

**Phase Two of an Investigation of
Peoples Gas Light and Coke Company's
Accelerated Main Replacement Program**

**Recommendation Implementation Monitoring
Third Quarterly Report**

**Presented to:
The Illinois Commerce Commission**



**Presented by:
The Liberty Consulting Group**



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Summary

- Work continued through the first three months of 2016, which represent the third of the eight quarters established for implementation monitoring of the recommendations set forth in Liberty's May 5, 2015 Phase 1 report regarding the Accelerated Main Replacement Program ("AMRP"). The original 95 recommendations now number 89, after we eliminated or consolidated a few with others, as reported earlier. Work this quarter moved from advancing development of plans for implementing the recommendations to efforts to successfully close out as many recommendation implementations as possible.
- Progress has continued to be slower than hoped for, but the third monitoring quarter has produced the first group of recommendations for which the Company has completed implementation.
- This report addresses the closeout of 17 recommendations, 12 of which we consider fully implemented. We consider it appropriate to close out five others, which we deem partially or wholly rejected by the Company.
- There remains, as was the case at the end of the prior quarter, a disagreement on the sufficiency of a relatively small number of plans required to implement certain recommendations. The number continuing to require approved plans dropped this quarter from nine to five. This quarter's focus on producing substantial progress in implementation on as many recommendations as possible has left open the matter of consensus on the five remaining plans, which we will continue to discuss with the Company as the next quarter proceeds.
- Below we address the details underlying work on those recommendations whose implementation activities this quarter's report addresses. We address closure on 17 and discuss the status of another 4 that remain in progress. We divide the 17 to be closed into three categories: "Accepted," "Partially Rejected," and "Rejected." We consider 12 of the 17 closable on the basis of full implementation, either in full accord with the original recommendation and approved implementation plans, or on terms equally or more likely to optimize AMRP performance.
- We will continue to conduct monitoring activities on a number of these 12, in order to examine: (a) whether execution continues as planned, and (b) whether certain additional needs (generally narrow and administrative) have been met.
- We consider 3 of the 17 recommendations discussed in detail in this report as closeable on the basis that partial, but not complete, implementation has occurred. Those cases consist of instances where the Company has chosen not to implement parts of the recommendations that we considered appropriate for the circumstances existing when we prepared our May 5, 2015 report.
- Whether those gaps prove material to optimizing AMRP performance must fall to some other test, given that our scope does not include continuing "auditing" of program performance. The following discussions of each of those three recommendations provide an explanation of the gaps, and our basis for continuing to believe that our recommended approach, from our perspective today, remains more likely to optimize AMRP performance.
- We believe it is appropriate to close the last 2 of the 17 recommendations this report discusses in detail as essentially rejected. The Company in each case is taking a

substantially different path from what our May 2015 report recommended, and we see no material prospects for closing the gap between us and leadership through further dialog.

- The December 16 Illinois Commerce Commission decision to reevaluate the AMRP through an open stakeholder process has produced a number of workshops, addressed fundamental questions about AMRP parameters, and appears destined to produce Commission review and action on those parameters in the coming months. Liberty's work so far on recommendation implementation monitoring has operated in parallel and independently from this reevaluation. Liberty continues, consistently with our prescribed scope, not to examine program performance real time. Instead, we have remained engaged exclusively in monitoring recommendation implementation. While the recommendations have been designed to improve program performance, our work now focuses on how well recommendations are being implemented, rather than on focused examination of their current impacts on program results.

Implementation Plan Monitoring Approach

Liberty's May 2015 report addressed the findings, conclusions, and recommendations resulting from an essentially year-long investigation of management and execution of the AMRP. That report set forth 95 recommendations for improving AMRP planning and execution. The May 2015 report ended Phase 1 of a two-phased project. Liberty's defined scope for Phase 2 is to conduct a structured, two-year program of monitoring the effectiveness of Company implementation of those 95 recommendations.

The Phase 2 monitoring work led to the elimination of four recommendations (Numbers D.5, F.4, K.4, and L.6):

- D.5 recommended analysis to examine meter installation productivity; it was mooted by a fundamental process change that renders analysis of past productivity irrelevant with respect to future work effectiveness.
- F.4 served as an alternative to Recommendation F.3, whose acceptance by the Company mooted the eliminated recommendation.
- K.4 will by definition be successfully addressed upon implementation of the remaining Chapter K recommendations; it therefore does not require separate monitoring.
- L.6 called for pursuit of recommendations made in connection with Liberty's interim report; we determined that the other recommendations of the final report already encompass all of the interim report recommendations of lasting impact.

Two other recommendations have been merged into others, in order to reflect the ability to address them through a common implementation plan. Of the revised number of monitorable recommendations (89 after elimination and combination), most had what Liberty and the Company agreed were effective implementation plans at the end of the last quarter. Of the remaining nine, this report addresses close-out of four of them. That close-out leaves five still in the process by which Liberty and the Company will seek consensual implementation plans. We had hoped to reach agreement on plans for most or all of these nine recommendations this quarter, but did not complete efforts on the five that remain open.

The process of establishing effective implementation plans took longer than expected and progress in implementing plans has also been slow. Implementation has yet to reach a pace that matches

expectations for final closeout consistent within the two year-implementation monitoring duration. Five calendar quarters remain.

As a consequence, five recommendations remain in the plan development stage, and development of a longer term planning of monitoring work remains for the next quarter. This report describes the details of monitoring efforts on 21 of the 89 recommendations whose implementation we are tracking, 17 of which we believe should be closed out. We have examined many others scheduled for completion in coming months, but have not reached reportable conclusions or observations about them at this time. However, in order to validate that implementation actions are proceeding on those scheduled for later implementation, we sampled four (among the 21 explicitly addressed in this report) in more detail. They consist of those shown as “In-Process” in this report.

This report’s detailed discussions of specific recommendations address 17 that we consider closed out. We have reached agreement with the Company that 12 of the 89 tracked recommendations have been implemented fully. On 3 others, the Company has made improvements that we consider material, but has not agreed to certain aspects of the recommendation that we considered important in our May 2015 report. It has become clear that the Company does not agree with the remaining 2 recommendations. In those cases, we have determined that no basis exists for continuing to discuss differences. We treat those therefore as closed, with the notation (for reasons expressed in the discussion of them) that we continue to have concerns about the Company’s course. We will in coming quarters seek to examine progress as best we can to determine the degree to which those concerns have merit. We caution, however, that our scope does not include continuing detailed examination of AMRP performance, which will likely make our efforts in this regard more general.

This report concludes with a summary of the status of plans the recommendations from the May 2015 report.

Remaining Recommendations without Agreed Plans

As noted, there remain a small number of recommendations that continue to require planning work for Liberty and the Company to reach consensus. The next sections summarize work on all those reported last quarter as subject to continuing plan development.

Cost Management

Two recommendations warranting additional planning work (G.1 and G.2) concern cost management. Significant effort across the second half of 2015 went into the creation of a new cost model. That model’s completion forms a central element in cost management – an area of major focus in Liberty’s initial investigation. Details of a long-term cost management plan (Recommendation G.1) including development of methods and tools (Recommendation G.2) providing for early warning of scope deviations (inevitable in a program as complex and long as the AMRP) still require definition and explanation. Given continuing stakeholder and Commission reviews of fundamental AMRP parameters and this quarter’s focus on completing implementation of a significant body of recommendations, we have decided to defer work on these plans for the time being.

Resource Dedication and Coordination

Three other recommendations (E.2, E.4, and R.2) have their roots in corporate cultural issues that inhibited effective coordination between Integrys groups and resources and those of Peoples Gas prior to the WEC acquisition. We have removed these three recommendations from plan-agreement-pending status. As later sections of this report describe with respect to each, we now show E.2 as accepted, and E.4 and R.2 as partially rejected. The Company has made improvements under the last two, but their actions do not include certain elements that we consider material to the underlying recommendations.

Recommendation E.2 sought measures to ensure that there would be no repeat of the “shelving” of what might have been an effective Project Execution Plan, created at AMRP initiation to provide overall program guidance. Similarly, Recommendation E.4 had its roots in what Liberty viewed as a sub-optimal relationship between Integrys and Peoples Gas management and resources. Liberty recommended a program management organization relying on the so-called “strong” project management approach, rather than the alternative, or “weak” approach that relies much more on greater coordination among multiple managers to get work accomplished effectively and efficiently. We also recommended substantially increased reliance on resources dedicated solely to the AMRP (rather than a sharing of resources among a larger set of work responsibilities). A similar, but narrower issue addressed by R.2 issue arises from where in the organization cost professionals were located.

Change Management and Continuous Improvement

Another recommendation (N.6) called for the introduction of an outside source of change management support to assist in addressing the broad set of changes that would need to take place under, at the time, Integrys management. We now consider it appropriate to consider that recommendation closed on the basis of rejection by the Company. A following section of this report discusses our reasons.

Recommendation R.1 called for the creation of a structured program of seeking continuous improvement in methods and practices applied in installing mains, services, and meters. The Company has recently advised that it is revising its plans for implementing this recommendation, following continuing discussions with Liberty.

Judging Risk Reduction Value

Similarly, a recommendation (F.5) that seeks development of overall replacement effectiveness metrics remains open. During the investigation, Liberty and the Company discussed development of a metric that would permit, in hindsight, an evaluation of whether the actions taken in the recent past could be validated as producing the best value, in terms of risk reduction, for the amounts expended. Such metrics would use actual experience to assess what is essentially a forecasted best-results approach under risk ranking and prioritization systems. We had anticipated continuation of those discussions during the first quarter of 2016, but have deferred them in order to focus Company efforts on completing implementation of a significant number of recommendations this quarter.

Field Work Quality

An element of Recommendation Q.1 called for Peoples Gas to enhance training, documentation, and authorities associated with construction inspections and auditing. The Company’s implementation plan to address this need will place significant front-line responsibility for these functions with contractors, operating under enhanced oversight by internal resources (for example, Compliance Monitoring Group auditors). The depth of concerns we developed during the investigation leading to the recommendation cause us to conclude that reliance on contractors, while a possibly successful solution, is one that has a significant degree of implementation risk. As noted in the last quarterly report, we will withhold judgment on the approach, pending monitoring of implementation, and particularly field observations during the construction season now commencing.

Deferral of Commission Monitoring Recommendation

Recommendation V.1 called for Peoples Gas to identify its proposed changes in AMRP reporting and to tailor them to support an Illinois Commerce Commission program for regularly monitoring program performance. Peoples Gas advised of plans to meet with Commission Staff early in 2016 to discuss and reach consensus on Commission information needs and how best to address them. Liberty agreed that such a process would represent a best first step in addressing a Commission reporting program, given changes both in Company management and in Staff resources available to support monitoring efforts. Therefore, Liberty and Peoples Gas agreed some time ago to defer a specific plan for implementing this recommendation, pending Staff/Company discussions. The Commission’s subsequent, December 16, 2015 announcement of an AMRP reevaluation lends additional support to using the stakeholder sessions as a further basis for identifying routine, ongoing reporting requirements.

Summary of Expected Second Quarter 2016 Monitoring Activities

1. Liberty will return to work on constructing an overall plan for monitoring work to be conducted across the remaining five quarters of monitoring work.
2. Liberty will meet in April to address next steps on the remaining recommendations not yet subjected to agreed implementation plans.
3. Liberty will prepare and then execute detailed plans for specific monitoring activities (e.g., data requests, interviews, site visits) associated with those recommendations scheduled to undergo key implementation steps through the next two calendar quarters of 2016.
4. Liberty will prepare a report of monitoring activities and open plan closure at the end of the quarter.

Liberty continues to proceed with monitoring work on the basis that the stakeholder process has identified no action items required of Liberty at this time. As noted, however, we recognize that revision of fundamental AMRP parameters has significant potential for affecting the course that implementation of certain recommendations should take.

Summary of Plan Activities and Status Detailed in This Quarter’s Report

Rec. #	Recommendation	Previous Status	Current Status
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C.3	Peoples Gas should undertake measures to verify the operability of external service shutoff valves	Plan Accepted	Accepted/ Complete
C.5	Peoples Gas should test both services and mains to 100 psig	Plan Accepted	Accepted/ Complete
D.1	As part of the new planning effort now underway, Peoples Gas should provide a clear and unambiguous description of the AMRP, including quantities for all parameters important to management of the project	Plan Accepted	Accepted/ Complete
D.6	Peoples Gas should promptly complete a new program cost estimate consistent with good estimating practices	Plan Accepted	Accepted/ Complete
E.2	Current developmental plans for a new Project Execution Plan should specifically address prior failures and how they will be avoided in the new plan	Pending	Accepted/ Complete
E.4	Peoples Gas should move toward a project organization that makes significantly more use of dedicated resources under a strong project manager approach	Pending	Rejected/ Complete
E.5	Peoples Gas should prepare a specification for a new program management function, correcting the weaknesses in the current process	Plan Accepted	Accepted/ Complete
E.6	Peoples Gas should assign a project manager to most, if not all, AMRP neighborhood projects	Plan Accepted	Partially Rejected/ Complete
F.2	Peoples Gas should develop a database of the soils data already collected and populate it further with soils data taken at all new excavations	Plan Accepted	Accepted/ Complete
F.3	Peoples Gas should conduct a structured study of alternative criteria and weightings for the Main Ranking Index and for the neighborhood approach	Plan Accepted	Accepted/ Complete
H.1	Peoples Gas should develop a Scheduling Master Plan	Plan Accepted	Accepted/ Complete
N.4	Peoples Gas should expand top-level AMRP performance metrics and reports to include more actionable information, and to compare actual performance with plans and budgets meaningfully	Plan Accepted	Partially Rejected/ Complete
N.6	Peoples Gas should employ outside assistance in designing and implementing the initiatives it committed to undertaking to improve AMRP management, control, and oversight	Pending	Rejected/ Complete
O.1	The AMRP Program Management Office should overhaul its approach to reporting, with emphasis on defining and meeting the needs of managers and staff	Plan Accepted	Accepted/ Complete
Q.6	Peoples Gas should examine the benefits of equipping technicians with sub-meters accurate GPS devices in areas that have lines of sight to satellites	Plan Accepted	Accepted/ Complete

R.2	Peoples Gas should assign a project control engineer or cost analyst to each of the three Shops to handle the analysis of all AMRP construction work performed by the internal workforce and contractors	Pending	Partially Rejected/ Complete
T.3	Peoples Gas should develop a database of permit applications	Plan Accepted	In Process
T.5	Peoples Gas should improve the database of rail crossing permits	Plan Accepted	Accepted/ Complete
T.6	Peoples Gas should improve its database of citations	Plan Accepted	In Process
U.2	Peoples Gas should standardize the process to set AMRP customer appointments	Plan Accepted	In Process
U.4	Peoples Gas should adequately resource the AMRP Complaints Handling Group, and should monitor complaint resolution performance and the root causes of customer complaints, for the purpose of identifying improvement opportunities	Plan Accepted	In Process

The next report sections address the results of the first calendar quarter’s monitoring efforts on these recommendations. The discussions begin with a statement of the recommendation made in our May 2015 report and the conclusions underlying it.

C.3 – External Shutoff Valve Operability

Peoples Gas should undertake measures to verify the operability of external service shutoff valves.

Peoples Gas should also institute a program designed to determine the locate-ability and functionality of existing external service shutoff valves. Liberty specifically recommends a random survey of 1,000 services believed to be controllable through outside shutoffs. The survey should only include areas not scheduled for near-term neighborhood work under the AMRP. Should the survey identify location or operability problems with more than 10 percent of the services surveyed, Peoples Gas should expand the survey size to 5,000 services. If surveying identifies more than a small number of valves as not findable or not operable, then Peoples Gas should define, resource, and carry out a corrective action program.

Underlying Conclusions

C.5 A number of other safety, reliability, and testing issues need to be considered in conjunction with or on top of current Peoples Gas practices in AMRP planning or execution.

Peoples Gas believes that the current number of shutoffs and turn-ons performed in their normal course of business provides sufficient number of shutoff valve operations to validate that the installed valves are performing as required and that the number of valves that are inoperable or cannot be located is a small number. Based on the data supplied, only 1.3% of the shutoffs performed required a physical cut in the service while 98.7% were effected using either a curb box valve or the valve located on the riser.

PGL Action Plan Steps

This recommendation required one subtask, which has already been performed. Peoples had provided data already collected to verify implementation of this recommendation.

Expected Post-Implementation Conditions and Factors

The Company now monitors and will continue to monitor the performance of shutoff valves when they have discontinued service to a customer. Below is the data from 2015 on the low level of shutoff valve malfunctions and thus Peoples has demonstrated that there is not a material performance concern in the field, thus obviating the need for a special study.

Shutoff Method

Number of visits	Locked at B-box	Locked at Riser	Physical Cuts	Grand Total
1	86.1%	91.9%	40.9%	87.8%
2	8.7%	5.4%	19.0%	7.5%
3	2.4%	1.3%	15.3%	2.1%
4+	2.8%	1.4%	24.8%	2.6%
Grand Total	86,603	56,736	1,865	145,204
% of Overall Shutoffs	59.6%	39.1%	1.3%	100.0%

Peoples will continue to track and report on the number of shutoff valves that malfunction annually.

Summary of Liberty's Steps to Verify Implementation

The data provided above shows that this program was already undertaken and that it will be reviewed annually.

Observed Conditions and Factors

Liberty found that Peoples was already tracking inoperable shutoff valves and that it is not a problem nor does another study need to be performed.

Implementation Complete and Satisfactory?

Yes, this recommendation is considered implemented and verified and thus can be closed out.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that this recommendation has been fully implemented.

Future Liberty Verification Activities

Data provided by Peoples confirms the problem has been resolved and is being properly tracked. No further verification is planned.

General Observations

None.

C.5 – Testing New Facilities to 100 psig

Peoples Gas should test both services and mains to 100 psig.

Peoples Gas should test both service and main pressures to 100 psig on all new installations and develop methods to retest previously installed services to 100 psig, to give the system the ability to operate at a higher pressure in the future.

Underlying Conclusions

C.5 A number of other safety, reliability, and testing issues need to be considered in conjunction with or on top of current Peoples Gas practices in AMRP planning or execution.

Peoples Gas wrote a new procedure, TEG 1030 to test mains and services to a sufficient pressure to allow for operation at 60 psig (MAOP) for all new mains and services and for those existing services and mains that may be retested in the future due to maintenance or other work. Peoples Gas did not agree to retest all existing mains and services previously installed under this program or other programs. Also, Peoples Gas did not provide a finite date that this new procedure went into effect. The actual procedure allows for a range of pressure testing, 90 to 105 psig which is acceptable.

PGL Action Plan Steps

Item #	Task	Due Date
1	Implement TEG 1030	Completed

Expected Post-Implementation Conditions and Factors

Testing in accord with TEG 1030.

Summary of Liberty’s Steps to Verify Implementation

Liberty will conduct field observations as part of its implementation monitoring. Those observations will verify that test pressures above 90 psi, so that the MAOP of the new mains and services will be 60 psi.

Observed Conditions and Factors

TEG 1030 requires all testing at a 90 psi minimum.

Implementation Complete and Satisfactory?

This recommendation is considered complete and implemented. PGL, however, should consider ensuring that records reflect all of the current MAOPs on the system with plastic and steel medium pressure installed before 2015 listed at 25 psig or less and medium pressure installed after January 2015 listed at 60 psig.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that this recommendation has been fully implemented.

Future Liberty Verification Activities

To be performed during field visits.

General Observations

PGL implemented this recommendation in 2015. PGL does not plan to conduct pressure testing on mains and services installed prior to the adoption of TEG 1030 with the 90 psi minimum pressure.

D.1 – Developing a Clear AMRP Description and Quantities

As part of the new planning effort now underway, Peoples Gas should provide a clear and unambiguous description of the AMRP, including quantities for all parameters important to management of the project.

Part Two of this report addresses the requirements of effective plans. Such parameters include, at a minimum, all production quantities, labor hours and costs corresponding to production quantities, definition of “AMRP projects,” key milestones, details for support functions, and resource requirements and plans.

Underlying Conclusions

D.1 Current AMRP plans do not provide for sufficient program definition and the program has not been supported with sufficient assembly and analysis of performance information.

The AMRP should operate under a comprehensive and credible long-term plan that addresses all major components in a complete and consistent fashion. Liberty found that the AMRP does not have an integrated, up-to-date, sufficiently comprehensive program plan. Such a plan should clearly state critical assumptions. Liberty found critical planning assumptions neither well defined nor well documented. The kind of plan that the AMRP requires includes the provision of suitable contingencies for growth and other uncertainties. Liberty found no provision for contingencies or allowances to address the change and growth that are all but inevitable for a program of the AMRP’s scope, complexity, and duration. Program management does not address these matters on a long-term basis, but confines contingency use to annual planning, and even in that case, largely limited to contractor work.

The program management organization does not have detailed information about progress to date. Performance data is not consistent, fully reliable, or well-suited to the analysis that a program such as the AMRP requires. Past performance does not undergo rigorous and continual analysis to ensure optimization. Liberty has not found detailed, meaningful analysis of performance for the purpose of identifying improvement opportunities. Neither did Liberty’s field work disclose substantial documentation of corrective actions taken to address performance issues. Scope change typically has a significant impact on programs like the AMRP. There should exist clear documentation of the degree to which scope evolution has affected the program. Scope growth, particularly in terms of expanding project requirements has had an impact on the AMRP. That impact is not well-documented or quantified. The absence of data produces an inability of program management and senior leadership to isolate AMRP activities and costs from those of other work commonly managed with AMRP projects.

The following conclusions provide more detail regarding these general conclusions, and other areas material to the definition and status of the AMRP.

D.2 Peoples Gas has not sufficiently defined AMRP scope.

The AMRP represents a massive commitment by the Company. Its reporting, both internally and externally, must be crystal clear. At the present time, the nature of this commitment does not appear to be universally understood internally. Moreover, scope is often reported as mixed with other (e.g., QIP, but non-AMRP) projects. Senior Integrys executive management expressed to Liberty

the intent to establish a “world class” approach to AMRP management. Liberty considers that commitment as appropriate, if the Company is to optimize program performance. It certainly makes sense to apply such an approach to capital projects other than AMRP as well. Nevertheless, AMRP reporting cannot be confused with other projects. The commitments are substantial, and must be reported separately and clearly.

PGL Action Plan Steps

Item #	Task	Due Date
1	Develop RFP for consulting firm	Complete
2	Send out RFP	Complete
3	Review RFP / Select firm	Complete
4	Initial team meeting	Complete
5	Interview / Information Gathering	Complete
6	Draft Cost Model and Schedule deliverables due to Peoples Gas	Complete
7	Peoples Gas review of draft results and critique sent back to consultant	Complete
8	Final Cost Model and Schedule due to Peoples Gas	Complete
9	ICC report submission deadline	Complete
10	Define overall AMRP program scope and existing quantities	Complete
11	Generate year 1 schedule, cost, and forecast	Complete
12	Generate 2-, 5-, 10-, and 20 year preliminary schedule	Complete

This recommendation appears simple and straightforward, but encompasses more than just an administrative objective. It addresses a significant issue, given the AMRP’s safety implications. Liberty made this recommendation in response to confusion as to just what constituted various reported quantities. Various reports mixed AMRP and non-AMRP quantity and other measurements, making it unclear just what the data meant. The ensuing discussion of Recommendation N.4 illustrates the continuing nature of this mixing.

In order to manage a project, one must have a well-defined idea of that project’s dimensions. These become the standards against which progress and performance are measured. If the standards change, or if the way data is reported changes, it becomes impossible to measure progress or performance on a consistent and meaningful basis. That lack of a consistent baseline was the case at the time of the audit.

Preparation of a new AMRP estimate became a key initiative undertaken by new management. To be meaningful, such an estimate requires “a clear, unambiguous description of the AMRP, including quantities for all parameters important to management of the project.” Therefore, essential completion of implementing this recommendation logically precedes a new estimate (Recommendation D.6). Accordingly, PGL suggested, and Liberty agreed, that this recommendation would be closed with the issuance of the new estimate’s scope statement, which would presumably be prepared by the estimate’s author, Burns & McDonnell (B&M). When it was published, however, the new estimate did not contain anything termed as a “scope statement,” nor did it include content that could be deemed “a clear and unambiguous description.”

PGL then prepared the following definition:

The accelerated main replacement program (“AMRP”) program is the replacement of materials prone to leakage, relocation of meters from inside customers’ facilities to outside or to a central, accessible location, when feasible, and upgrading the system from low pressure to medium pressure (“MP”), including the installation of high pressure (“HP”) facilities to support the upgrade. The planned quantities over the life of the program are:

Main Install – MP (miles)	3,073
Main Install – HP (miles)	42
Services Install (each)	323,803
Meters Install (each)	665,375
Main Retire (miles)	2,364

The quantities of the preceding table were not those included in the B&M report.

Expected Post-Implementation Conditions and Factors

One should expect quantities on a program such as the AMRP to evolve with time, which makes such changes understandable. Nevertheless, clearly and unambiguously describing the AMRP, its quantities, and all parameters remains important to managing the program.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s AMRP Project Director to discuss actions taken and review implementation progress. Liberty reviewed close-out documents provided by PGL, including:

- AMRP Cost Estimate Model 2015
- AMRP Schedule Model 2015
- AMRP Program Estimate – 2016
- AMRP Program Schedule – 2016.

Observed Conditions and Factors

PGL has a new estimate but, since that time, also has a new set of quantities. This begs the question as to the basis for the current estimate, which indicates continuation of the original uncertainties that led to the recommendation. The principal questions concern what the correct quantities are, what the correct estimate is, and whether the two are consistent. PGL has not demonstrated concern about such issues, which permits ambiguities to continue.

For purposes of fulfilling this recommendation, the definition provided by PGL is simple and minimal but sufficient.

Implementation Complete and Satisfactory?

Yes.

Remaining Gaps, Needs

None.

PGL Position

The Company agrees that the recommendation has been implemented.

Future Liberty Verification Activities

PGL will update Liberty based on pending feedback from ICC Stakeholder Workshop Process at the end of September 2016, or as determined by the timing of the Commission's Order in the docketed matter resulting from the workshop process.

General Observations

The many discussions between PGL and Liberty on this topic indicate that there is risk that PGL will not continue to follow this definition in the future. The discussion of Recommendation N.4 below further addresses this subject.

D.6 – New AMRP Program Cost Estimate

Peoples Gas should promptly complete a new program cost estimate consistent with good estimating practices.

Chapter K: Cost Estimating discusses estimating requirements. The new estimate should include sufficient consideration of escalation and allowances for uncertainty and growth.

Underlying Conclusions

D.1 Current AMRP plans do not provide for sufficient program definition and the program has not been supported with sufficient assembly and analysis of performance information.

The AMRP should operate under a comprehensive and credible long-term plan that addresses all major components in a complete and consistent fashion. Liberty found that the AMRP does not have an integrated, up-to-date, sufficiently comprehensive program plan. Such a plan should clearly state critical assumptions. Liberty found critical planning assumptions neither well defined nor well documented. The kind of plan that the AMRP requires includes the provision of suitable contingencies for growth and other uncertainties. Liberty found no provision for contingencies or allowances to address the change and growth that are all but inevitable for a program of the AMRP’s scope, complexity, and duration. Program management does not address these matters on a long-term basis, but confines contingency use to annual planning, and even in that case, largely limited to contractor work.

The program management organization does not have detailed information about progress to date. Performance data is not consistent, fully reliable, or well-suited to the analysis that a program such as the AMRP requires. Past performance does not undergo rigorous and continual analysis to ensure optimization. Liberty has not found detailed, meaningful analysis of performance for the purpose of identifying improvement opportunities. Neither did Liberty’s field work disclose substantial documentation of corrective actions taken to address performance issues. Scope change typically has a significant impact on programs like the AMRP. There should exist clear documentation of the degree to which scope evolution has affected the program. Scope growth, particularly in terms of expanding project requirements has had an impact on the AMRP. That impact is not well-documented or quantified. The absence of data produces an inability of program management and senior leadership to isolate AMRP activities and costs from those of other work commonly managed with AMRP projects.

PGL Action Plan Steps

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3	Review RFP / Select firm	Complete
4	Initial team meeting	Complete
5	Interview / Information Gathering	Complete
6	Draft Cost Model and Schedule deliverables due to Peoples Gas	Complete
7	Peoples Gas review draft results; send critique back to consultant	Complete
8	Final Cost Model and Schedule due to Peoples Gas	Complete
9	ICC report submission deadline	Complete

10	Define overall AMRP program scope and existing quantities	Complete
11	Generate year 1 schedule, cost, and forecast	Complete
12	Generate 2-, 5-, 10-, and 20 year preliminary schedule	Complete

PGL retained Burns & McDonnell to complete a new AMRP cost estimate. The old estimate had become completely ineffective well before the change in management. Conclusion D.9 of Liberty’s report discusses that issue. Discussions with old management and Jacobs, the author of the old estimate, made clear that the estimate was no longer meaningful, which management generally acknowledged.

B&M completed and PGL submitted the new estimate model and report to the ICC and made them available to stakeholders in November 2015. We understand it was presented to the Stakeholders in February. Liberty received a courtesy presentation and copy of the model’s output. Liberty’s goal is to monitor recommendation implementation, rather than to conduct a detailed review of the estimate model. We did, however, engage in fairly high level discussion with PGL and B&M, in order to assess whether the general dimensions of the work products appeared to conform to the type of estimate our recommendation encompassed.

Those discussions exposed a lack of consensus among PGL and The B&M team about one element of the new model’s output. That element had the effect of reducing the magnitude of the model’s output of estimated program costs. Discussions at that time appeared to indicate a large potential impact from this element – perhaps in the general range of \$1 billion. PGL and B&M agreed to resolve the questions raised.

Several weeks later, Liberty received PGL’s “Close-Out Proposal” form for this Recommendation D.6. The form indicated that the recommendation requirements had been satisfied with the issuance of the B&M model. In a subsequent meeting with PGL, Liberty stated that considering the model outputs sufficient to close out Recommendation D.6 would require resolution of the questions raised at the earlier meeting that included B&M. Management provided a new explanation for the estimate adjustment and further explained that the impact was a small fraction of the billion dollars discussed at that prior meeting.

Expected Post-Implementation Conditions and Factors

The final, explanation of the estimate model element in question concerns an assumption that total program schedule duration can be shortened due to improvements resulting from replacing some AMRP pipe (earlier than otherwise would occur in the planned sequence of work) necessary to coordinate with public project needs. In prior estimates, such work was assumed to displace and hence delay a corresponding quantity of planned AMRP work. PGL now assumes that the originally planned work will also be done at the same time. This means that costs for the advanced work will face less escalation. The net impact of this is a reduction in the project estimate of about \$200 million.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed close-out documents provided by PGL, including:

- AMRP Cost Estimate Model 2015
- AMRP Schedule Model 2015
- AMRP Program Estimate – 2016
- AMRP Program Schedule – 2016.

Observed Conditions and Factors

We found the approach and actions of PGL sufficient, assuming that the model reflects how the program will be managed, but it is not clear that this is the case. For example, are the annual production quantities: (a) the original AMRP planned quantities only, or (b) do they include an assumed amount of advanced public improvement work? The concern is whether PGL has prepared an estimate on one basis, but plans to manage the program on another basis. As noted earlier, we have uncertainty about PGL's sensitivity to such questions. Absent of clarity, uncertainty remains with respect to what specifically will be measured against firm, clear targets.

Such uncertainties risk complicating PGL's monitoring and management of the program and reducing the clarity and usefulness of public reporting to the Commission and stakeholders. While we did not perform a detailed review estimate, the questions that arose during our limited discussions of the estimate model do give reason to question what more detailed assessment might reveal. However, the fundamental program uncertainties now being addressed by the Commission and stakeholders make such an expanded review premature at this time. Should certainty surrounding basic program parameters (*e.g.*, scope, pace of high-risk pipe elimination, the cost/value relationship, and total duration) arise in the few months, however, the Company, Commission, and stakeholders will be best served by the establishment of firm, measurable targets, standards, estimates, and schedules that are consistent, fully understood by all, and subjected to clear reporting content and cycles.

Implementation Complete and Satisfactory?

Yes. The recommendation called for a new estimate and, although the process that eventually unfolded ran far from what we had anticipated, the end product has been produced. It is therefore appropriate to close this recommendation.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that the recommendation has been implemented.

Future Liberty Verification Activities

PGL will update Liberty based on pending feedback from ICC Stakeholder Workshop Process at the end of September 2016, or as determined by the timing of the Commission's Order in the docketed matter resulting from the workshop process.

General Observations

None.

E.2 – Addressing Reasons for Prior Project Execution Plan’s Failure

Current developmental plans for a new Project Execution Plan should specifically address prior failures and how they will be avoided in the new plan.

In considering potential reasons for failure of the early plan, Liberty concluded that a lack of sufficient management commitment contributed significantly. The lack of credibility that seems inherent in the failure of the early plan naturally raises questions about management’s current commitment to the new initiatives as well. Answering the question of “What is different this time?” thus becomes important in sustaining credibility in the change initiatives underway.

Underlying Conclusions

E.1. A strong first effort at instituting a plan for the management of the AMRP occurred in 2011, but fell into disuse after failing to gain traction.

A strong start in defining how to manage the AMRP came in 2011. Unfortunately, sound program ideas and some strong statements of objectives have not translated into a plan for management that effectively guides the AMRP today. Committing to such elements of the Project Execution Plan’s effectiveness and building upon the principles it established would have placed the program in a more desirable place than exists today. A number of possible inquiries may explain why the plan did not become a foundation element of AMRP management:

- Was the plan ahead of its time; *i.e.*, put in place before the organization had the skills and capability to implement it?
- Was it too detailed, too complex?
- Did it cover too much ground?
- Was its content suitable for day-to-day reference?
- Did management properly introduce it, set good expectations for its use, and communicate a commitment to following it to the organization?
- Did its external authorship (Jacobs Engineering) detract from internal acceptance?
- Were its details prepared too soon; *i.e.*, with insufficient time to build and develop the processes needed?
- Did management assign anyone the responsibility of maintaining and keeping it up to date?
- Did the commitments and instructions not fully align with management’s intentions, thus potentially invalidating the plan? (*e.g.*, “Transformation of PGL from a reactive system maintenance organization to a state-of-the-art modern, progressive and proactive gas utility” does not appear to be a concept with which management agreed).

Answers to these questions would be speculative, but Liberty did find sufficient reason to conclude that a lack of management backing has played a major role. Words on paper alone do not produce results. A strong management commitment, regularly reinforced, must accompany them.

PGL Action Plan Steps

Item #	Task	Due Date
1	Develop RFP for Project Controls Organization	Complete
2	Contract with a consultant	Complete
3	Initial Assessment of current issues affecting project execution	Complete

4	Review of key documents & stakeholder interviews	Complete
5	Final Report and Presentation from consultant	Complete
6	Draft plan structure and components of plan	Complete
7	Draft Plans	8/30/2016
8	Re-issue Capital Construction Program PEP	4/1/2016
9	Design training process for new plans and procedures	9/15/2016
10	Publish procedures as part of the Project Execution Plan	10/1/2016
11	Provide Orientation to appropriate personnel	11/1/2016
12	Evaluate procedures	8/1/2017
13	Modify, add, edit cost management procedures	10/1/2017

Expected Post-Implementation Conditions and Factors

Broad and uniform acceptance of a revised PEP and management of the AMRP in accord with its requirements, approaches, policies, and behavioral and results expectations.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed close-out documents provided by PGL, including the RFP for Regulatory Audit Support Services, Project Controls Program Services, and Construction Procedure Services.

Observed Conditions and Factors

From the inception of Liberty’s recommendation implementation monitoring, new PGL management has not acknowledged value in acknowledging the problems of past management, or even seeking to compare and contrast what Liberty observed to be conditions needing improvement to conditions management perceives to exist “under its watch.” This recommendation actually sprang from an observation that the old management’s project team in 2012 did a commendable job in crafting a Project Execution Plan (PEP). The problem with that plan was that it was not followed, and became largely immaterial to managing the AMRP. In other words, management’s failing was in implementation, not design. We believe, as our final report discussed, that cultural issues in the Integrys/PGL relationship and perspectives were significant drivers of that failing.

PGL has given assurances that it will create and implement an effective new PEP. We consider those assurances to depend in significant part on knowledge and acceptance of the reasons why the original failed in the first place. Leadership and program management at PGL is new, but those it must lead and manage, remain in substantial part the same. The most recent information provided by PGL concluded that five factors led to the previous failure of the PEP. The Company has described how it will seek to prevent similar failures this time. The Company’s approach represents a suitable close-out of this recommendation.

Implementation Complete and Satisfactory?

Yes. The Company’s approach represents a suitable close-out of this recommendation.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that this recommendation has been implemented.

Future Liberty Verification Activities

PGL proposes to review the PEP on an annual basis. We will examine how it conducts the first annual review, its results, and actions planned to address any issues disclosed.

General Observations

None.

E.4 – “Strong” Project Manager Approach and Increased Dedicated Resources

Peoples Gas should move toward a project organization that makes significantly more use of dedicated resources under a strong project manager approach.

The nature of the AMRP and the internal relationships among Integrys and Peoples Gas argue against a matrix-type organization and a move toward a “strong” project manager approach. AMRP experience to date further compels a re-thinking of the organization approach. AMRP size, cost, and duration indicate that dedicated resources are appropriate for many functions. There is no reason the AMRP should have to compete for resources or go begging. Having qualified people on hand and focused on this singular priority for the next 15 years presents a superior option from performance, quality, cost, and effectiveness of management perspectives.

The AMRP internal issues also merit a strong approach to project management and greater use of dedicated resources.

Underlying Conclusions

E.5 The use of a matrix-type approach to AMRP program management did not prove optimum.

A program of the AMRP’s size and duration can justify a dedicated set of resources. A matrix-type organization also requires a high level of teamwork and cooperation among organizations and a project management team skilled at facilitating and maintaining those attributes. For the AMRP, factors such as these favor a dedicated organization, and a strong project manager approach.

PGL Action Plan Steps

Item #	Task	Due Date
1	Fill top dedicated leadership positions (VP / Directors)	Complete
2	Develop next level leadership positions	Complete
3	Identify areas where external resources may need to be leveraged and develop a plan to transition these roles in-house through training or direct hiring	Complete
4	Post and fill next level leadership positions	Complete
5	Complete job descriptions and post remaining positions	Various dates, through 2016
6	Interview candidates for posted positions	Various dates, through 2016
7	Select candidates based on interviews	Various dates, through 2016
8	Revised organization chart	After completion of task 7
9	Annually evaluate adjustments to project team composition	Q4, Annually

Expected Post-Implementation Conditions and Factors

We expect to see greater use of internal versus contracted resources in AMRP management. We also expect to see a broader and more appropriate range of skills brought to the management

organization. While our scope (monitoring implementation of the 95 recommendations of our report of a year ago) does not include continued “auditing” of program management and performance, we also expect to see enhanced approaches, systems, tools, reporting, and metrics, all of which should have a beneficial impact on program performance. We do not expect, however, that WEC will produce the basis change recommended to end the approach of treating the AMRP as just another (albeit recognizably very large) body of work to be managed by a group of distinct organizations with multiple accountabilities and responsibilities.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress.

Observed Conditions and Factors

Our report concluded that the nature of the AMRP and the internal relationships among Integry and Peoples Gas argue against a matrix-type organization, but rather call for what the industry defines as a “strong” project manager approach. AMRP experience as we observed it further compelled a re-thinking of organization approach. AMRP size, cost, and duration indicate that dedicated resources are appropriate for many functions. The AMRP should not have to compete for resources with other work requirements. We continue to believe that having qualified people on hand and focused on this singular priority for the long term offers a superior option from performance, quality, cost, and effectiveness of management perspectives.

A number of organizational approaches to project management exist. None can be judged inferior or superior in the abstract. They must be addressed in the specific context and environment in which a major program and its many projects will be executed. Other factors will determine the best choice for an organization, not the least of which are various organizational characteristics, including culture, that are present in the subject organization.

This table, extracted from the Project Management Body of Knowledge (PMBOK), illustrates the range of possibilities as well as how important project elements are handled in each organizational approach. It is not correct to phrase the question here as “what the optimum approach is.” The correct inquiry focuses on what the optimum approach is given the attributes and characteristics of the Company.”

Organization Structure Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Low	Low to Moderate	Moderate to High	High to Almost Total
Who manages the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Care must be taken to keep the issue from becoming too theoretical. It ultimately depends on unique facts and circumstances. Many organizations find it difficult to: (a) define the attributes, and then (b) relate organizational preferences to those attributes. We view the challenge, however, at PGL to be fairly straightforward. The attributes of the old PGL organization that led us to criticism of the lack of a strong project management approach and sufficiently large numbers of dedicated (AMRP-only) resources was apparent, and clearly addressed in the report. In addition, material AMRP management problems stemmed directly from organizational attributes. Recommendation E.4 sought to address them directly. Below we compare the approach that old and new management have taken to AMRP program and project management.

Old Management’s Approach

The old PGL approach to project management lies at the left side of the above PMBOK diagram; *i.e.*, functional or weak matrix. The industry characterizes such approaches (without intending to be pejorative) as a “weak project management approach.” The term “weak” does not mean necessarily ineffective. It simply seeks to describe the degree of formal authority given to the project manager. On the opposite extreme are the “strong project management approaches,” which occupy the right side of the PMBOK table.

Old PGL had a Project Management Office (PMO) with limited authority. Its characteristics tended to diminish the direct influence of a project manager:

- There were no PGL employees in the PMO.
- There was one Integrys employee in the PMO (the Project Manager).
- That Project Manager was not located in Chicago.
- Virtually all PMO staff came from Jacobs or its contractors.
- The PMO had no direct influence over construction and avoided challenges to construction as a result.
- The PMO had no direct influence over engineering, although the consequences were far less severe.
- PMO reports provided little insight or analysis, and did not address performance problems explicitly.

The old environment included silo-based organizations, “turf” issues, and insular cultures, coupled with people who worked in it for years. These factors made the weak approach questionable at the outset, and observably insufficient just a few years into the AMRP. Culture barriers often prove difficult to acknowledge and more difficult to fix. Whatever the reason, the organizational approach persisted. We found it a strong contributor to AMRP problems under prior management.

Liberty based the recommendation at issue here on recognition that a weak project management approach cannot succeed in the circumstances, environment, and culture we observed at PGL. These factors in our view called for creating a structure that gives the project manager:

1. Dedicated resources to ensure that project needs are always adequately resourced and that avoid the need to turn to other organizations for needed support.
2. Authority to obtain and direct resources, to set priorities, and to hold all project participants accountable for all aspects of their project performance.

Given the circumstances and environment we examined, we considered a strong project management approach the clearly correct option.

Current Management's View

WEC has brought to the AMRP many changes aimed at improving management. Liberty found as we began work to monitor recommendation implementation many of the concepts articulated and the tactics to implement them sound and substantial. We developed optimism that a “corner had been turned,” placing management was a well defensible path to improvement. We have since, however, developed concern about the degree to which the concepts and their implementation correspond to the environment in which they will play out. They include the existing culture. Change may come with personnel changes at the top level, but they will only work among the large body of remaining employees to the extent the culture in which they operate changes and the degree to and speed with which they accept it. It is also clear that work in the Chicago environment presents new considerations for leadership. A difficult atmosphere has resulted from five years of questions, concerns, and skepticism about how well the AMRP is proceeding. Costs have doubled several times. Change within the AMRP has been proposed since program inception, but did not result under old management. Most recently, the fundamental scope, safety, cost, and schedule underpinnings of the AMRP have themselves become open to question.

To counter observations like these, WEC refers to what it considers a successful track record with large, complex capital projects. It proposes essentially to employ the approaches and techniques it has used on them. We have several specific concerns about their ability to apply what they consider to have worked elsewhere to conditions here.

First, the Company no longer treats the AMRP as a unique program but rather sees it as a very large, but nevertheless normal part of its day-to-day business. When Liberty began the study leading to its report of a year ago, it was clear to us that the AMRP dwarfed anything PGL had ever undertaken. A multi-billion-dollar endeavor, spread out over decades, represents an enormous undertaking. Such a world class project demands world class skills. Prior management's belief that it could successfully meet the challenges of the AMRP as an add-on to the rest of gas utility work proved substantially flawed. While WEC has brought substantial new resources to program management and appears much more sophisticated in its methods and tools, it also has ultimately concluded that the approach it has developed in other circumstances and with which it is comfortable will prove successful.

One of the strategic advantages a large project brings is that its duration and costs allow management to “afford to do it right.” A collection of small projects does not provide sufficient leverage for investing heavily in supporting systems and people. By contrast, immense programs like the AMRP can and should. Viewing the program as an extension of business as usual does not provide a good framework for examining the value of such investments.

The Company has settled on a weak project management approach. The initial thrust of its organizational design was to place most critical AMRP activities under the Vice President of Construction. To the extent all critical resources were under that one senior executive, a de facto strong project management approach may have emerged. However, many important project

functions remain outside the realm of Construction, locking in continuation of a weak project management approach.

Liberty does agree that WEC will employ “dedicated” resources in ways and at levels that appear designed to advance what old management provided. It is reasonable to expect that they will bring improved performance; whether they will optimize performance is, however, the matter in question. WEC has moved to reduce reliance on contractors in favor of internal resources. We consider that development significantly positive, although the Company continues to face challenges in getting its internal complement (and project resources totally) in place. Moreover, it is also positive that increasing resource numbers and skills in key areas is planned, and in many cases has already occurred.

These positive aspects, however, should not obscure what remains a material difference between management and Liberty in what “dedicated resources” means. Bringing in skilled internal resources and increasing their numbers, while positive, does not make them dedicated, to the extent that they continue to have non-AMRP responsibilities. Dedicated personnel as we define them work exclusively on AMRP functions and activities, without shifting to other forms of work and competing priorities.

While increasing total resources managing the AMRP is sound, we have not observed a clear commitment (important to us) to providing sufficient numbers of a particularly key position (AMRP project managers), as the discussion of Recommendation E.6 addresses. PGL allows for the possibility of assigning project managers to multiple AMRP projects, although the degree to which that will ultimately occur is a function of the competing priorities that other work will impose.

We are certainly prepared to concede that WEC has strong knowledge of how to manage projects and that it has worked to identify and fill resource requirements (consistent with its approach) with broader skills, in greater numbers, and filled with greater numbers of internal versus contract resources than existed under old management. Nevertheless, we believe that adoption of the strong management approach appears better suited to meeting AMRP needs.

Implementation Complete and Satisfactory?

Liberty finds significant merit in WEC’s increased use of internal versus contracted program management resources, its recognition of the need for bringing in new forms of skilled resources (*e.g.*, cost analysis), and its belief that a larger organization in total is needed to manage the AMRP. The area of concern that remains is its rejection of our recommended use of a strong project management approach. We cannot reject out of hand the approaches WEC says have worked for it in the past and that it believes will optimize AMRP performance as well. Our discussions with leadership and management sought insights into how WEC’s approach could be successful (given the environment in which it must be applied) and thereby meet the intent of the recommendation calling for a strong management approach. Liberty’s objective is improvement and we will continue our work with an open mind to how to achieve it.

We continue to find an insufficient basis for judging the admittedly new and revised approach (from old management’s way of managing the AMRP) different and enhanced enough to conclude

that it has, in comparison with our recommended approach, a close to even or better change of optimizing performance.

Remaining Gaps, Needs

To be determined.

PGL Position

PGL disagrees, and believes that it has implemented this recommendation fully.

Future Liberty Verification Activities

To be determined.

General Observations

None.

E.5 – New Program Management Specification

Peoples Gas should prepare a specification for a new program management function, correcting the weaknesses in the current process.

In designing a new program management organization and process, the following attributes should form a part of the specification:

- *High level, full time, on-site program management:* The large number of AMRP resources in Chicago demands that the program manager and the bulk of the Project Management Office be located there full time.
- *Unquestioned executive support,* whether a strong or weak approach applies: Whatever approach is adopted requires the unquestioned support of executive management.
- *Owner expertise:* To lead, at least guide, or at least actively participate in, all core functions. The level of owner participation can remain flexible, but what stands as critical is reinforcing the perception that the owner leads the effort, and has skills as strong as anyone else on the project. A mere figure-head or peripheral role will not work effectively.
- *Permanent, as opposed to transient, identity:* A project usually has a transient identity, reflecting its comparatively short life and the temporary nature of most positions. That transient identity places limits on the kind of people willing to work on the project and the kind and number of people that management will hire. However, at a duration of twenty years, the AMRP can hardly be viewed as “temporary.” Acting in accord with a belief that it is, produces a naturally weaker approach to staffing.
- *An integrated organization or not – no halfway:* Peoples Gas has taken a split approach to its role in the program management. Liberty recommends active participation and a strong leadership role for the owner. An integrated organization can accomplish this result. However, doing it halfway, with limited positions, limited owner skills, or limited owner authority, can prove worse than using an organization and a management role completely provided by a contractor. At least in that case, accountability remains clear.
- *Accountability for performance:* Accountability and the ability to enforce it at both the program management and functional levels is important. Accountability for performance will not alone prove sufficient for strong performance but it certainly is necessary.
- *Strong technical and analytical skills in management controls in the Project Management Office:* Strong technical and analytical skills on the part of controls personnel often comprise the greatest asset an executive oversight and program manager can have.

Peoples Gas should test its AMRP organization development plans and activities by providing candid and full answers to questions like:

- To what extent must AMRP compete or beg for resources?
- To what extent does the AMRP have to rely on part-time or non-dedicated resources?
- Are lines of accountability and authority clear?
- Is the owner clearly in charge?
- Is the owner fully involved?

Underlying Conclusions

E.6 The current approach and organization for program management produces too little authority and engagement by internal management resources.

Concern arises from the fact that Peoples Gas has managed the AMRP as a “project”; *i.e.*, treating the program as temporary and its people as engaged in transient assignments. A quality, dedicated workforce will become far easier to build, should Peoples Gas treat the program as it should; *i.e.*, as a massive, long term initiative.

PGL Action Plan Steps

Item #	Task	Due Date
1	Ensure inclusion of program management specification in the revised Capital Construction PEP.	Complete

Expected Post-Implementation Conditions and Factors

A clear and appropriate specification for program management and operation in accord with its requirements and expectations.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed close-out documents including the current PGL Organization Chart and a draft Table of Contents for the revised Project Execution Plan (PEP).

Observed Conditions and Factors

The document provided by the Company in response to this recommendation lists five actions that PGL believes improve upon past weaknesses in the project management function. As in our discussion of Recommendation E.4 above, Liberty agrees that these are positive steps. On that basis, we have closed this recommendation.

Implementation Complete and Satisfactory?

Yes.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that this recommendation has been implemented.

Future Liberty Verification Activities

To be determined.

General Observations

The connection between this recommendation and Recommendation E.4 means that developments with respect to the latter's implementation could affect actions with respect to this one. Some of the actions leading to our closing of the recommendation also involve continuing activities that may justify revisiting plan execution during the remainder of our monitoring period.

E.6 – Project Managers for AMRP Individual Projects

Peoples Gas should assign a project manager to most, if not all, AMRP neighborhood projects.

Even at the individual level, these non-high-risk projects still tend to have very large scope and size. Liberty’s experience produces the expectation that each would have its own project manager. Compared to typical electric or gas utility projects, they are more complex, expensive, customer-sensitive, and carry local regulatory challenges.

Underlying Conclusions

E.7 Peoples Gas should not limit the use of project managers for AMRP projects to only high risk cases.

The nature of the AMRP projects makes them complex, expensive, a challenge to coordinate, and difficult to manage. The lack of a single, project management focal point for every substantive project has not served the program well.

PGL Action Plan Steps

Item #	Task	Due Date
1	Job responsibilities defined	Complete
2	Project manager positions posted	Complete
3	Assigning the final project manager positions	Complete
4	Reevaluation to assess the adequacy of the current positions	Q3, 2016

Expected Post-Implementation Conditions and Factors

PGL has made changes likely to produce a lower ratio of project managers to AMRP projects, but not necessarily one-to-one. The ratio appears likely to be affected not only by the number of AMRP projects proceeding concurrently, but possibly on other capital work that may emerge.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress.

Observed Conditions and Factors

PGL agrees conceptually with this recommendation, but does not agree that a one-to-one relationship of a PM for every neighborhood project is appropriate. Liberty believes that projects involving many millions of dollars are (1) expensive enough, (2) risky enough, (3) multi-faceted enough with numerous cross-organizational issues, and (4) complex enough to justify a full time project manager, from cradle to grave. The recommendation does acknowledge exceptions, but they should be limited.

There needs to be clarity in what is expected of project managers and in what benefits their work is expected to produce. Lack of such clarity produces a tendency to favor fewer rather than greater numbers. We have not found sufficient clarity, or a firm sense of just how influential the PMs can or will be in this organizational approach. In this regard, we note that PGL’s descriptions of project

manager responsibilities are Integrys documents, indicating that today’s approach may not materially differ from the Integrys approach. We therefore continue to believe that a one-to-one relationship between projects and their managers remains an appropriate course, recognizing the possibility of fairly limited exceptions.

PGL recently modified its position in this regard and committed to “assign Project Managers to oversee all AMRP work, whether completed as part of a planned neighborhood or in concert with public improvement or system improvement work.” The Company further indicated that perhaps two PMs would be appropriate for some projects. This response does not eliminate the doubts that exist as to the organizational approach being employed. There remains a need to distinguish between the broad project management role of an organization (project management) and the duties of individuals charged with leading management for specific projects. We believe that this lack of clarity threatens continuation of the weaknesses that led to the recommendation. Nevertheless, the current response is probably as much as can be expected. We therefore, with some hesitation, classify PGL’s response as accepted and closed. Nevertheless, questions of just what the PM organization will do, how it will do it, how it will relate to specific projects, the role and influence of individual project managers, and the overall effectiveness of this so far weakly defined approach will linger.

Implementation Complete and Satisfactory?

Liberty continues to consider its one-for-one relationship appropriate. The Company’s approach appears designed to produce such a relationship in many cases, but without clear definition of when or how it will not. We therefore consider the recommendation to be partially rejected.

Remaining Gaps, Needs

To be determined.

PGL Position

PGL disagrees, and believes it has implemented this recommendation fully.

Future Liberty Verification Activities

To be determined.

General Observations

None.

F.2 – Soils Database

Peoples Gas should develop a database of the soils data already collected and populate it further with soils data taken at all new excavations.

The development of a soil database should serve, when reasonably populated, as a factor in determining replacement priorities, particularly for highest-priority segments identified through the Main Ranking Index. When data population reaches a level supporting defensible correlations between soil conditions and risk, Peoples Gas should determine whether and how to turn the data into a quantifiable ranking factor, or alternatively, how to apply it judgmentally in driving replacement priorities.

Underlying Conclusions

F.4 Not including soils data in risk modeling fails to address a factor material to failure risk.

Peoples Gas recognizes that the development of a soil database could serve, when populated with a reasonable sample size, as a factor in determining replacement priorities, particularly for highest-priority segments identified through the Main Ranking Index. Peoples Gas has accepted this recommendation and intends to develop and implement a plan to take soil samples associated with corrosion-related system repairs to look for geographic trends and potentially use for system risk management and replacement prioritization.

PGL Action Plan Steps

Initially Peoples misunderstood this recommendation, believing it to require additional excavations. Liberty did not intend additional excavations. Based upon discussions with Liberty, the Company agreed to implement the recommendation as follows:

- Take soil samples associated with repairs for leaks caused by corrosion; include soil resistivity and ph.
- Collect the soil data and annually conduct geographic analysis of soil readings compared to leaks caused by corrosion.
- Seek to identify any geographic trends in the data.
- Identify any models developed by other urban gas utilities with similar systems.

Item	Task	Due Date	Revised Date
1	Director, Gas Operations Planning, to form Soils Database implementation team	11/30/15	Complete
2	Define objectives and requirements for the Soils Database process and research other utilities' work on soils analysis	11/30/15	Complete
3	Design the Soil Database development and analysis process	12/31/15	Complete
4	Prepare Soil Database procedures	12/31/15	Complete
5	Approve and publish Soils Database procedure	12/31/15	Complete
6	Provide Soils Database orientation and training to effected personnel	12/31/15	Complete
7	Roll out Soils Database	12/31/15	Complete
8	Perform GIS Analysis of collected Soil Data	12/31/15	Complete
9	Document completion of the recommendation implementation	12/31/15	Complete
10	Perform annual GIS Analysis of collected Soil Data (to be conducted by 12/31 in future calendar years)	12/31/16	On Going
11	Database review and analysis (annually)	12/31/16	On Going

The first 9 of the 11 proposed subtasks concern base implementation, and the remaining two ongoing implementation. PGL completed the nine by the end of the first quarter 2016. These subtasks included establishing a database of existing soils information from records of previously performed leak or main repairs or replacements (including defining the information needed), reach out to other similar utilities to determine if they have soil databases and how they are used, prepare procedure for the newly developed soils database process, analyze the soils data via GIS, and continue to gather soils information from new repairs or replacement of mains and services.

Expected Post-Implementation Conditions and Factors

The soils data base may assist Peoples in locating hot spots or areas that should have a higher priority in the neighborhood main replacement model.

Summary of Liberty's Steps to Verify Implementation

Liberty examined written documentation demonstrating the completion and rollout of the database and procedures.

Observed Conditions and Factors

Liberty confirmed that the database is in operation and supported by procedures regarding its use for analysis.

Implementation Complete and Satisfactory?

Yes.

Remaining Gaps, Needs

None.

PGL Position

The Company agrees that the recommendation has been implemented.

Verification Activities

At year-end 2016, Liberty will verify that the GIS has been populated with the prior year's soils data.

General Observations

None.

F.3 – Alternative Risk Ranking Criteria and Weightings

Peoples Gas should conduct a structured study of alternative criteria and weightings for the Main Ranking Index and for the neighborhood approach.

It is time for Peoples Gas to engage in a structured, comprehensive, and analytically-driven review of other weighting, parameters, and additional inputs to its Main Ranking Index and its neighborhood rankings. For example, the repair rates for pre- and post-1920 cast iron are equalizing. Eliminating that distinction and giving greater emphasis to small-diameter cast iron mains may prove warranted. The Company also needs to address the bias that its zonal approach creates in favor of larger neighborhoods. Normalizing the lengths of small-diameter cast iron may prove beneficial. Another element of the review should be to consider leak history, as opposed to open leaks alone.

Underlying Conclusions

F.5 Despite the improvements that replacement has brought, the failure to achieve a decrease in leaks raises questions about effectiveness in identifying the highest-risk pipe and slating it for replacement.

F.6 The weight given to pre-1920 main may no longer support greatest risk reduction per mile replaced.

PGL Action Plan Steps

Item	Task	Due Date	Revised Date
1	Define objectives and requirements for the Prioritization Model improvement process	11/30/15	Complete
2	Analysis of Data	11/30/15	Complete
3	Prepare revised Prioritization Model and Neighborhood Approach	12/31/15	Complete
4	Approve and issue process and procedures for Prioritization Model and Neighborhood Approach	12/31/15	Complete

PGL also now includes the UMRI, a risk ranking method that PGL has used on individual segments for a number of years.

Per PGL, the new neighborhood risk ranking system will be run every year with the 2015 results being used to determine which neighborhoods will undergo replacement in 2016. Every 2 years the criteria and ranking will be evaluated for effectiveness (see Recommendation F.5 for additional input on these metrics).

Expected Post-Implementation Conditions and Factors

The neighborhoods that are at the highest risk should be prioritized for main replacement, regardless of size, because the new model normalizes the risk ranking for size.

AMRP Neighborhoods Plan

As of: 12/2015

2015 Construction			2016 Construction			2017 Construction			Future* (In Design)		
Neighborhood	Original Rank	New Rank	Neighborhood	Original Rank	New Rank	Neighborhood	Original Rank	New Rank	Neighborhood	Original Rank	New Rank
Portage Park (Remaining Work)	1	23	Portage Park (Remaining Work)	1	23	Albany Park	4	13	W. Morgan Park	73	2
South Austin	2	154	South Austin (Remaining Work)	2	154				W. Beverly	76	3
South Shore (Remaining Work)	3	144	South Shore (Remaining Work)	3	144				Mayfair	30	4
Beverly	7	66	Beverly (Remaining Work)	7	66				Bowmanville	58	6
									Morgan Park (WOF)	15	10
									Cragin	45	12
									W. Humboldt Park	82	15
									Stony Island Park	59	17
									Magnolia Glen	152	18
									Schorsch Village	37	19
									Avalon Park	55	20
									Norwood Park East	106	22
									Marynook	107	49

The following neighborhoods were in various stages of the design phase prior to the updated Neighborhood Ranking Model and were not cancelled:

South Shore
Portage Park
South Austin
Beverly
Albany Park

* Future neighborhoods will be ready for construction by the Construction Date provided by the Planning Group

The following neighborhoods had started the drawing creation stage of design prior to the updated Neighborhood Ranking Model and were subsequently canceled.

Brighton Park
Jefferson Park
South Chicago

Original Rank	New Rank
13	88
8	51
6	46

Summary of Liberty’s Steps to Verify Implementation

Liberty discussed the new methods with the Company and reviewed the specific changes proposed. Liberty also compared neighborhood scorings under the old and new methods.

Observed Conditions and Factors

Liberty confirmed that the new MRI uses normalized metrics, so that large neighborhoods are not over-weighted when compared with smaller, but higher risk neighborhoods. Also, since much of the leak prone pre-1920 mains have been replaced, the weighting of this component has to be changed.

Implementation Complete and Satisfactory?

Implementation is satisfactory and the original replacement plan for 2017 has been changed based on the new priorities from the model. Liberty considers this recommendation implemented.

Remaining Gaps, Needs

Ongoing implementation should include three actions, which Liberty will monitor as part of our continuing work:

- Include the date the risk ranking will be finalized for incorporation into the next replacement cycle, the timeframes for performing engineering on the results of the risk

ranking, and the timeframes for when construction will begin in those selected neighborhoods.

- Identify the amount of holdover construction from the previous model for the 2016 construction season.
- Identify a specific date to evaluate the effectiveness of the new model, before the criteria of the model is changed using metrics from Recommendation F.5 plus other input.

PGL Position

PGL agrees that the old model was weighted to larger neighborhoods.

Future Liberty Verification Activities

Liberty will review the new methods' application and actions on the three added steps identified above as part of continuing implementation monitoring.

General Observations

The time to institute a change in priority is determined by the time to complete engineering. Therefore, a significant time lag exists between model change and actual construction.

H.1 – Scheduling Master Plan

Peoples Gas should develop a Scheduling Master Plan.

The Company recognizes this need, and has begun a significant effort to develop a Master Plan. It needs to incorporate a master schedule plan that conforms to a well-defined AMRP scope and a newly formed, credible cost plan. To maintain this master schedule plan on a real-time basis, Peoples Gas also needs to develop the capability to assess how cost issues may affect schedule, and (vice versa) how schedule issues will affect costs at the AMRP program level.

Underlying Conclusions

H.1 The AMRP Plan does not include schedules at an overall program level; detailed generic schedules existed at the construction level, but not the production support level.

The AMRP plan should include, at a minimum, schedules at an overall program level, at a production support level, and at a detailed process level. Management has not prepared or used them.

The AMRP does not have the capability to assess in a credible way whether the program’s 20-year duration remains achievable. Nor can management quantify the length of any anticipated delay. The program has used detailed generic schedules addressing construction activities only for the current and the following year. These generic schedules reflected physical work only. They did not address the work activities needed to support construction.

PGL Action Plan Steps

Item #	Task	Due Date
1	Develop RFP for consulting firm	Complete
2	Send out RFP	Complete
3	Review RFP / Select firm	Complete
4	Initial team meeting	Complete
5	Interview / Information Gathering	Complete
6	Draft Cost Model and Schedule deliverables due to Peoples Gas	Complete
7	Peoples Gas review draft results, send critique back to consultant	Complete
8	Final Cost Model and Schedule due to Peoples Gas	Complete
9	ICC report submission deadline	Complete
10	Define overall AMRP program scope and existing quantities	Complete
11	Generate year 1 schedule, cost, and forecast	Complete
12	Generate 2-, 5-, 10-, and 20 year preliminary schedule	6/1/16

Expected Post-Implementation Conditions and Factors

Use of short-term schedules pending Commission and Stakeholder review of fundamental AMRP parameters; long-term schedule plan after fundamentals re-established.

Summary of Liberty's Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL's Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed close out documents including the PGL Master Plan Summary.

Observed Conditions and Factors

PGL has developed scheduling alternates in various categories, but these are limited by the current ICC review of the program. With the boundaries of the program uncertain, it is of course impossible to settle upon a master plan at this time. Nevertheless, PGL has a detailed plan for the short-term as well as a B&M constructed long-term planning model.

Implementation Complete and Satisfactory?

Yes. It is not reasonable to expect more at this time and we therefore consider this recommendation closed.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that this recommendation has been implemented to the degree that current circumstances permit.

Future Liberty Verification Activities

Yes, PGL will update Liberty based on pending feedback from ICC Stakeholder Workshop Process at the end of September 2016, or as determined by the timing of the Commission's Order in the docketed matter resulting from the workshop process.

General Observations

None.

N.4 – Comprehensive, Actionable Project Reporting

Peoples Gas should expand top-level AMRP performance metrics and reports to include more actionable information, and to compare actual performance with plans and budgets meaningfully.

Liberty found a lack of sufficient scope and detail in the AMRP performance metrics and reports to the Executive Steering Committee and to the boards. Reporting lacked detailed information about program planned versus actual progress, insights into the causes of variances, and descriptions of responsive action plans. Reports should clearly communicate achievement (or misses) of key performance indicators and metrics that measure progress against annual, approved work plans, budgets and schedules. The degree to which project management and senior executives are held accountable for project performance is crucial and important.

Regular reports should also compare a well-defined set of metrics to budget and plan on every occasion. Such metrics should address progress against approved work plans, budgets, schedules, and other measures (such as work quality and safety). Measurements should track progress against short-term (*e.g.*, annual) targets, as well as progress against long-term goals and milestones required to meet the 20-year commitment. Liberty also recommends that measures be developed for reporting cost efficiency in an informative manner (*e.g.*, cost per mile installed or retired, cost per service).

The initiatives that Peoples Gas has developed since discussions with Liberty began in September 2014 address needs that Liberty has observed. The Company's outline of planned actions address generally the need for changes in the nature and use of top-level metrics and reports, demonstrating understanding of and acceptance by Peoples Gas of the gaps that need to be addressed. However, it remains for the Company to turn this outline into a well-defined, complete set of measures, clear responsibility for accumulating and using the information to report them, measures to ensure their accuracy, plans to make them regularly available, and, most importantly, process for using them to identify performance issues and respond to them.

Underlying Conclusions

N.7 Top-level AMRP performance metrics and reports have not emphasized or clearly reflected performance against plans and budgets.

Liberty found a lack of sufficient scope and detail in the AMRP performance metrics and reports to the Executive Steering Committee and to the boards. In particular, reports have lacked detailed information about program planned versus actual progress, insights into the causes of variances, and descriptions of responsive action plans.

Such reports should clearly communicate achievement (or failure) against key performance indicators and other metrics that measure progress against approved work plans, budgets, schedules, and other measures (such as work quality and safety). Measurements should track progress against short-term (*e.g.*, annual) targets, as well as progress against long-term goals and milestones required to meet the 20-year commitment.

AMRP performance metrics and reports to the Executive Steering Committee and the boards should emphasize and clearly reflect project progress and performance to plan/budget. However,

performance metrics at the Executive Steering Committee level or higher up have not robustly considered progress versus budget or work plan. According to Company executives, they were unsure as to “how solid the AMRP plan was,” and avoided hard comparisons of actuals versus the plan, especially in the first year of the project.

Monthly reports provide program management with its principal regular documentation of AMRP progress. By the time progress information reaches the Executive Steering Committee through reports and updates that it receives, however, a more favorable view of program progress and status emerges. The same is true of information that comes before the Integrys board of directors. Use of a consistent set of measures for cost efficiency and effectiveness to keep people informed all the way up the management hierarchy was not apparent.

PGL Action Plan Steps

Item #	Task	Due Date
1	Project Director to form Program/Project Reporting improvements implementation team	Complete
2	Define objectives and requirements for the Program/Project improvements process and procedure	Complete
3	Design the Program/Project improvements process and procedure and templates	Complete
4	Prepare Program/Project improvements process and procedure and templates	Complete
5	Approve and issue Program/Project improvements process and procedure and templates	Complete
6	Provide orientation and training to project personnel on Program/Project improvements	Complete
7	Document completion of the Program/Project improvements recommendation implementation	Complete

Expected Post-Implementation Conditions and Factors

None.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed recommendation close-out documentation, including PGL’s Change Management & Continuous Improvement Approach (dated March 8, 2016).

Observed Conditions and Factors

PGL has addressed the literal intent of this recommendation, but we continue to believe that distinguishing AMRP from QIP reporting remains important, especially for executive and regulatory review. Recommendation D.1 raised the issue of unclear definition for the AMRP and the consequences for reporting against clear, measureable, transparent standards and targets. This recommendation is related to N.4.

The AMRP as a program is in most reporting respects not a unique reporting entity. It is combined with other work (*e.g.*, high pressure pipe replacement that qualifies for QIP treatment, but does not involve high-risk pipe. The designation “AMRP” does not even commonly appear. PGL has clearly moved away from the identity, uniqueness, and scope of the AMRP *per se*. The Company manages its capital construction work on an integrated basis. The AMRP’s focus on eliminating high-risk pipe produces a need to report replacements (types, quantities, and costs) associated with such pipe separately.

With public safety the core purpose of the program, reporting the details of high-risk pipe replacement uniquely provides transparency regarding the pace of its elimination and on the costs that reducing risk produces, overall and by facility type. The importance of reducing the risks involved makes a high priority of telling management, the Commission, and stakeholders regularly and in detail how much of the work being done gets at that risk and at what cost.

We are not critical of broader reporting; *e.g.*, on a QIP or total construction program basis, provided that there is some clear and regular means for accounting and reporting separately and transparently using AMRP-specific parameters. PGL’s report structure uses QIP parameters, without separating those unique to the AMRP. Reports combine AMRP data in the QIP categories.

Less tangible, but still relevant is that merging AMRP reports also manifests the concern we have with the approach of structuring AMRP work as a normal part of day-to-day business. A multi-billion-dollar, decades-long program of extremely high-priority, high-volume pipe replacement does not typify business as usual. It demands focus and priority. It cannot rely on competing for resources.

Implementation Complete and Satisfactory?

No. Reporting needs to provide a broad spectrum of production, productivity, cost, and high-risk pipe retirement information regularly to PGL management and leadership, and to the Commission and stakeholders.

Remaining Gaps, Needs

To be determined, as the stakeholder process and eventual Commission AMRP review continues.

PGL Position

PGL disagrees, and believes that this recommendation has been fully implemented.

Future Liberty Verification Activities

To be determined.

General Observations

None.

N.6 – Outside Assistance to Facilitate AMRP Program Improvement

Peoples Gas should employ outside assistance in designing and implementing the initiatives it committed to undertaking to improve AMRP management, control, and oversight.

The discussions that began in September 2014 between Liberty and senior leadership of Integrys and Peoples Gas led to Company commitments to make a broad range of improvements in AMRP management, control, and oversight. This chapter addresses a number of those initiatives; *i.e.*, those associated with executive oversight. As this chapter makes clear, the initiatives associated with improving such oversight concern a number of improvements that must take place at the AMRP program and project management levels. Other chapters of this report detail those lower level but still critical changes.

Moreover, a number of the initiatives concern areas identified by consultants to the Company as warranting improvement. Some of those consultant recommendations remain to be implemented, years following their appearance. The breadth and depth of the changes to which the Company has committed are extremely large. They will also be planned and executed under a Peoples Gas executive structure that has undergone fundamental reorganization. Perhaps even more significantly, the future of a new utility team is uncertain, given the pendency of a change in control request. Care must be taken to ensure that continuation of the change process does not get unnecessarily disrupted by changes that may come under potentially new ownership.

These factors combine to indicate the need for substantial outside assistance in planning and implementing the changes required. Such assistance will also provide senior leadership with an important source of validating the pace and effectiveness of changes. The AMRP management, control, and oversight changes in and of themselves comprise a major program. History and the scope and depth of required changes make it sound to seek such outside support in organizing, facilitating, and measuring the change processes and the schedule for executing them.

Underlying Conclusions

Supported generally by conclusions throughout the Liberty Phase One Final Report. This recommendation came from considering together the following factors:

- The very large number, wide scope, and depth of the 95 improvement recommendations needed in Liberty’s view
- The significant cultural barriers within PGL and between the Company and Integrys that were impairing performance
- The history of abandoned improvement initiatives across the early history of the AMRP
- Residing leadership of PGL and responsibility for AMRP improvement under new executive leadership
- Contemporaneous efforts to make significant change in other areas of PGL operations
- Uncertainty about the level of engagement of very top management in supporting structural, complex change and transitory disruptions involved in the process of making such change.

In short, Liberty lacked confidence in the ability to manage such a major change process without support from outsiders who facilitate the “process” of making such change. A company with a strong tradition of embracing and aggressively pursuing change would have had a disconcertingly

large challenge before it. For a company demonstrating a lack of focus on change and even a resistance to changes identified by resources brought in to identify needed changes, the value of outside change process support and facilitation seemed clearly in order.

PGL Action Plan Steps

Item #	Task	Due Date
1	Project Director to form RFP team	Complete
2	Define RFPs objectives and requirements for Project Controls and Field Operations improvements (if identified)	Complete
3	Approve the RFPs for Project Controls and Field Operations process and procedure improvements	Complete
4	Release the RFPs for Project Controls and Field Operations process and procedure improvements RFPs	Complete
5	Evaluate the RFPs for Project Controls and Field Operations process and procedure improvements	Complete
6	Award the RFPs for Project Controls and Field Operations process and procedure improvements	Complete

Expected Post-Implementation Conditions and Factors

The Company chose not to secure outside assistance in managing AMRP change. It also did not make a high-level, focused plan for addressing cultural issues associated with a major restructuring of the AMRP organization and resources, considering routine, day-to-day attention to overseeing program conditions as sufficient. Leadership appears not to expect significant issues in securing broad and deep understanding of the ways by which it will manage and oversee the program.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed recommendation close-out documentation, including PGL’s Change Management & Continuous Improvement Approach (dated March 8, 2016).

Observed Conditions and Factors

The genesis of this recommendation was the apparent failure of prior management to implement improvements and good ideas when presented with them. The Company made a substantial commitment to outside consultants, and then received advice that it did not act on in key respects. We consider cultural issues, particularly those that kept the organizations from working well together, was a principal cause.

As a result of these failures, Liberty proposed that PGL should advance its capabilities in the management of change. Such capabilities were not present, leading us to recommend retention of a firm specializing in this area. We further thought that change management would be a special challenge for new management, even more challenging than it had been for old management. Our heightened concern here flowed from WEC’s lack of direct familiarity with the people and culture of PGL. We considered the normal cultural issues generally associated with acquisitions to be

heightened substantially by the cultural issues at PGL and their impact on past performance. Therefore, we recommended special attention and aggressive efforts.

New leadership did not show significant agreement with this recommendation from the outset of our implementation monitoring efforts. Leadership considers its internal skills, which it considers to have been successful in similar past efforts, sufficient. The Company has advised us that:

Peoples Gas' management's approach to change management and continuous improvement is following a proven track record consistent with the tone from the top at WEC Energy Group, Inc. ("WEC," successor to Wisconsin Energy Corporation). The current Peoples Gas management team has cultivated this process over decades of work at WEC, developing the know how to drive and establish change. This approach is based on basic principles of a) identifying what needs to change, b) "walking the talk", c) setting clear expectations, and d) holding people accountable for their performance or lack thereof.

PGL also provided a brief "white paper" that offered its thinking and approach to change management. The material it provided does address the theoretical issues. We remain concerned with their application to the specific conditions at issue, however. We are not comfortable with an approach to change management that does not emphasize consideration of organizational culture or the strengths and weaknesses of the existing organization. In our experience, it is fundamental to gain an understanding of the current organization's attributes, cultural and otherwise, where one recognizes the need to change those attributes for the better. New management places very great reliance on its ability to start anew, without addressing the underlying causes of what drove performance through its assumption of control.

Implementation Complete and Satisfactory?

Management finds itself at a very important juncture. While engaged in restructuring AMRP management, discussions that may lead to a fundamental redefinition or rebalancing of the program are underway. The Company is working with the Commission and stakeholders on AMRP parameters of that plan, including monitoring and reporting. The context in which Liberty made the recommendation is thus very different from the organization, management, cultural, and other things defining that context. We continue to have concerns about management's belief that it can succeed without significantly greater deference to past conditions and what drove them. Nevertheless, the current, major uncertainties suggest revisiting this recommendation after at least some of them are resolved.

Remaining Gaps, Needs

To be determined.

PGL Position

PGL does not consider action on the recommendation, apart from how it examines organizational effectiveness generally, to be appropriate.

Future Liberty Verification Activities

To be determined.

General Observations

None.

O.1 – Overhauled Approach to AMRP Reporting

The AMRP Project Management Office should overhaul its approach to reporting, with emphasis on defining and meeting the needs of managers and staff.

The purpose of the AMRP reports is unclear, and there does not appear to be a sound objective behind the monthly report. Rather than focusing the report structure on what information the program chooses to share, the structure should emphasize what information is needed by readers and what they should be expected to do with it. The program should work with managers to define their needs and then design reports to meet those needs.

Underlying Conclusions

O.1 AMRP reporting is not sufficient in level and quality to ensure that management has complete and timely information about AMRP performance and progress.

Liberty focused principally on the monthly report, which program management offered as the primary source of communication. Other reports, however, have a similar lack of focus on communicating information that is well-organized, comprehensive, and subjected to careful and insightful analysis.

PGL Action Plan Steps

Item #	Task	Due Date
1	Ensure inclusion of program management specification in the revised Capital Construction PEP	Complete
2	Project Director to form Program/Project Reporting improvements implementation team	Complete
3	Define objectives and requirements for the Program/Project improvements process and procedure and templates	Complete
4	Design the Program/Project improvements process and procedure and templates	Complete
5	Prepare Program/Project improvements process and procedure and templates	Complete
6	Approve and issue Program/Project improvements process and procedure and templates	Complete
7	Provide orientation and training to project personnel on Program/Project improvements	Complete
8	Document completion of the Program/Project improvements recommendation implementation	Complete

Expected Post-Implementation Conditions and Factors

Significantly revise report contents designed to meet leadership and management needs in managing, controlling, and overseeing the AMRP.

Summary of Liberty's Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL's Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed recommendation close-out documentation, including:

- PGL Capital Projects - Production Report
- PGL Capital Construction Projects Monthly Status Report.

Observed Conditions and Factors

PGL followed a process by which it designed reports and then sought feedback from its managers on their needs. This latter step, tailoring reports to managers' needs, is the key to this recommendation.

Implementation Complete and Satisfactory?

Yes. PGL has provided assurances that this process was indeed completed.

Remaining Gaps, Needs

None.

PGL Position

PGL agrees that the recommendation has been implemented.

Future Liberty Verification Activities

Liberty will follow up at a later time to verify that managers are satisfied and using the reports appropriately.

General Observations

None.

Q.6 – Equipping Technicians with GPS Devices

Peoples Gas should examine the benefits of equipping technicians with sub-meter accurate GPS devices in areas that have lines of sight to satellites.

Underlying Conclusions

Q.10 Unexpected field conditions have not presented an abnormally high number of problems for AMRP installations, but the high incidence of third-party damages to Peoples Gas facilities indicates the need for examination of better methods for mapping new installations.

PGL Action Plan Steps

Peoples Gas accepts the recommendation, and is looking to expand it to in-house construction in the later years to support electronic update of most Company records. Peoples Gas has observed that many areas (e.g., the Loop) include tall buildings that affect GPS signal receipt. The Company requires technicians that cannot access GPS to use manual survey equipment and submit data for mapping of all AMRP projects in GIS.

Item #	Task	Due Date	Revised Date
1	Incorporate GPS point data collection standards into the General Construction Specifications	Completed	Completed
2	Provide an overview and training on the GPS data collection standards to representatives of the construction contracting companies	Completed	Completed
3	Modify back office processes to incorporate GPS data into as-built workflow	Completed	Completed
4	Monitor and assess GPS data collection results and as-built workflow and identify additional opportunities for improvement	Completed	Completed
5	Expand GPS data collection requirements and internal as-built processes to include capturing additional attribution as well as collecting GPS data for linear information such as gas mains	03/01/16	Completed
6	Assess the effectiveness of the electronic GPS and as-built record collection and look for opportunities to enhance the process in order to reduce the reliance on paper as-built records	12/31/17	
7	Implement automation of asset creation within the WAM System from the GPS and other as-built data that is collected in the field	12/31/18	

Expected Post-Implementation Conditions and Factors

This recommendation’s first five subtasks address base implementation. They were completed by the end of the first quarter of 2016. The five involve updating processes and procedures to allow for updating of as-built maps and records via electronic means using GPS and requiring all contractors to use GPS in areas where signals are available (areas with high rise buildings may block GPS signals thus paper maps and records must be used). For internal capital construction and O & M Peoples also plans to use GPS but that may take longer.

The two remaining subtasks concern what we view as post-implementation efforts: examining what other internal programs or process can have electronic records updated via GPS and determining if GPS can be used to populate the work management system WAM.

Summary of Liberty's Steps to Verify Implementation

Liberty sought documents demonstrating GPS provisioning, training, and plans for using it for the 2016 construction season.

Observed Conditions and Factors

Liberty examined documents provided by PGL demonstrating GPS provisioning, training, and plans for using it for the 2016 construction season.

Implementation Complete and Satisfactory?

Liberty considers this recommendation as implemented.

Remaining Gaps, Needs

None.

PGL Position

The Company agrees that this has been implemented.

Future Liberty Verification Activities

Liberty will verify the use of GPS during field audits in the 2016 construction season.

To verify ongoing implementation, Liberty field examinations will include the use of GPS.

General Observations

None.

R.2 – Cost Professionals at Each of the Three Shops

Peoples Gas should assign a project control engineer or cost analyst to each of the three Shops to handle the analysis of all AMRP construction work performed by the internal workforce and contractors.

Two other chapters of this report (Chapter L: Cost Management and Chapter O: Reports and Analysis) discuss the importance of equipping managers with the analytical capability and resources to support effective management. Some Peoples Gas engineers and cost professionals have skills suitable for performing this role. Management should combine existing skilled personnel and added resources to address the needs discussed in those other two chapters. These resources should also focus specifically on work processes, seeking to identify improvements that will enhance effectiveness and efficiency. Liberty recommends the assignment of one project control engineer or cost analyst per Shop to handle the analysis of AMRP construction work performed by internal workforce and contractors. The Company can matrix them to the cost management organization recommended in this report’s Chapter L: Cost Management. A matrix approach will allow them to develop skills and consistency of approach through the cost management organization, while taking advantage of construction work knowledge in the Shops.

Underlying Conclusions

R.3 The AMRP lacks designated project controls engineers that the program needs to support program managers.

Managers have the responsibility to manage work effectively and efficiently. They possess varying degrees of skills, based on their education and experience. Some managers devise their own tools and some do not. The AMRP needs a consistent set of tools routinely applied to support program management effectively. The AMRP also needs capable engineers and analysts to examine costs and to identify potential areas of improvement in effectiveness and efficiency. This report’s Chapter L: Cost Management addresses this same need from the cost monitoring and analysis perspective. Its relevance in this context comes from the need for the use of cost data to support work management changes. Control engineers or cost analysts who examine cost data can assist construction management in developing metrics and performing analysis designed to highlight ways to better define and manage field work activities. This report’s Chapter O: Reports and Analysis discusses the potential for using existing resources to assist in performing cost analytical functions not currently performed.

PGL Action Plan Steps

Item #	Task – Project Controls	Due Date
1	Develop RFP for Project Controls Organization Audit	Completed
2	Initial Assessment of current issues affecting project execution	Completed
3	Review of key documents and stakeholder interviews	Completed
4	Final Report and Presentation from consultant	Completed
5	Subject Matter / Component Plan Review of 2015 PEP	Completed
6	Revision completed for the Capital Construction PEP	Completed
7	Reissue Capital Construction PEP	Completed

Item #	Task – Organize Project Controls Group	Due Date
1	Gather information on current state organization	Completed
2	Develop preliminary organization chart / structure	Completed
3	Obtain Business Unit approval of organizational structure	Completed
4	Create Job Profiles for open positions	Completed
5	Post job openings	Completed
6	Set department expectations, philosophy, roles, and responsibilities	Completed
7	Interview and candidate selection	Completed
8	Develop process and procedures for PEP	Completed
9	Reissue or introduce Capital Construction PEP to department	Completed

Expected Post-Implementation Conditions and Factors

None.

Summary of Liberty’s Steps to Verify Implementation

On March 29, 2016 Liberty met with PGL’s Project Management & Controls Project Director to discuss actions taken and review implementation progress. Liberty reviewed recommendation close-out documentation, including:

- PGL Capital Projects - Production Report
- PGL Capital Construction Projects Monthly Status Report.

Observed Conditions and Factors

PGL provided a thoughtful response, which reflects its overall approach to project management (as discussed in several recommendations above). The Company has formed a project controls group reporting to the Project Director. Controls personnel reside in the home office, not the field, and serve the needs of the project managers. Liberty finds the group’s creation beneficial, but believes that further steps are appropriate to optimize its performance. Management has limited the role of both the project managers and controls experts. Liberty’s recommendation called for assignment of a skilled cost professional to each shop, to assist construction managers. Such personnel would also provide support for those filling the project management function. However, their primary utility would lie in supporting those directly responsible for managing construction in the field. For this reason, we felt they should report directly to construction managers on a day-to-day basis. They would take technical direction (dotted line) from the home office controls group. In addition, the project management office would serve as their organizational “home,” and chart their career paths.

The PGL alternate approach leaves construction managers on their own from a cost management point of view. Many construction managers, especially those whose approaches reflect “old school” roots, would not want it any other way. However, our experience teaches that construction managers, unless specifically trained in modern approaches to cost analysis and management, generally find themselves ill equipped to take on the challenges critical to effective cost management. They need support, both technically and programmatically. Adding such skills to their organization empowers them considerably.

The PGL approach places the cost professionals in a more remote oversight role. It may exacerbate any organizational tensions remaining from how PGL was managing the AMRP during our field work. The PGL approach tends to reinforce project managers' roles as "policemen." Liberty would bring controls into the field, making them responsible for providing services to those most directly responsible and accountable for costs. Liberty's approach expands the role of controls from arm's-length oversight to produce on-the-job presence and to provide professional services where most useful. Assignment of controls personnel to construction managers (and other functional groups as appropriate) enhances the power, influence, and effectiveness of the project manager.

This approach also provides an effective means (and perhaps the only effective one) to build a team of skilled professional controls engineers. The PGL approach places them in their own, more isolated "community." Sequestration inhibits the ability to develop through direct contact with the work involved the skills required to analyze and manage cost and performance. PGL's approach generally would enhance their career path in project management, but that is counterbalanced by opening new opportunities in functional management.

Implementation Complete and Satisfactory?

Liberty believes that PGL has demonstrated a clearly stronger focus on cost management of the AMRP and that its commitment to the use of skilled professionals is positive. Nevertheless, we continue to believe that our approach would better optimize performance by further strengthening project management, functional management, and the controls professionals themselves.

Remaining Gaps, Needs

To be determined.

PGL Position

PGL disagrees, and believes that its actions are sufficient to meet fully the recommendation's intent.

Future Liberty Verification Activities

To be determined.

General Observations

None.

T.3 – Permit Application Database

Peoples Gas should develop a database of permit applications.

Peoples Gas cannot expect to rely on the Chicago Department of Transportation database as its management tool. The City designed it to meet the needs of the Chicago Department of Transportation’s permitting operation, not the business of constructing and maintaining a gas system. The Chicago Department of Transportation database is not under Peoples Gas control, does not include a number of parameters that Peoples Gas should be tracking, and cannot be validated by the Company. A spreadsheet database can be developed and implemented very quickly, on a going-forward basis, to improve the Company’s knowledge and control over its permitting operations. The permit database should include all permit applications to the Chicago Department of Transportation. From the Department’s perspective, the distinction between AMRP and non-AMRP work is not material.

Underlying Conclusions

T.3 The Peoples Gas methods for managing permit applications and compliance have not been adequate to meet the needs of the AMRP.

Liberty found that Peoples Gas does not maintain a database of permit applications. A proper tracking system, which such a database would support, should form a basic tool for managing a repetitive activity with thousands of individual elements.

PGL Action Plan Steps

Item	Task	Due Date
1	Creation of the restoration permit tracking spreadsheet	Completed
2	System Request changes for AWP for permitting	Completed
3	Implementation of AWP system changes	Completed
4	Documentation of changes in process and data as part of CDOT Hansen changes	Completed
5	System request for system reporting changes based upon Hansen changes	03/30/16
6	Documentation of Permit reporting available	06/01/16
7	Document completion of the recommendation	06/15/16

Expected Post-Implementation Conditions and Factors

Liberty would expect to see improved coordination of permitting, fewer expired permits, and better tracking of permits placed on hold or permits that have been extended. The restoration permitting spreadsheet should be up-to-date and database audits should be regularly conducted.

Summary of Liberty’s Steps to Verify Implementation

On March 30, 2016 Liberty met with PGL to discuss actions taken and to review implementation progress. Liberty requested and reviewed documentation to describe efforts to-date, including:

- Permit Reporting & Permit Data Quality Plan
- Restoration Spreadsheet for Capital Restoration Permits
- Training materials to support the upgraded/revised CDOT Hansen system

- Revised procedures to create permit requests, update permit status (including holds and extensions).

Observed Conditions and Factors

PGL has created a spreadsheet to track restoration permits. CDOT has upgraded its permitting system (Hansen) and PGL has made the appropriate changes to its AWP to accommodate CDOT changes. However there are problems with some of the new fields (permit holds and extensions); CDOT should be addressing these issues soon. PGL is manually updating AWP fields until the issues are resolved by CDOT. The new process will be rolled out to the group by the end of May. PGL will begin auditing data in late May.

PGL has also centralized permitting under one manager to improve coordination and tracking.

Implementation Complete and Satisfactory?

No, implementation remains in progress.

Remaining Gaps, Needs

Not applicable until completion.

PGL Position

The Company agrees that implementation remains in progress.

Future Liberty Verification Activities

Implementation validation will proceed later this year.

General Observations

None.

T.5 – Rail Crossing Permits

Peoples Gas should improve the database of rail crossing permits.

The spreadsheet operates as a “side record,” as opposed to a formal project management tool. The “one-off” nature of rail crossing permits and their long lead times create sources of potential gaps (e.g., in identifying critical activities and milestone dates). The Company should clean up the database, and keep it current. Improved controls and oversight over the status of railroad crossing permits will potentially reduce project completion delays.

Underlying Conclusions

T.5. Peoples Gas has an appropriate process for managing the permitting of rail crossings, but does not enter all relevant data into its tracking tool.

Since AMRP inception, Peoples Gas has processed approximately 30 rail crossings with some 10 different railroads. These crossings include AMRP and non-AMRP activities. Peoples Gas determines the need and prepares applications for those permits on a case-by-case basis. Such applications typically require long lead times and processes unique for each railroad, and sometimes for each crossing. The Company tracks the status of the applications and related activities with a spreadsheet. However, not all elements of the database maintained by the Company are complete. In most cases the database does not indicate when the status of each application was last reviewed, and does not provide for future review or due dates. It also does not indicate the responsible person(s) in the organization.

PGL Action Plan Steps

Item	Task	Due Date
1	Review the existing railroad process and tracking tools used	Completed
2	Define the critical activities associated with a railroad crossing to be used in the P6 schedule	Completed
3	Develop P6 Schedule template for active crossings	Completed
4	Document tracking process	Completed
5	Develop a P6 schedule for active crossings	Completed
6	Develop a P6 summary report	Completed
7	Communicate the tracking process to the engineers	Completed
8	Monitor the P6 summary report for project statuses	Ongoing

PGL reviewed and documented the process to obtain rail crossing approvals and permits. PGL created an Oracle Primavera P6 scheduling template to add the appropriate tasks and expected durations to obtain railroad permits for any upcoming project. The revised process was communicated to Distribution Design engineers and schedulers ahead of the construction season.

Expected Post-Implementation Conditions and Factors

Liberty would expect to see Railroad permitting tasks inserted into project schedules for any projects with identified crossings. The revised process strengthens control and oversight of railroad crossing permits. The impact of permitting delays should be more visible to project management.

Summary of Liberty's Steps to Verify Implementation

On March 30, 2016 Liberty met with the Manager of Gas Distribution Design to discuss actions taken and review implementation progress. Liberty requested and reviewed deliverable for each task, including:

- Railroad crossing tracking procedure
- Railroad crossing Oracle Primavera P6 schedule template
- Active railroad crossing P6 schedules
- P6 Summary Report
- PowerPoint to communicate new process to engineers.

Observed Conditions and Factors

Tasks 1 through 7 have been completed and supporting deliverable documentation is complete. PGL will monitor railroad crossing permitting status on an ongoing basis through the Primavera P6 Summary Report (Task 8).

Implementation Complete and Satisfactory?

Yes.

Remaining Gaps, Needs

None.

PGL Position

The Company agrees that it has implemented this recommendation.

Future Liberty Verification Activities

Yes, Liberty will review quarterly AMRP active project schedules with railroad crossings to confirm that the railroad permitting process has been integrated into each project schedule.

General Observations

None.

T.6 – Citations Database

Peoples Gas should improve its database of citations.

Fundamentally, Peoples Gas needs to improve its management and construction practices to reduce dramatically the number of citations. However, in the meantime and even with a much reduced number of citations, a database is a fundamental management tool to provide feedback to management and to the Shops and crews as to how the Company is performing in complying with applicable rules and regulations. As with the permit database, the citations database operates as a side record rather than a tool embedded in AMRP management processes.

Underlying Conclusions

T.6 Peoples Gas is cited extensively for non-compliance with Chicago Department of Transportation Rules and Regulations for both AMRP and non-AMRP work.

Peoples Gas provided a partial database of citations dating back to 2008. It demonstrates that the Company has been cited for violations many hundreds of times, perhaps over a thousand times per year by Chicago Department of Transportation inspectors. In 2013, total fines associated with citations approached a half million dollars for the year.

The results indicated by the citations dashboard in 2014 and the citation database, although incomplete, support the City’s statements, summarized earlier, that restoration represents a chronic problem area. The largest numbers of violations appear to be related to restoration, followed by no permit or working outside the limitations of the permit.

PGL Action Plan Steps

Item	Task	Due Date
1	Project Director to form Citations Database implementation team	Completed
2	Define objectives and requirements for the Citations Database process	Completed
3	Design the Citations Database development and analysis approach	Completed
4	Prepare Citations Database process and procedures	4/15/16
5	Approve and issue Citations Database process and procedures	5/15/16
6	Provide Citations Database orientation and training to project personnel	5/15/16
7	Roll out Citations Database	6/1/16

Expected Post-Implementation Conditions and Factors

Liberty would expect to see improved coordination of permitting, fewer expired permits, and better tracking of permits placed on hold or permits that have been extended. The restoration permitting spreadsheet should be up-to-date and database audits should be regularly conducted.

Summary of Liberty’s Steps to Verify Implementation

On March 30, 2016 Liberty met with PGL to discuss actions taken and to review implementation progress. Liberty requested and reviewed the revised Citations Database process and procedures.

Observed Conditions and Factors

Liberty discussed with PGL the changes in citation costs from 2014 to 2015, and PGL's efforts to identify the causes. PGL has centralized permitting to improve coordination and tracking. Citations are now being tracked in a database so that management can analyze to determine root cause.

Implementation Complete and Satisfactory?

No, implementation remains in progress.

Remaining Gaps, Needs

Not applicable until completion.

PGL Position

The Company agrees that implementation remains in progress. It expects to close out this recommendation in the next couple of months.

Future Liberty Verification Activities

Implementation validation will proceed later this year.

General Observations

None.

U.2 – Standardizing the Customer Appointment Process

Peoples Gas should standardize the process to set AMRP customer appointments.

Peoples Gas should standardize the appointment setting process and the Contact Center should set all appointments to facilitate a one-stop experience for customers. The Company should use the customer system to set and track appointments. These changes will provide a more consistent experience for customers. Peoples Gas should also consistently offer options for after-hours and weekend appointments to accommodate customers who need them.

Underlying Conclusions

U.2 AMRP communications techniques have been inconsistent.

Peoples Gas requests appointments for service mark-outs through a standard letter process, and the Contact Center schedules them. However, each Shop individually handles requests to schedule appointments to move meters. This approach may prove easier for the Shops to manage. It can, however, cause confusion for customers, who set the first appointment through the Contact Center. A month or so later Shop personnel go door-to-door to set appointments with customers. In some cases, no letter or other communication informs customers about the process from end-to-end. This approach causes problems in addition to inconsistency in the customer experience. Customers may not be home, or unwilling to answer the door. Door-to-door delivery of brochures involves significant costs. The Peoples Gas field employees going door-to-door also do not have the customer-service “soft skills” training necessary for making such contacts effective.

The Shops record appointments on handwritten lists. The Shops do not document appointments appropriately in the Peoples Gas customer information system (known as “Cfirst”). The Contact Center therefore has no record of these appointments. Customer Service Representatives thus do not have the information that enables them effectively to answer questions or reschedule appointments.

U.5 Peoples Gas has not consistently scheduled off-hour appointments for customers unavailable during normal business hours.

The Company recently limited availability of after-hours appointments to move meters. The appointment request letter offers hours from Monday through Friday, between 8 am to 7:30 pm. It also offered Saturday appointments from 8 am to 3:30 pm. However, from August through October 2014, Peoples Gas Shops were not permitting the scheduling of Saturday appointments. This restriction frustrated many customers, and increased complaints and special handling requests.

PGL Action Plan Steps

Item	Task	Due Date
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1	Collaborate with customer service, communications, construction, engineering, and others to finalize construction sequence and adopt appropriate meter marking and meter move protocols	Completed
2	Confirm director level approval of construction sequence.	Completed
3	Meter Move Customer Service Task Force to develop recommendations to eliminate gaps in customer service records management related to field personnel making appointments and not scheduling.	7/30/17
4	Evaluate the implementation success and develop next level improvements to scheduling and executing customer appointments.	7/30/17

PGL assembled a cross functional team to examine the construction sequence and the process to mark and move meters. A new construction sequence has been designed to minimize customer involvement in marking and moving processes. PGL has designed a short- and long-term approach to address customer appointments. The long-term approach will require development within the ICE customer information system. The short-term approach requires field employees who set appointments to log the appointment on a form that is entered into Cfirst at the end of the shift. This process depends upon the field to schedule the appointment with customers and properly completing paperwork so that the appointment can be documented in the customer system.

Expected Post-Implementation Conditions and Factors

Liberty would expect to see appointments properly documented within Cfirst (short-term process). Additionally, customer complaints and confusion regarding appointments/missed appointments should decline with the new process.

Summary of Liberty’s Steps to Verify Implementation

On March 30, 2016 Liberty met with the Director of Construction to discuss actions taken and review implementation progress. Liberty requested documentation to describe efforts to-date to collaborate with Customer Service, communications, construction, engineering, and others to develop a new appointment process.

Observed Conditions and Factors

PGL is piloting the short-term process in the Beverly 8 & 9 AMRP work, which should begin in April. The pilot involves moving approximately 150 meters and is expected to be completed by the end of June 2016. Following the completion of the pilot, management will review results and reconfigure the process as needed. The long-term process has yet to be defined.

Implementation Complete and Satisfactory?

No, implementation remains in progress.

Remaining Gaps, Needs

Not applicable until completion.

PGL Position

The Company agrees that implementation remains in progress.

Future Liberty Verification Activities

Implementation validation will proceed later this year and next year.

General Observations

None.

U.4 –Complaints Group Resourcing and Performance Monitoring

Peoples Gas should adequately resource the AMRP Complaints Handling Group, and should monitor complaint resolution performance and the root causes of customer complaints, for the purpose of identifying improvement opportunities.

The Construction Complaints group has insufficient staffing, considering the current volume of pending and active complaints. The group needs additional manpower to open and assign complaints. The Company should contact customers within 24 to 48 hours to acknowledge receipt of the complaint. Additionally, management should monitor complaint resolution to ensure proper investigation of issues and effective resolution by the responsible organizations. Peoples Gas should address this problem as soon as possible.

Peoples Gas should investigate the root cause of AMRP-related customer complaints, and complaints from other stakeholders. These root cause analyses should drive improvement in policy, procedure, protocol, and communication.

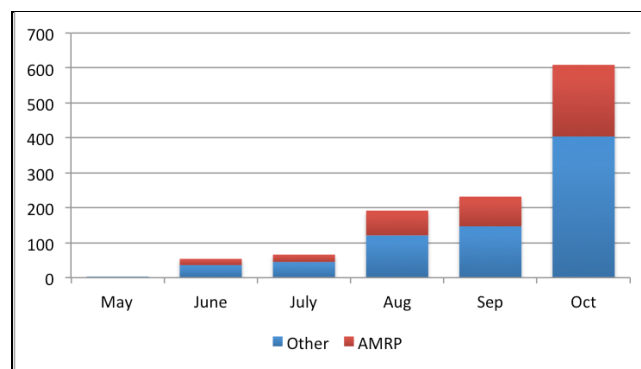
Underlying Conclusions

U.6 Peoples Gas’ AMRP complaint handling group is overwhelmed by the volume of complaints.

Peoples Gas established the Construction Complaints group (reporting to the Division Street Radio Room in Gas Operations) in 2012 to coordinate complaint resolution. Currently, this group has insufficient staff to handle the volume of complaints received. Peoples Gas policy stipulates that customers will be contacted within 24 to 48 hours of their complaints, in order to gather as much information as possible about the situation. However, the Construction Complaints Team has not met this goal.

As of October 31, 2014, 400 AMRP-related complaints remained pending. Peoples Gas received some of them in June 2014. The Company reports that those numbers have fallen by about half since then. The Construction Complaints group handles all construction complaints, including those related to the AMRP. A large number experience significant delay in getting assigned for handling. Some customers who voiced complaints in June 2014 have not yet heard from a Peoples Gas complaint-handling representative.

Figure U.2: Unopened Construction Complaints (Awaiting Assignments)



A complaint may take weeks or months to resolve, depending upon its nature. As of last fall, it had taken an average of 103 days to complete complaint processes. The Company reports that this duration has since fallen to 81 days.

Clearly the pace of assignment and resolution is unacceptable.

PGL Action Plan Steps

Item	Task	Due Date
1	Create and implement a new organizational structure with adequate resources for monitoring and resolving all PGL/NSG customer complaints	Complete – development of org structure In process – implementation; Q1 2016
2	Appoint full time leaders and resources to the Customer Effectiveness team	Complete
3	Appoint full time Construction Support for Customer Effectiveness team	Complete
4	Appoint full time O&M Support for Customer Effectiveness team	In progress - Q1 2016
5	Evaluate the current customer complaint resolution process and design a new desired state with process efficiencies, consistency and adequate information/communication with the customer	Q1 2016
6	Document procedures for complaint resolution, including roles and responsibilities as well as reporting protocols for field support (Construction-Complete)	Q1 2016
7	Evaluate and implement a central process or system to provide for better data analysis and oversight of all customer complaints regardless of how received or what activity it relates to	Q2 2016
8	Organize a Cross Functional Task Force to resolve the Customer Complaint Backlog	Complete
9	Address all backlogged customer complaints	12/31/15
10	Communicate to customers for all 2015 carryover complaints due to restoration/weather	1/31/16
11	Close all remaining 2015 carryover customer complaints	05/31/16 (Due to weather)
12	Review effectiveness of field support organization as it relates to prompt resolution of customer complaints and ability to develop trend analysis and determine root cause	06/30/16
13	Develop metrics and continually reevaluate to ensure continuous improvement	Q1 2016; repeated at least annually

Expected Post-Implementation Conditions and Factors

Liberty would expect to see a fully-staffed organization operating under clear procedures, producing sustained, substantial reductions in complaint resolution time, detailed tracking of complaint sources, numbers, nature, and resolution times, and a focus on identifying and addressing the root causes of any adverse trends.

Summary of Liberty's Steps to Verify Implementation

On March 30, 2016 Liberty met with the Manager of Customer Effectiveness to discuss actions taken and to review implementation progress. Liberty requested and reviewed documentation, including:

- Proposed PGL Field Complaints Dashboard
- Customer Letters addressing upcoming restoration (for outstanding complaints)
- PGL Field Complaints Backlog Status Dashboard
- Construction Complaints process (future).

Observed Conditions and Factors

In the fall of 2015, PGL established a team to address the backlog of customer complaints. Liberty discussed with PGL changes in employee ability to resolve small claims. The Company has reduced the backlog to about 172 outstanding claims, which are now largely awaiting restoration. PGL should be able to resolve these claims now that the weather is warmer.

PGL has three dedicated resources in place within Construction to deal with complaints. Additionally, PGL is in the process of hiring/installing three Customer Service Managers and three Customer Service Supervisors within the Operations & Maintenance groups. In total, nine individuals will be available to handle and resolve any future AMRP or Construction-related complaints.

The Customer Effectiveness organization has been created to monitor complaints (Company-wide) and ensure proper resolution. Customer Effectiveness reports to PGL Strategy & Performance, which reports directly to PGL's President.

Customer Effectiveness has been charged to make sure the "voice of the customer" is heard throughout PGL. In addition to managing customer complaints, Customer Effectiveness administers the "We Care" customer satisfaction initiative and holds weekly "dissatisfied meetings" to discuss results with all business units. We Care currently surveys customers who have had a meter marking appointment to better understand satisfaction/dissatisfaction with that process. We Care will soon be expanded to survey customers who have had a meter moved as part of the AMRP.

Currently, Construction Complaints are not discussed in the weekly dissatisfied customers meeting. However, PGL will consider including them going forward, as well as other complaints received throughout the organization.

Implementation Complete and Satisfactory?

No, implementation remains in progress.

Remaining Gaps, Needs

Not applicable until completion.

PGL Position

The Company agrees that implementation remains in progress. It expects to close out this recommendation in the next couple of months.

Future Liberty Verification Activities

Implementation validation will proceed later this year.

General Observations

None.

Appendix A: Recommendation Status

Rec. #	Recommendation	Previous Status	Current Status
C.1	Peoples Gas should include as an element of the neighborhood work planning process an evaluation of the merits of taking an exception to the double decking approach	Plan Accepted	
C.2	Peoples Gas should more thoroughly study and report on the causes of extremely high reports of contactor damage incidents	Plan Accepted	
C.3	Peoples Gas should undertake measures to verify the operability of external service shutoff valves	Plan Accepted	Accepted/ Closed
C.4	Peoples Gas should examine the ability to address low pressure and single-contingency outage risks in the neighborhood program	Plan Accepted	
C.5	Peoples Gas should test both services and mains to 100 psig	Plan Accepted	Accepted/ Closed
C.6	Analyze and report on the precise nature and numbers of corrosion leaks, and determine whether protected and coated steel mains are experiencing corrosion leaks	Plan Accepted	
D.1	As part of the new planning effort now underway, Peoples Gas should provide a clear and unambiguous description of the AMRP, including quantities for all parameters important to management of the project	Plan Accepted	Accepted/ Closed
D.2	Peoples Gas should accompany regularly reported performance data with insightful analysis in order to make the data immediately meaningful to management oversight and supportive of timely and responsive improvement and corrective initiatives and activities	Plan Accepted	
D.3	Peoples Gas should provide a realistic schedule assessment based on an effective program plan	Plan Accepted	
D.4	Peoples Gas should prepare a soundly derived, detailed resource plan and provide for full coordination between the annual budget and resulting resource requirements	Plan Accepted	
D.5	In light of apparent decreases in productivity, Peoples Gas should promptly complete an analysis of productivity associated with the installation of meters	Deleted	
D.6	Peoples Gas should promptly complete a new program cost estimate consistent with good estimating practices	Plan Accepted	Accepted/ Closed
E.1	Peoples Gas should complete a full replacement of the plan for management (the project execution plan) addressing all key elements of AMRP management and control	Plan Accepted	

E.2	Current developmental plans for a new Project Execution Plan should specifically address prior failures and how they will be avoided in the new plan	Pending	Accepted/ Closed
E.3	Peoples Gas should prepare a long-term AMRP management resource plan that specifically addresses (a) requisite skills needed both on an immediate and on a longer term basis; (b) current gaps in internal capabilities; (c) the optimum balance of owner versus contractor personnel; (d) acquisition and development of resources; and (e) succession plans	Plan Accepted	
E.4	Peoples Gas should move toward a project organization that makes significantly more use of dedicated resources under a strong project manager approach	Pending	Rejected/ Closed
E.5	Peoples Gas should prepare a specification for a new program management function, correcting the weaknesses in the current process	Plan Accepted	Accepted/ Closed
E.6	Peoples Gas should assign a project manager to most, if not all, AMRP neighborhood projects	Plan Accepted	Partially Rejected/ Closed
F.1	Peoples Gas should develop, staff, and implement a data quality control program	Pending	
F.2	Peoples Gas should develop a database of the soils data already collected and populate it further with soils data taken at all new excavations	Plan Accepted	Accepted/ Closed
F.3	Peoples Gas should conduct a structured study of alternative criteria and weightings for the Main Ranking Index and for the neighborhood approach	Plan Accepted	Accepted/ Closed
F.4	Should Peoples Gas not change the current criteria and weightings, then the utility should develop additional measures to reduce leak rates further	Deleted	
F.5	Peoples Gas should determine on a system, segment and neighborhood basis the level of acceptable risk and metrics that will support appropriate adjustments in replacement rates	Pending	
F.6	Peoples Gas should develop a cost model that addresses O&M costs associated with AMRP and related work	Plan Accepted	
G.1	Peoples Gas should develop a new Cost Plan Model that includes comprehensive measurement bases and critical assumptions regarding scope, quantities, productivity, labor costs, unit costs, and regulatory requirements; a reserve should be included as part of the overall program costs	Pending	
G.2	Peoples Gas should establish a Cost Trend Program to monitor potential, major cost-affecting items	Pending	
H.1	Peoples Gas should develop a Scheduling Master Plan	Plan Accepted	Accepted/ Closed

H.2	Peoples Gas should develop a complete project schedule for every new project, and it should address all aspects of the work required, from engineering to construction and through completion	Plan Accepted	
H.3	Peoples Gas should resource-load schedules to address all physical work resources (including internal workforce and contractors) and construction inspectors	Plan Accepted	
H.4	Peoples Gas should regularly perform schedule variance analyses to identify recurring or systemic issues, and plan corrective actions	Plan Accepted	
H.5	Peoples Gas should complete promptly its efforts to ensure that construction schedules become quantity-based for both the internal workforce and the contractors	Plan Accepted	
I.1	Peoples Gas should develop a long-term resource staffing plan that reflects the numbers, skills, and experience needs of all key positions	Merged	
I.2	Peoples Gas should develop the in-house capability to replace gas main and install services on a larger and more long-term basis	Plan Accepted	
I.3	Peoples Gas should act immediately to address the need for sufficient internal resources to perform back end AMRP work as planned and scheduled	Plan Accepted	
I.4	Peoples Gas should bring enhanced productivity measurement and management to resource planning	Plan Accepted	
I.5	Peoples Gas should more closely monitor contractor resources and production	Plan Accepted	
I.6	Peoples Gas should establish a centralized resource planning group or function	Plan Accepted	
I.7	Peoples Gas should evaluate regularly the performance (<i>e.g.</i> , wage rates, quality, productivity, expertise, safety, dependability) between the internal and external workforce	Plan Accepted	
J.1	AMRP management should promptly design and implement a two-pronged scope control process: (a) at the program level, and (b) at the individual project level	Plan Accepted	
K.1	Peoples Gas should establish a cost estimating capability by formulating a clearly communicated cost estimating philosophy, formalizing a cost estimating process, preparing procedures, and developing effective tools	Plan Accepted	
K.2	Peoples Gas should maintain and keep updated a set of historical databases that address cost estimating variables	Plan Accepted	
K.3	Peoples Gas should perform project cost estimate reconciliations to understand major cost deviations, analyze performance and document lessons learned	Plan Accepted	

K.4	Peoples Gas should expand the development of cost estimates at the individual project level and at the program level	Deleted	
K.5	Peoples Gas should establish a centralized cost estimating organization to maintain and sharpen the cost estimating skills	Plan Accepted	
L.1	Peoples Gas should implement a holistic cost management program	Plan Accepted	
L.2	Peoples Gas should establish a structured, well defined approach to managing AMRP costs at three levels: the long-term total program outlook, the individual project level, and the annual budget view	Plan Accepted	
L.3	Peoples Gas should define appropriate roles for cost management professionals, including all activities, responsibilities, and accountabilities important to holistic cost management	Plan Accepted	
L.4	Peoples Gas should establish a cost support organization that: (a) resides organizationally at a level and in a place consistent with treating cost management as a high program priority, (b) serves the cost management needs of all levels of management, (c) develops a force of skilled cost professionals and assures those skills are continuously improved, and (d) has overall accountability for the development and implementation of the cost management program	Plan Accepted	
L.5	Peoples Gas should provide training for managers, supervisors and cost support personnel in cost management techniques consistent with the holistic approach	Plan Accepted	
L.6	Peoples Gas should continue aggressively to pursue the recommendations made by Liberty in discussions leading to the interim report	Deleted	
M.1	Peoples should develop a formal strategy that assures the Company gets above-average terms and below-average pricing in view of the long-term opportunities afforded by the AMRP	Plan Accepted	
M.2	Peoples Gas should regularly include in program monthly reports information showing procurement fulfillment and past due rates	Plan Accepted	
M.3	Peoples Gas should develop a formal strategy that assures the Company gets optimum terms and pricing in view of the long-term opportunities afforded to contractors by the AMRP	Merged	
M.4	Peoples Gas should determine those contract administration tasks that it considers required, and assure that the Program Management Office executes those tasks	Plan Accepted	
M.5	Peoples Gas should apply a program of enhanced management oversight to the contract change process	Plan Accepted	
M.6	The Program Management Office should implement enhanced analysis of its results in managing contract changes	Plan Accepted	

M.7	The Supply Chain and Program Management organizations should require contractors to provide key data that supports their plans and bids	Plan Accepted	
M.8	The Program Management Office should link the results of its contractor evaluation program to future bid evaluations and awards	Plan Accepted	
N.1	Peoples Gas should clearly define and document the AMRP governance roles of the Executive Steering Committee with mission statements, charters, and roles and responsibilities for project oversight, monitoring and decision authority	Plan Accepted	
N.2	Peoples Gas should promptly execute its current plans to provide for more regular and effective oversight of AMRP and for follow-through and corrective actions to address performance shortfalls	Plan Accepted	
N.3	Peoples Gas should substantially enhance the completeness and accuracy of AMRP performance information provided to the boards of directors, and ensure its consistency with information used by AMRP program management and provided to the small executive group with designated responsibility for program oversight	Plan Accepted	
N.4	Peoples Gas should expand top-level AMRP performance metrics and reports to include more actionable information, and to compare actual performance with plans and budgets meaningfully	Plan Accepted	Partially Rejected/ Closed
N.5	Peoples Gas should upgrade AMRP performance metrics to include annual or cumulative progress versus the long-term (20-year) plan goals and metrics for the executive oversight group and the boards	Plan Accepted	
N.6	Peoples Gas should employ outside assistance in designing and implementing the initiatives it committed to undertaking to improve AMRP management, control, and oversight	Pending	Rejected/ Closed
O.1	The AMRP Program Management Office should overhaul its approach to reporting, with emphasis on defining and meeting the needs of managers and staff	Plan Accepted	Accepted/ Closed
O.2	Management should establish a framework for performance improvement based on analysis of project performance and corrective actions	Plan Accepted	
O.3	In the course of its current improvement initiatives, Peoples Gas should redefine and reestablish its standards for program performance	Plan Accepted	
O.4	Program Management Organization should establish a culture and a regular, defined, comprehensive program that provides insightful analysis of program performance, and should acquire the capability to perform such analyses	Plan Accepted	

O.5	Peoples Gas should expand the role of its project controls professionals to allow for more analysis of project progress and performance and, in turn, support of management by facilitating corrective action	Plan Accepted	
P.1	Peoples Gas should conduct a comprehensive assessment of AMRP risks associated with potential mismatches between work performed and work charged, and develop an ongoing program of annual testing designed to mitigate the risks identified	Plan Accepted	
P.2	Peoples Gas should provide for dedicated, executive level sponsorship of the three-year materials and equipment control initiatives program and provide a regular method of reporting progress to the Illinois Commerce Commission	Plan Accepted	
P.3	Peoples Gas should promptly: (a) correct the gap that exists with respect to ensuring the accuracy of material and equipment costs charged to the AMRP, (b) develop a method for reliably and accurately determining independently the magnitude of error in AMRP material and equipment costs being included in rate recovery, and (c) devise and implement a similarly independent testing program to verify that no material risk of similar error exists with respect to AMRP costs subject to rate recovery	Plan Accepted	
Q.1	Peoples Gas should address a number of construction standards and should enhance training, documentation, and auditing in a number of areas related to construction standards	Pending	
Q.2	Peoples Gas should adopt measures to ensure consistent use of construction inspection checklists, develop a structured program for analyzing the information they produce to identify and respond to field performance issues disclosed, and clearly empower inspectors to halt unsafe work	Plan Accepted	
Q.3	Peoples Gas needs promptly to conduct short-term and long-term analyses of its requirements for skilled and experienced field resources, develop incentives for moving personnel into new positions and incenting senior workers to remain, and ensure that training and development efforts anticipate (and not merely react to) vacancies	Plan Accepted	
Q.4	Identify and pursue means to increase the stability in and the numbers of field supervision and inspection personnel	Plan Accepted	
Q.5	Clarify responsibilities for key field roles and institute training programs to support them more fully	Plan Accepted	
Q.6	Peoples Gas should examine the benefits of equipping technicians with sub-meters accurate GPS devices in areas that have lines of sight to satellites	Plan Accepted	Accepted/ Closed
R.1	Peoples Gas should establish a formal continuous improvement program under the Impact Team to promote a culture of and an emphasis on seeking innovations to improve efficiency in the installation of mains, services, and meters	Pending	

R.2	Peoples Gas should assign a project control engineer or cost analyst to each of the three Shops to handle the analysis of all AMRP construction work performed by the internal workforce and contractors	Pending	Partially Rejected/ Closed
R.3	Peoples Gas should assign a single manager to coordinate AMRP-level permitting improvement initiatives and to monitor and measure permitting for the duration of the program	Plan Accepted	
S.1	Peoples Gas should invigorate the commitment to safety and permit compliance through the designation of an executive level “champion,” and institute a comprehensive communications program, set aggressive goals and performance targets, perform regular measurement, perform root cause analysis, and develop responsive action plans	Plan Accepted	
S.2	Peoples Gas should more closely examine the root causes and develop a responsive action plan to improve employee accident rates	Plan Accepted	
T.1	Peoples Gas needs to continue to focus on improving communications and relationships with the City and with its Department of Transportation, but must recognize that it will take improved permitting and work performance to create and sustain relationships at the level needed to optimize AMRP performance	Plan Accepted	
T.2	Peoples Gas should expand the scope of AMRP project schedules to incorporate permitting requirements	Plan Accepted	
T.3	Peoples Gas should develop a database of permit applications	Plan Accepted	In Process
T.4	Peoples Gas should work with the Chicago Department of Transportation to determine which existing and potential reports from the Department’s system are available and which could be provided to Peoples Gas	Plan Accepted	
T.5	Peoples Gas should improve the database of rail crossing permits	Plan Accepted	Accepted/ Closed
T.6	Peoples Gas should improve its database of citations	Plan Accepted	In Process
U.1	Peoples Gas should alter the AMRP Communications Plan	Plan Accepted	
U.2	Peoples Gas should standardize the process to set AMRP customer appointments	Plan Accepted	In Process
U.3	Peoples Gas should ensure that the Customer Information System fully supports AMRP communications processes	Plan Accepted	
U.4	Peoples Gas should adequately resource the AMRP Complaints Handling Group, and should monitor complaint resolution performance and the root causes of customer complaints, for the purpose of identifying improvement opportunities	Plan Accepted	In Process

U.5	Peoples Gas should measure on a regular basis: (a) customer satisfaction with AMRP, and (b) the effectiveness of AMRP Communications and Customer Service	Plan Accepted	
V.1	Peoples Gas should work promptly to identify the AMRP reporting changes that it proposed to implement near term, and tailor them to meet the reporting cycles and content this chapter describes as appropriate for supporting the monitoring needs of the Illinois Commerce Commission	Pending	