny Hill, Operations Manager	386-668-2600
Name and Title of Person Signing	Area Code and Telephone Number
 Authorized Signature	

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. Form Approved for each day the violation continues up to a maximum of \$1,000,000 as provided in 49 USC 60122. OMB No. 2137-0522

 U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	ANNUAL REPORT FOR CALENDAR YEAR 2010 GAS DISTRIBUTION SYSTEM	INITIAL REPORT <input type="checkbox"/> SUPPLEMENTAL REPORT <input checked="" type="checkbox"/>
PART A - OPERATOR INFORMATION		
1. NAME OF OPERATOR <hr/> 2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED <hr/> Number and Street <hr/> City and County <hr/> State and Zip Code <hr/> 5. STATE IN WHICH SYSTEM OPERATES: / / (provide a separate report for each state in which system operates)	<div style="border: 1px solid black; padding: 2px;">DOT USE ONLY</div> <hr/> 3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER / / / / / <hr/> 4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT <hr/> Number and Street <hr/> City and County <hr/> State and Zip Code <hr/>	
PART B - SYSTEM DESCRIPTION Report miles of main and number of services in system at end of year.		
1. GENERAL		
	STEEL	
	UNPROTECTED	CATHODICALLY PROTECTED
	BARE COATED	BARE COATED
MILES OF MAIN		3 10.5
NO. OF SERVICES		2 780
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		3
DUCTILE IRON		
COPPER		
CAST/WROUGHT IRON		
PLASTIC		
1. PVC		
2. PE		10.5
3. ABS		
OTHER		
OTHER		
SYSTEM TOTALS		10.5 3 13.5
3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR		
		AVERAGE SERVICE LENGTH 65 FEET
MATERIAL	UNKNOWN	1" OR LESS
		OVER 1" THRU 2"
		OVER 2" THRU 4"
		OVER 4" THRU 8"
		OVER 8"
		TOTAL
STEEL		2
DUCTILE IRON		
COPPER		
CAST/WROUGHT IRON		
PLASTIC		
1. PVC		
2. PE		774
3. ABS		6
OTHER		
OTHER		
SYSTEM TOTALS		774 6 2 782

Form PHMSA F 7100.1-1 (12-05)

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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 10	TOTAL
MILES OF MAIN					7	2	0	3	1.5	13.5
NUMBER OF SERVICES					309	44	60	89	280	782

PART C - TOTAL LEAKS ELIMINATED/REPAIRED DURING YEAR

CAUSE OF LEAK	Mains	Services
CORROSION		
NATURAL FORCES		
EXCAVATION	6	20
OTHER OUTSIDE FORCE DAMAGE		1
MATERIAL OR WELDS		12
EQUIPMENT	5	1
OPERATIONS		
OTHER		

NUMBER OF KNOWN SYSTEM LEAKS AT
END OF YEAR SCHEDULED FOR REPAIR 3

PART D - TOTAL NUMBER OF LEAKS ON FEDERAL LAND
REPAIRED OR SCHEDULED FOR REPAIR

0

PART E - PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for the 12 months
ending June 30 of the reporting year.

 ((Purchased gas + produced gas)
 minus (customer use + company use + appropriate adjustments))
 divided by (purchased gas + produced gas) equals percent unaccounted
 for.

input for year ending 6/30 _____ %.

PART F - ADDITIONAL INFORMATION

* DOES NOT INCLUDE SANDY OAKS

PART G - PREPARER AND AUTHORIZED SIGNATURE

EARNEST E. BANKS OPS. MGR.
(type or print) Preparer's Name and Title

772-260-1800
Area Code and Telephone Number

Preparer's email address _____

Area Code and Facsimile Number _____

Name and Title of Person Signing

Area Code and Telephone Number

Authorized Signature

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. 2137-0066
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 ☒
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 2137-0066. 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

1. NAME OF OPERATOR
Central Florida Gas (Combined)

2. LOCATION OF OFFICE WHERE ADDITIONAL
INFORMATION MAY BE OBTAINED
1015 6th St. NW

Number and Street

Winter Haven, Polk

City and County

Florida 33881

State and Zip Code

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

DOT USE ONLY

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER

12181

4. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT

Chesapeake Utilities Corp. 909 Silver Lake Blvd.

Number and Street

Dover, Kent

City and County

Delaware 19904

State and Zip Code

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	152.083			265.498	356.711					774.292
NO. OF SERVICES	762			3468	13144				379	17753

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		171.382	137.484	108.715			417.581
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON							
PLASTIC 1. PVC							
2. PE		216.993	121.847	17.871			356.711
3. ABS							
4. OTHER PLASTIC							
OTHER							
SYSTEM TOTALS		388.375	259.331	126.586			774.292

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH 75 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	TOTAL
STEEL	37	4026	137	23	7		4230
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON							
PLASTIC							
1. PVC							
2. PE	12	12990	129	13			13144
3. ABS							
4. OTHER PLASTIC							
OTHER	379						379
SYSTEM TOTALS	428	17016	266	36	7		17753

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	398.855					5.731	32.373	121.28	204.993	11.06	774.292
NUMBER OF SERVICES	491	47	36	293	474	751	4053	3956	7512	140	17753

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

CAUSE OF LEAK				
	Mains		Services	
	Total	Hazardous	Total	Hazardous
CORROSION	7	3	5	1
NATURAL FORCES	1	1	0	0
EXCAVATION DAMAGE	5	5	13	11
OTHER OUTSIDE FORCE DAMAGE	0	0	1	1
MATERIAL OR WELDS	5	0	1	0
EQUIPMENT	1	0	34	3
INCORRECT OPERATIONS	0	0	1	1
OTHER	0	0	18	2

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR 3

PART D - EXCAVATION DAMAGE

Number of Excavation Damages 18

Number of Excavation Tickets 18209

PART E - EXCESS FLOW VALVE (EFV) DATA

Total Number Of EFVs on Single-family Residential Services Installed During Year 107

Estimated Number of EFVs In System At End Of Year 3580

PART F - TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR	PART G - PERCENT OF UNACCOUNTED FOR GAS
<p style="text-align: center;">0</p>	<p>Unaccounted for gas as a percent of total input for the 12 months ending June 30 of the reporting year.</p> <p>[(Purchased gas + produced gas) minus (customer use + company use + appropriate adjustments)] divided by (purchased gas + produced gas) equals percent unaccounted for.</p> <p>Input for year ending 6/30 <u>0</u> %.</p>

PART H - ADDITIONAL INFORMATION	
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PART I - PREPARER AND AUTHORIZED SIGNATURE	
Mike McCarty / Safety and Training Mgr. (Type or print) Preparer's Name and Title	(863) 292-2941 Area Code and Telephone Number
mmccarty@chpk.com Preparer's email address	(863) 294-3895 Area Code and Facsimile Number
Thomas A. Geoffroy / Vice President Name and Title of Person Signing	(863) 292-2922 Area Code and Telephone Number
Authorized Signature	

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT C

Florida Public Utilities Company
BARE STEEL & TUBING REPLACEMENT PROGRAM
Remaining Cost to Complete Program

South Florida Division

Mains	Miles	Remaining Footage	Install \$/foot	Total \$
Unprotected Bare Steel, Cathodically protected Bare Steel and Cast Iron [46,370' installed to date]	194.2	1,025,470	\$ 25.00	\$ 25,636,750
Mains	Miles	Footage	Install \$/foot	Total \$
Steel Tubing	3.3	17,500	\$ 15.00	\$ 262,500
Services		Remaining Units	\$/unit	Total \$
Bare Steel Services [560 installed to date]		8,797	\$ 830.00	\$ 7,301,510
Total				\$ 33,200,760

Central Florida Division

Mains	Miles	Remaining Footage	Install \$/foot	Total \$
Unprotected Bare Steel [61,691' unstalled to date]	15.7	82,981	\$ 20.00	\$ 1,659,620
Mains	Miles	Footage	Install \$/foot	Total \$
Steel Tubing	6.0	31,680	\$ 12.00	\$ 380,160
Services		Remaining Units	\$/unit	Total \$
Bare Steel Services [300 installed to date]		2,805	\$ 765.00	\$ 2,145,825
Total				\$ 4,185,605

TOTAL CONSOLIDATED DIVISIONS

Yearly Amortization Over 50 years

\$ 37,386,365
\$ 747,727

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT D

Florida Public Utilities Company
Gas Reliability Infrastructure Program (GRIP)
Investment and Annual Recovery information

Attachment D
Schedule A (FPUC)

Item	%	Plant Amount	Quantity	Per Unit \$
Bare Steel (Qualified) Remaining Replacement Investment, approved in Docket No. 080366-GU				
Mains		\$ 27,939,030	219.2 Miles	\$ 127,459
Services		9,447,335	11,602 Each	\$ 814
Total Bare Steel replacement Investment 1/1/2009		<u>\$ 37,386,365</u>		
Estimated Qualified Remaining Replacement Investment as of 6/30/2012				
Mains	80%	\$ 25,236,882	198 Miles	\$ 127,459
Services	20%	\$ 6,495,720	7,980 Each	\$ 814
Remaining Qualified Replacement Investment as of 06/30/2012		<u>\$ 31,732,602</u>		
Annual Qualified Replacement Investment, beginning 7/1/2012		7/1/2012-6/30/2014	10 Years	7/1/2014-6/30/2022
Mains		\$ 4,290,270		\$ 2,082,043
Services		\$ 1,104,272		\$ 535,897
Total Annual Qualified Replacement Investment		<u>\$ 5,394,542</u>		<u>\$ 2,617,940</u>
Annual Amortization, 50 year period, approved in Docket No. 080366-GU, beginning 1/1/2009				
Mains		\$ 558,780		
Services		188,947		
Total Annual Amortization		<u>\$ 747,727</u>		
Accumulated Amortization as of 06/30/2012, 50 year amortization program				
Mains		\$ 1,955,730		
Services		661,315		
Accumulated Amortization as of 06/30/2012		<u>\$ 2,617,045</u>		
Docket No. 080366-GU				
Equity Cost Rate		10.85%		
Weighted Equity Cost Rate		4.58%		
Revenue Expansion Factor		1.6197		
Weighted Equity Cost Rate , times Revenue Expansion Factor		<u>7.418%</u>		
Weighted Debt Cost Rate		3.59%		
Overall Weighted Cost Rate		<u>8.17%</u>		

Florida Public Utilities Company
Gas Reliability Infrastructure Program (GRIP)
Calculation of the Projected Revenue Requirements
July 1, 2012 through June 30, 2013

Attachment D
Schedule B (FPUC)
Page 1 of 2

Item	Beginning Balance	July	August	September	October	November	December	January	February	March	April	May	June	Year End Total
Qualified Investment														
Qualified Investment - Mains - Current Year		\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$4,290,270
Qualified Investment - Services - Current Year		\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$1,104,272
Total Qualified Investment - Mains	\$0	\$357,523	\$715,045	\$1,072,568	\$1,430,090	\$1,787,613	\$2,145,135	\$2,502,658	\$2,860,180	\$3,217,703	\$3,575,225	\$3,932,748	\$4,290,270	\$4,290,270
Total Qualified Investment - Services	\$0	\$92,023	\$184,045	\$276,068	\$368,091	\$460,113	\$552,136	\$644,159	\$736,181	\$828,204	\$920,227	\$1,012,249	\$1,104,272	\$1,104,272
Total Qualified Investment	\$0	\$449,545	\$899,090	\$1,348,636	\$1,798,181	\$2,247,726	\$2,697,271	\$3,146,816	\$3,596,361	\$4,045,907	\$4,495,452	\$4,944,997	\$5,394,542	\$5,394,542
Less: Accumulated Depreciation	\$0	(\$1,006)	(\$3,017)	(\$6,033)	(\$10,056)	(\$15,084)	(\$21,117)	(\$28,156)	(\$36,200)	(\$45,251)	(\$55,306)	(\$66,368)	(\$78,434)	(\$78,434)
Net Book Value	\$0	\$448,540	\$896,074	\$1,342,602	\$1,788,125	\$2,232,642	\$2,676,154	\$3,118,660	\$3,560,161	\$4,000,656	\$4,440,145	\$4,878,629	\$5,316,108	\$5,316,108
Average Net Qualified Investment		\$224,270	\$672,307	\$1,119,338	\$1,565,364	\$2,010,384	\$2,454,398	\$2,897,407	\$3,339,411	\$3,780,408	\$4,220,401	\$4,659,387	\$5,097,368	
Depreciation Rates														
Approved Depreciation Rate-Mains		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Approved Depreciation Rate-Services		3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%
Return on Average Net Qualified Investment														
Equity - Cost of Capital, inclusive of Income Tax Gross-up		7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%
Debt - Cost of Capital		3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%
Equity Component - inclusive of Income Tax Gross-up	\$1,386	\$4,156	\$6,919	\$9,677	\$12,428	\$15,172	\$17,911	\$20,643	\$23,369	\$26,089	\$28,803	\$31,510	\$34,217	\$198,063
Debt Component	\$671	\$2,011	\$3,349	\$4,683	\$6,014	\$7,343	\$8,668	\$9,990	\$11,310	\$12,626	\$13,939	\$15,250	\$16,557	\$95,854
Return Requirement	\$2,057	\$6,167	\$10,268	\$14,360	\$18,442	\$22,515	\$26,579	\$30,634	\$34,679	\$38,715	\$42,742	\$46,760	\$50,774	\$293,918
Investment Expenses														
Depreciation Expense - Mains	\$745	\$1,490	\$2,235	\$2,979	\$3,724	\$4,469	\$5,214	\$5,959	\$6,704	\$7,448	\$8,193	\$8,938	\$9,683	\$58,097
Depreciation Expense - Services	\$261	\$521	\$782	\$1,043	\$1,304	\$1,564	\$1,825	\$2,086	\$2,347	\$2,607	\$2,868	\$3,129	\$3,389	\$20,337
Property Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Customer Notice Expense	\$24,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000
General Public Notice Expense	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$9,996
Total Expense	\$25,839	\$2,844	\$3,850	\$4,855	\$5,861	\$6,866	\$7,872	\$8,877	\$9,883	\$10,888	\$11,893	\$12,898	\$13,903	\$139,190
Total Revenue Requirements	\$27,896	\$9,011	\$14,118	\$19,215	\$24,303	\$29,381	\$34,459	\$39,537	\$44,615	\$49,693	\$54,771	\$59,849	\$64,927	\$433,108
Annual Revenue Requirement for Bare Steel Replacement Investment														\$747,727
Net Annual Revenue Requirements														<u>(\$514,619)</u>

Estimated	As of 6/30/2012
Net Bare Steel/ Qualified Investment Recovery to date	True up
Net Bare Steel/Qualified Investment Made to date	\$ 2,617,045
Net Recovery less Investment to be refunded/(collected) - True up	\$ 2,617,045
	<u>\$ -</u>

Attachment D
Schedule 8 (FPUC)
Page 2 of 2

Item	Beginning Balance	July	August	September	October	November	December	January	February	March	April	May	June	Year End Total
Qualified Investment														
Qualified Investment - Mains - Current Year		\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$357,523	\$4,290,270
Qualified Investment - Services - Current Year		\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$92,023	\$1,104,272
Total Qualified Investment - Mains		\$4,290,270	\$4,647,793	\$5,005,315	\$5,362,838	\$5,720,360	\$6,077,883	\$6,435,405	\$6,792,928	\$7,150,450	\$7,507,973	\$7,865,495	\$8,223,018	\$8,580,540
Total Qualified Investment - Services		\$1,104,272	\$1,196,295	\$1,288,317	\$1,380,340	\$1,472,363	\$1,564,385	\$1,656,408	\$1,748,431	\$1,840,453	\$1,932,476	\$2,024,499	\$2,116,521	\$2,208,544
Total Qualified Investment		\$5,394,542	\$5,844,087	\$6,293,632	\$6,743,178	\$7,192,723	\$7,642,268	\$8,091,813	\$8,541,358	\$8,990,903	\$9,440,449	\$9,889,994	\$10,339,539	\$10,789,084
Less: Accumulated Depreciation		(\$78,434)	(\$91,507)	(\$105,585)	(\$120,668)	(\$136,757)	(\$153,852)	(\$171,952)	(\$191,058)	(\$211,170)	(\$232,287)	(\$254,409)	(\$277,537)	(\$301,671)
Net Book Value		\$5,316,108	\$5,752,580	\$6,188,048	\$6,622,509	\$7,055,965	\$7,488,416	\$7,919,861	\$8,350,300	\$8,779,734	\$9,208,162	\$9,635,585	\$10,062,002	\$10,487,413
Average Net Qualified Investment		\$5,534,344	\$5,970,314	\$6,405,278	\$6,839,237	\$7,272,190	\$7,704,138	\$8,135,080	\$8,565,017	\$8,993,948	\$9,421,873	\$9,848,793	\$10,274,707	
Depreciation Rates														
Approved Depreciation Rate-Mains		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Approved Depreciation Rate-Services		3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%	3.40%
Return on Average Net Qualified Investment														
Equity - Cost of Capital, inclusive of Income Tax Gross-up		7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%	7.4180%
Debt - Cost of Capital		3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%	3.5900%
Equity Component - inclusive of Income Tax Gross-up		\$34,211	\$36,906	\$39,595	\$42,278	\$44,954	\$47,624	\$50,288	\$52,946	\$55,598	\$58,243	\$60,882	\$63,515	\$587,041
Debt Component		\$16,557	\$17,861	\$19,162	\$20,461	\$21,756	\$23,048	\$24,337	\$25,624	\$26,907	\$28,187	\$29,464	\$30,738	\$284,103
Return Requirement		\$50,768	\$54,768	\$58,758	\$62,739	\$66,710	\$70,673	\$74,626	\$78,570	\$82,504	\$86,430	\$90,346	\$94,253	\$871,145
Investment Expenses														
Depreciation Expense - Mains		\$9,683	\$10,428	\$11,173	\$11,917	\$12,662	\$13,407	\$14,152	\$14,897	\$15,642	\$16,386	\$17,131	\$17,876	\$165,354
Depreciation Expense - Services		\$3,390	\$3,650	\$3,911	\$4,172	\$4,432	\$4,693	\$4,954	\$5,215	\$5,475	\$5,736	\$5,997	\$6,258	\$57,882
Property Taxes		\$4,460	\$4,460	\$4,460	\$4,460	\$4,460	\$4,460	\$13,200	\$13,200	\$13,200	\$13,200	\$13,200	\$13,200	\$105,960
Customer Notice Expense		\$24,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000
General Public Notice Expense		\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$9,996
Total Expense		\$42,365	\$19,371	\$20,377	\$21,382	\$22,388	\$23,393	\$24,399	\$25,404	\$26,409	\$27,415	\$28,420	\$29,426	\$233,192
Total Revenue Requirements		\$93,134	\$74,139	\$79,134	\$84,121	\$89,098	\$94,066	\$107,765	\$112,714	\$117,654	\$122,586	\$127,507	\$132,420	\$1,234,337

Florida Public Utilities Company
Gas Reliability Infrastructure Program (GRIP)
Two Year Projection of Qualified Mains & Services Revenue Requirements
Surcharge Calculation - July 1, 2012 through June 30, 2014
Per Therm Rate

Attachment D
Schedule C (FPUC)

1. Two Year Qualified Mains & Services Replacement Revenue Requirements			\$171,991
Mains	80%	\$137,593	
Services	20%	\$34,398	
Net		<u>\$171,991</u>	
2. TRUE-UP from Prior Period			\$0
3. Annual Qualified Mains & Services Replacement Revenue Requirements			\$85,996
Mains	80%	\$68,797	
Services	20%	\$17,199	
Net		<u>\$85,996</u>	

RATE SCHEDULE	2010 THERMS	SERVICES COS %	MAINS COS %	SERVICES REV REQ	MAINS REV REQ	GRIP REV REQ	DOLLARS PER THERM	TAX FACTOR	GRIP FACTORS PER THERM
RESIDENTIAL	13,598,390	58.00%	22.00%	\$9,975	\$15,135	\$25,111	\$0.00185	1.00503	\$0.00186
COMMERCIAL SMALL (General Service & GS Transportation)	8,536,560	17.00%	23.00%	\$2,924	\$15,823	\$18,747	\$0.00220	1.00503	\$0.00221
COMM. LRG VOLUME (Large Vol & LV Transportation)	37,819,530	25.00%	46.00%	\$4,300	\$31,647	\$35,946	\$0.00095	1.00503	\$0.00096
INTERRUPTIBLE SERVICE (Int Service & IS Transportation)	5,737,400	0.00%	8.00%	\$0	\$5,504	\$5,504	\$0.00096	1.00503	\$0.00096
GENERAL LIGHTING SERVICE	396,090	0.00%	1.00%	\$0	\$688	\$688	\$0.00174	1.00503	\$0.00175
TOTAL	<u>66,087,970</u>	<u>100.00%</u>	<u>100.00%</u>	<u>\$17,199</u>	<u>\$68,797</u>	<u>\$85,996</u>			

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT E

Florida Division of Chesapeake Utilities Corporation

Gas Reliability Infrastructure Program (GRIP)
Investment and Annual Recovery information

Attachment E
Schedule A (CHPK)

Item	<u>%</u>	<u>Plant Amount</u>	<u>Quantity</u>	<u>Per Unit \$</u>
Estimated Qualified Remaining Replacement Investment as of 6/30/2012				
Mains	97%	\$ 19,373,768	152 Miles	\$ 127,459
Services	3%	\$ 620,268	762 Each	\$ 814
Remaining Qualified Replacement Investment as of 06/30/2012		<u>\$ 19,994,036</u>		
Annual Qualified Replacement Investment, beginning 7/1/2012			10 Years	
Mains		\$ 1,937,377		
Services		\$ 62,027		
Total Annual Qualified Replacement Investment		<u>\$ 1,999,404</u>		
Docket Number 090125-GU				
Equity Cost Rate		10.75%		
Weighted Equity Cost Rate		4.68%		
Revenue Expansion Factor		1.6114		
Weighted Equity Cost Rate , times Revenue Expansion Factor		<u>7.541%</u>		
Weighted Debt Cost Rate		2.15%		
Overall Weighted Cost Rate		<u>6.83%</u>		

Florida Division of Chesapeake Utilities Corporation
Gas Reliability Infrastructure Program (GRIP)
Calculation of the Projected Revenue Requirements
July 1, 2012 through June 30, 2013

Attachment E
Schedule B (CHPK)
Page 1 of 2

Item	Beginning Balance	July	August	September	October	November	December	January	February	March	April	May	June	Year End Total
Qualified Investment														
Qualified Investment - Mains - Current Year		\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$1,937,377
Qualified Investment - Services - Current Year		\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$62,027
Total Qualified Investment - Mains	\$0	\$161,448	\$322,896	\$484,344	\$645,792	\$807,240	\$968,689	\$1,130,137	\$1,291,585	\$1,453,033	\$1,614,481	\$1,775,929	\$1,937,377	\$1,937,377
Total Qualified Investment - Services	\$0	\$5,169	\$10,338	\$15,507	\$20,676	\$25,845	\$31,014	\$36,182	\$41,351	\$46,520	\$51,689	\$56,858	\$62,027	\$62,027
Total Qualified Investment	\$0	\$166,617	\$333,234	\$499,851	\$666,468	\$833,085	\$999,702	\$1,166,319	\$1,332,936	\$1,499,553	\$1,666,170	\$1,832,787	\$1,999,404	\$1,999,404
Less: Accumulated Depreciation	\$0	(\$459)	(\$1,377)	(\$2,754)	(\$4,591)	(\$6,886)	(\$9,640)	(\$12,854)	(\$16,526)	(\$20,658)	(\$25,248)	(\$30,298)	(\$35,807)	(\$35,807)
Net Book Value	\$0	\$166,158	\$331,857	\$497,097	\$661,877	\$826,199	\$990,062	\$1,153,465	\$1,316,410	\$1,478,895	\$1,640,922	\$1,802,489	\$1,963,597	\$1,963,597
Average Net Qualified Investment		\$83,079	\$249,007	\$414,477	\$579,487	\$744,038	\$908,130	\$1,071,764	\$1,234,938	\$1,397,653	\$1,559,909	\$1,721,705	\$1,883,043	
Depreciation Rates														
Approved Depreciation Rate-Mains		3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	
Approved Depreciation Rate-Services		3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	
Return on Average Net Qualified Investment														
Equity - Cost of Capital, inclusive of Income Tax Gross-up		7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	
Debt - Cost of Capital		2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	
Equity Component - inclusive of Income Tax Gross-up	\$522	\$1,565	\$2,605	\$3,642	\$4,676	\$5,707	\$6,735	\$7,761	\$8,783	\$9,803	\$10,819	\$11,833	\$74,450	
Debt Component	\$149	\$446	\$743	\$1,038	\$1,333	\$1,627	\$1,920	\$2,213	\$2,504	\$2,795	\$3,085	\$3,374	\$21,226	
Return Requirement	\$671	\$2,011	\$3,347	\$4,680	\$6,009	\$7,334	\$8,655	\$9,973	\$11,287	\$12,598	\$13,904	\$15,207	\$95,676	
Investment Expenses														
Depreciation Expense - Mains	\$444	\$888	\$1,332	\$1,776	\$2,220	\$2,664	\$3,108	\$3,552	\$3,996	\$4,440	\$4,884	\$5,328	\$34,631	
Depreciation Expense - Services	\$15	\$30	\$45	\$60	\$75	\$90	\$106	\$121	\$136	\$151	\$166	\$181	\$1,176	
Property Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$9,900	
Customer Notice Expense	\$6,794	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,794	
General Public Notice Expense	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$5,002	
Total Expense	\$7,670	\$1,335	\$1,794	\$2,253	\$2,712	\$3,171	\$5,280	\$5,739	\$6,198	\$6,657	\$7,116	\$7,575	\$57,503	
Total Revenue Requirements	\$8,341	\$3,346	\$5,141	\$6,933	\$8,721	\$10,505	\$13,935	\$15,712	\$17,485	\$19,255	\$21,021	\$22,783	\$153,179	

Florida Division of Chesapeake Utilities Corporation
Gas Reliability Infrastructure Program (GRIP)
Calculation of the Projected Revenue Requirements
July 1, 2013 through June 30, 2014

Attachment E
Schedule B (CHPK)
Page 2 of 2

Item	Beginning Balance	July	August	September	October	November	December	January	February	March	April	May	June	Year End Total
Qualified Investment														
Qualified Investment - Mains - Current Year		\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$161,448	\$1,937,377
Qualified Investment - Services - Current Year		\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$5,169	\$62,027
Total Qualified Investment - Mains	\$1,937,377	\$2,098,825	\$2,260,273	\$2,421,721	\$2,583,169	\$2,744,617	\$2,906,066	\$3,067,514	\$3,228,962	\$3,390,410	\$3,551,858	\$3,713,306	\$3,874,754	\$3,874,754
Total Qualified Investment - Services	\$62,027	\$67,196	\$72,365	\$77,534	\$82,703	\$87,872	\$93,041	\$98,209	\$103,378	\$108,547	\$113,716	\$118,885	\$124,054	\$124,054
Total Qualified Investment	\$1,999,404	\$2,166,021	\$2,332,638	\$2,499,255	\$2,665,872	\$2,832,489	\$2,999,106	\$3,165,723	\$3,332,340	\$3,498,957	\$3,665,574	\$3,832,191	\$3,998,808	\$3,998,808
Less: Accumulated Depreciation	(\$35,807)	(\$41,774)	(\$48,201)	(\$55,087)	(\$62,432)	(\$70,236)	(\$78,499)	(\$87,221)	(\$96,402)	(\$106,042)	(\$116,142)	(\$126,700)	(\$137,717)	(\$137,717)
Net Book Value	\$1,963,597	\$2,124,247	\$2,284,437	\$2,444,168	\$2,603,440	\$2,762,253	\$2,920,607	\$3,078,502	\$3,235,938	\$3,392,915	\$3,549,432	\$3,705,491	\$3,861,091	\$3,861,091
Average Net Qualified Investment		\$2,043,922	\$2,204,342	\$2,364,302	\$2,523,804	\$2,682,947	\$2,841,430	\$2,999,554	\$3,157,220	\$3,314,426	\$3,471,173	\$3,627,462	\$3,783,291	
Depreciation Rates														
Approved Depreciation Rate-Mains		3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%	
Approved Depreciation Rate-Services		3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	
Return on Average Net Qualified Investment														
Equity - Cost of Capital, inclusive of Income Tax Gross-up		7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	7.5410%	
Debt - Cost of Capital		2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	2.1500%	
Equity Component - inclusive of Income Tax Gross-up	\$12,844	\$13,852	\$14,858	\$15,860	\$16,859	\$17,856	\$18,850	\$19,840	\$20,828	\$21,813	\$22,796	\$23,775	\$24,755	\$220,032
Debt Component	\$3,662	\$3,949	\$4,236	\$4,522	\$4,807	\$5,091	\$5,374	\$5,657	\$5,938	\$6,219	\$6,499	\$6,778	\$7,057	\$62,733
Return Requirement	\$16,506	\$17,802	\$19,094	\$20,382	\$21,666	\$22,947	\$24,224	\$25,497	\$26,767	\$28,033	\$29,295	\$30,553	\$31,812	\$282,765
Investment Expenses														
Depreciation Expense - Mains	\$5,772	\$6,216	\$6,660	\$7,104	\$7,548	\$7,992	\$8,436	\$8,880	\$9,324	\$9,768	\$10,212	\$10,656	\$11,100	\$98,564
Depreciation Expense - Services	\$196	\$211	\$226	\$241	\$256	\$271	\$286	\$302	\$317	\$332	\$347	\$362	\$377	\$3,347
Property Taxes	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$1,650	\$19,800
Customer Notice Expense	\$6,794	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,794
General Public Notice Expense	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$417	\$5,000
Total Expense	\$14,828	\$8,493	\$8,953	\$9,412	\$9,871	\$10,330	\$10,789	\$11,248	\$11,707	\$12,166	\$12,625	\$13,084	\$13,543	\$152,813
Total Revenue Requirements	\$31,335	\$26,295	\$28,046	\$29,793	\$31,537	\$33,277	\$35,017	\$36,757	\$38,497	\$40,237	\$41,977	\$43,717	\$45,457	\$435,578

Florida Division of Chesapeake Utilities Corporation
Gas Reliability Infrastructure Program (GRIP)
Two Year Projection of Qualified Mains & Services Revenue Requirements
Surcharge Computation July 1, 2012 through June 30, 2014
Per Therm/Bill Rate

Attachment E
Schedule C (CHPK)

1.	Two Year Qualified Mains & Services Replacement Revenue Requirements		\$588,757
	Mains	97%	\$571,094
	Services	3%	\$17,663
	Net		<u>\$588,757</u>
2.	TRUE-UP from Prior Period		\$0
3.	Annual Qualified Mains & Services Replacement Revenue Requirements		\$294,379
	Mains	97%	\$285,548
	Services	3%	\$8,831
	Net		<u>\$294,379</u>

RATE CLASS	2010 BILLS	2010 THERMS	SERVICES COS %	MAINS COS %	SERVICES REV REQ	MAINS REV REQ	GRIP REV REQ	DOLLARS PER THERM	EXPANSION FACTOR	GRIP FACTORS PER THERM	\$ PER BILL	EXPANSION FACTOR	GRIP FACTORS PER BILL
FTS-A	29,700	273,768	14.34%	0.951%	\$ 1,266	\$ 2,716	\$3,982	\$0.01455	1.00503	\$ 0.01462	\$ 0.13	1.00503	\$ 0.13
FTS-B	28,200	504,786	9.74%	1.142%	\$ 860	\$ 3,261	\$4,121	\$0.00816	1.00503	\$ 0.00820	\$ 0.15	1.00503	\$ 0.15
FTS-1	91,332	2,113,163	33.48%	5.861%	\$ 2,957	\$ 16,736	\$19,693	\$0.00932	1.00503	\$ 0.00937	\$ 0.22	1.00503	\$ 0.22
FTS-2	10,524	767,913	12.69%	1.611%	\$ 1,121	\$ 4,600	\$5,721	\$0.00745	1.00503	\$ 0.00749	\$ 0.54	1.00503	\$ 0.55
FTS-2.1	7,212	942,573	7.83%	3.193%	\$ 691	\$ 9,118	\$9,809	\$0.01041	1.00503	\$ 0.01046	\$ 1.36	1.00503	\$ 1.37
FTS-3	2,388	793,413	3.93%	1.567%	\$ 347	\$ 4,475	\$4,822	\$0.00608	1.00503	\$ 0.00611	\$ 2.02	1.00503	\$ 2.03
FTS-3.1	2,928	1,814,977	3.91%	4.294%	\$ 345	\$ 12,261	\$12,606	\$0.00695	1.00503	\$ 0.00698	\$ 4.31	1.00503	\$ 4.33
FTS-4		2,471,241	4.37%	6.162%	\$ 386	\$ 17,595	\$17,981	\$0.00728	1.00503	\$ 0.00731			
FTS-5		810,118	1.24%	2.570%	\$ 110	\$ 7,339	\$7,449	\$0.00919	1.00503	\$ 0.00924			
FTS-6		1,568,616	1.25%	2.750%	\$ 110	\$ 7,853	\$7,963	\$0.00508	1.00503	\$ 0.00510			
FTS-7		3,511,513	2.20%	7.615%	\$ 194	\$ 21,744	\$21,938	\$0.00625	1.00503	\$ 0.00628			
FTS-8		3,076,666	1.62%	10.708%	\$ 143	\$ 30,576	\$30,719	\$0.00998	1.00503	\$ 0.01003			
FTS-9		5,385,517	1.48%	15.171%	\$ 131	\$ 43,320	\$43,451	\$0.00807	1.00503	\$ 0.00811			
FTS-10		1,778,121	0.45%	6.539%	\$ 40	\$ 18,672	\$18,712	\$0.01052	1.00503	\$ 0.01058			
FTS-11		5,395,430	0.61%	13.551%	\$ 54	\$ 38,695	\$38,749	\$0.00718	1.00503	\$ 0.00722			
FTS-12		6,222,590	0.47%	16.315%	\$ 42	\$ 46,587	\$46,629	\$0.00749	1.00503	\$ 0.00753			
FTS-13		14,506,587	0.39%	0.000%	\$ 34	\$ -	\$34	\$0.00000	1.00503	\$ 0.00000			
TOTAL	<u>172,284</u>	<u>51,936,992</u>	<u>100.00%</u>	<u>100.000%</u>	<u>\$ 8,831</u>	<u>\$ 285,548</u>	<u>\$294,379</u>						

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT F
TARIFF PAGES

Clean

RATE SCHEDULES
MONTHLY RATE ADJUSTMENTS
Rate Schedule MRA

7. GAS INFRASTRUCTURE REPLACEMENT PROGRAM (GRIP):

Applicability:

All Customers receiving Transportation Service from the Company and are assigned to or have selected rate schedules FTS-A, FTS-B, FTS-1, FTS-2, FTS-2.1, FTS-3, FTS-3.1, FTS-4, FTS-5, FTS-6, FTS-7, FTS-8, FTS-9, FTS-10, FTS-11, FTS-12, and FTS-13.

The Usage Rate for Transportation Service to each applicable rate classification shall be adjusted by the following recovery factors. The recovery factors for all meters read for the period July 1, 2012 through June 30, 2014 for each rate classification are as follows:

<u>Rate Schedule</u>	<u>Classification of Service</u>	<u>Rate per therm</u>
FTS-A	< 130 therms	\$0.01462
FTS-B	> 130 therms up to 250 therms	\$0.00820
FTS-1	> 0 up to 500 therms	\$0.00937
FTS-2	> 500 therms up to 1,000 therms	\$0.00749
FTS-2.1	> 1,000 therms up to 2,500 therms	\$0.01046
FTS-3	> 2,500 therms up to 5,000 therms	\$0.00611
FTS-3.1	> 5,000 therms up to 10,000 therms	\$0.00698
FTS-4	> 10,000 therms up to 25,000 therms	\$0.00731
FTS-5	> 25,000 therms up to 50,000 therms	\$0.00924
FTS-6	> 50,000 therms up to 100,000 therms	\$0.00510
FTS-7	> 100,000 therms up to 200,000 therms	\$0.00628
FTS-8	> 200,000 therms up to 400,000 therms	\$0.01003
FTS-9	> 400,000 therms up to 700,000 therms	\$0.00811
FTS-10	> 700,000 therms up to 1,000,000 therms	\$0.01058
FTS-11	> 1,000,000 therms up to 2,500,000 therms	\$0.00722
FTS-12	> 2,500,000 therms up to 12,500,000 therms	\$0.00753
FTS-13	> 12,500,000 therms	\$0.00000

RATE SCHEDULES
MONTHLY RATE ADJUSTMENTS
Rate Schedule MRA

7. GAS INFRASTRUCTURE REPLACEMENT PROGRAM (GRIP) (Experimental):

Applicability:

All Customers, assigned to a TTS Shipper, receiving Transportation Service from the Company and are assigned to or have selected rate schedules FTS-A (Exp), FTS-B (Exp), FTS-1 (Exp), FTS-2 (Exp), FTS-2.1 (Exp), FTS-3 (Exp), and FTS-3.1 (Exp).

The Firm Transportation Charge for Transportation Service to each applicable rate classification shall be adjusted by the following recovery factors. The recovery factors for all meters read for the period July 1, 2012 through June 30, 2014 for each rate classification are as follows:

Consumer <u>Rate Schedule</u>	<u>Rate per bill</u>
FTS-A (Exp)	\$ 0.13
FTS-B (Exp)	\$ 0.15
FTS-1 (Exp)	\$ 0.22
FTS-2 (Exp)	\$ 0.55
FTS-2.1 (Exp)	\$ 1.37
FTS-3 (Exp)	\$ 2.03
FTS-3.1 (Exp)	\$ 4.33

BILLING ADJUSTMENTS
(Continued from Sheet No. 35.3)

Gas Reliability Infrastructure Program (GRIP)

The bill for gas or transportation service supplied to a Customer in any Billing Period shall be adjusted as follows:

The GRIP factors for the period from the first billing cycle for July 2012 through the last billing cycle for June 2014 are as follows:

Rate Class	GRIP Factor
Rate Schedule RS	0.186 cents per therm
Rate Schedule GS-1	0.221 cents per therm
Rate Schedule GS-2	0.221 cents per therm
Rate Schedule GSTS-1	0.221 cents per therm
Rate Schedule GSTS-2	0.221 cents per therm
Rate Schedule LVS	0.096 cents per therm
Rate Schedule LVTS	0.096 cents per therm
Rate Schedule IS	0.096 cents per therm
Rate Schedule ITS	0.096 cents per therm
Rate Schedule GLS	0.175 cents per therm
Rate Schedule GLSTS	0.175 cents per therm

(Continued to Sheet No. 35.5)

Issued by: Jeffry Householder, President

Effective: _____

**FLORIDA PUBLIC UTILITIES COMPANY AND THE FLORIDA DIVISION OF CHESAPEAKE UTILITIES
CORPORATION**

GAS RELIABILITY INFRASTRUCTURE PROGRAMS AND ASSOCIATED RECOVERY MECHANISM

ATTACHMENT F

TARIFF PAGES

Legislative/Tracked Changes

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RATE SCHEDULES
MONTHLY RATE ADJUSTMENTS
Rate Schedule MRA

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7. GAS INFRASTRUCTURE REPLACEMENT PROGRAM (GRIP):

Applicability:

All Customers receiving Transportation Service from the Company and are assigned to or have selected rate schedules FTS-A, FTS-B, FTS-1, FTS-2, FTS-2.1, FTS-3, FTS-3.1, FTS-4, FTS-5, FTS-6, FTS-7, FTS-8, FTS-9, FTS-10, FTS-11, FTS-12, and FTS-13.

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The Usage Rate for Transportation Service to each applicable rate classification shall be adjusted by the following recovery factors. The recovery factors for all meters read for the period July 1, 2012 through June 30, 2014 for each rate classification are as follows:

<u>Rate Schedule</u>	<u>Classification of Service</u>	<u>Rate per therm</u>
FTS-A	< 130 therms	\$0.01462
FTS-B	> 130 therms up to 250 therms	\$0.00820
FTS-1	> 0 up to 500 therms	\$0.00937
FTS-2	> 500 therms up to 1,000 therms	\$0.00749
FTS-2.1	> 1,000 therms up to 2,500 therms	\$0.01046
FTS-3	> 2,500 therms up to 5,000 therms	\$0.00611
FTS-3.1	> 5,000 therms up to 10,000 therms	\$0.00698
FTS-4	> 10,000 therms up to 25,000 therms	\$0.00731
FTS-5	> 25,000 therms up to 50,000 therms	\$0.00924
FTS-6	> 50,000 therms up to 100,000 therms	\$0.00510
FTS-7	> 100,000 therms up to 200,000 therms	\$0.00628
FTS-8	> 200,000 therms up to 400,000 therms	\$0.01003
FTS-9	> 400,000 therms up to 700,000 therms	\$0.00811
FTS-10	> 700,000 therms up to 1,000,000 therms	\$0.01058
FTS-11	> 1,000,000 therms up to 2,500,000 therms	\$0.00722
FTS-12	> 2,500,000 therms up to 12,500,000 therms	\$0.00753
FTS-13	> 12,500,000 therms	\$0.00000

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Issued by: Michael P. McMasters, President
Chesapeake Utilities Corporation

Effective:

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RATE SCHEDULES
MONTHLY RATE ADJUSTMENTS
Rate Schedule MRA

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7. GAS INFRASTRUCTURE REPLACEMENT PROGRAM (GRIP) (Experimental):

Applicability:

All Customers, assigned to a TTS Shipper, receiving Transportation Service from the Company and are assigned to or have selected rate schedules FTS-A (Exp), FTS-B (Exp), FTS-1 (Exp), FTS-2 (Exp), FTS-2.1 (Exp), FTS-3 (Exp), and FTS-3.1 (Exp).

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The Firm Transportation Charge for Transportation Service to each applicable rate classification shall be adjusted by the following recovery factors. The recovery factors for all meters read for the period July 1, 2012 through June 30, 2014 for each rate classification are as follows:

<u>Consumer</u>	
<u>Rate Schedule</u>	<u>Rate per bill</u>
FTS-A (Exp)	\$ 0.13
FTS-B (Exp)	\$ 0.15
FTS-1 (Exp)	\$ 0.22
FTS-2 (Exp)	\$ 0.55
FTS-2.1 (Exp)	\$ 1.37
FTS-3 (Exp)	\$ 2.03
FTS-3.1 (Exp)	\$ 4.33

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BILLING ADJUSTMENTS
(Continued from Sheet No. 35.3)

RESERVED FOR FUTURE USE

Gas Reliability Infrastructure Program (GRIP)

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The bill for gas or transportation service supplied to a Customer in any Billing Period shall be adjusted as follows:

The GRIP factors for the period from the first billing cycle for July 2012 through the last billing cycle for June 2014 are as follows:

<u>Rate Class</u>	<u>GRIP Factor</u>
Rate Schedule RS	0.186 cents per therm
Rate Schedule GS-1	0.221 cents per therm
Rate Schedule GS-2	0.221 cents per therm
Rate Schedule GSTS-1	0.221 cents per therm
Rate Schedule GSTS-2	0.221 cents per therm
Rate Schedule LVS	0.096 cents per therm
Rate Schedule LVTS	0.096 cents per therm
Rate Schedule IS	0.096 cents per therm
Rate Schedule ITS	0.096 cents per therm
Rate Schedule GLS	0.175 cents per therm
Rate Schedule GLSTS	0.175 cents per therm

(Continued to Sheet No. 35.5)

Issued by: Jeffry Householder, President

Effective: