

System Modernization Program

2016 - 2018 Three-Year Plan

Date: August 11, 2016
Version History: 1.0

Three-Year SMP Plan Background and Overview

Beginning in June 2015, the new management team at Peoples Gas took a fresh look at the existing Accelerated Main Replacement Program (AMRP) to upgrade its infrastructure, developed a new approach to executing work, and adopted the System Modernization Program (SMP). The scope of SMP aligns with the Qualifying Infrastructure Plant legislation. SMP includes the work identified under AMRP as well as other modernization work performed in compliance with Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations. SMP is Peoples Gas' systematic multi-year approach to assess the condition of its natural gas distribution system, prioritize the system components most at risk, and replace those components in coordination with the City of Chicago and other entities.

While the AMRP portion of SMP is well defined, the priority of work is annually reevaluated and re-sequenced to minimize risk, coordinate work with the City and others, and reduce cost. Peoples Gas expects that applicable federal, state and local regulations will continue to be modified periodically, requiring modifications to aspects of SMP. Due to the many variables that can and will change the sequencing of work, Peoples Gas' new management developed a **three-year SMP plan** (2016 - 2018) that it first proposed in its November 30, 2015 compliance filing in the acquisition docket (14-0496). This document is the framework for the first three-year cycle as well as the template for the subsequent rolling three-year implementation plans that will be produced annually.

The SMP is comprised of four sub-programs

<p>1. Neighborhood Replacement Program – Projects that Peoples Gas ranks, designs, and constructs based on the most at risk system components identified by the company's neighborhood ranking tool.¹ Neighborhood sequencing in the plan is also affected by coordination with other agencies and timeliness of permits and authorizations.</p>	<p>(QIP categories 1,2,3)²</p>
<p>2. Public Improvement (PI) / System Improvement (SI) - Projects similar to the Neighborhood Replacement Program, but other factors require the upgrade or relocation of existing vulnerable material. In most cases Peoples Gas is responding to a third party request to relocate or replace facilities due to conflicts with a PI project or addressing capacity or reliability concerns.</p>	<p>(QIP categories 1,2,3)</p>
<p>3. High Pressure (HP) Installation Program - Projects that support the upgrade of low pressure (LP) distribution facilities to medium pressure (MP) facilities. HP systems are required to provide an adequate supply of natural gas into the newly-installed MP systems.</p>	<p>(QIP categories 3,7)</p>
<p>4. Transmission Upgrades and future PHMSA requirements - Projects that address the replacement of high risk HP transmission pipelines and associated facilities as well as establishing records and maximum allowable operating pressures.</p>	<p>(QIP categories 5,7)</p>

¹ For more detail on the project ranking and selection process that utilizes a Uniform Main Ranking Index (UMRI) and a Neighborhood Ranking System, please refer to the appendix on page 4.

² For more detail on the seven Rider QIP investment categories please refer to the appendix on page 4.



Projected Program Target End-date:

Peoples Gas has concluded that a target end-date between years 2035 and 2040 is reasonable given a feasible pace of work, level of coordination between Peoples Gas, the City of Chicago and other entities, and the conclusions of the 2007 Kiefner study. Additionally, this target end-date allows the flexibility to accommodate future PHMSA requirements and changes in state and local regulations that may affect the scope of the SMP.

Program Pace

The targeted annual investment is divided into the four programs described above. The planning and execution of the work is necessarily dynamic to accommodate changing risk rankings, updated regulations and coordination with numerous third parties.

The current three-year plan will target a program pace of approximately \$250 million to \$280 million of annual investment. In the first quarter of each year, Peoples Gas will reproduce the total program estimate

Approach and Methodology

The rolling three year-plan will identify the proposed SMP projects for the ensuing three years, giving priority to the most at risk components of the system. In the fourth quarter of each year, the plan for the next two years will be updated and a plan added for the new third year.

A three-year timeframe is the appropriate planning horizon because it provides assurance and stability to support more effective contracting strategies, resource planning, trending analytics, and regulatory and compliance planning. A three-year timeframe also provides flexibility in re-sequencing work in the event of changes to component risk rankings, regulations, conflicts with third parties or obstacles to construction that may otherwise delay the overall program schedule.

Monitoring and Control

The three-year plan will be actively monitored by the Peoples Gas Project Management and Controls Department. The annual Rider QIP reconciliation process will provide the primary means of reporting data to the ICC, with a mid-year status report on progress to date.

Metrics and Key Performance Indicators (KPIs)

The metrics shown below will be used to measure program performance and will be included in annual and mid-year reports to the ICC.

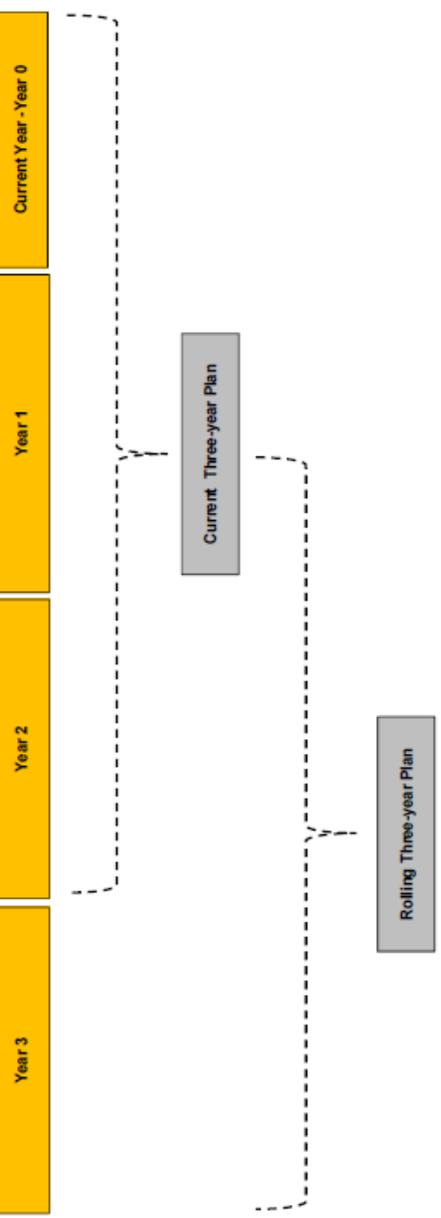
Metrics

Main Installation	Main Retirement	Service Installation	Meter Installation	Restoration Miles	Materials
# of miles	# of miles	# of services	# of meters	# of miles	Cost by size
Cumulative Cost	Cumulative Cost	Cumulative Cost	Cumulative Cost	\$/mile	Cost by type
\$/mile	\$/mile	\$/service	\$/meter		

Current Rolling Three-year Plan

Date: August 19, 2016
Version History: 1.0

2016	Proposed Budget	\$ 250.0	million	Install (mi)	Retire (mi)	Services	Meters
				51	108	5,064	14,579
Meters	\$ 14.6						
PI/SI	\$ 101.2			25	20	2,378	4,426
HP	\$ 27.5			1	1	1	6
Transmission	\$ 27.7			N/A	N/A	N/A	N/A
Neighborhood	\$ 78.6			25	87	2,685	10,147
<i>Beverly</i>				20	19	1,755	1,949
<i>South Austin</i>				3	17	632	3,037
<i>South Shore</i>				2	31	76	4,548
<i>Portage Park</i>				1	7	11	158
<i>misc systems</i>					12	211	455
2017	Proposed Budget	\$ 280.1	million	Install (mi)	Retire (mi)	Services	Meters
				89	70	8,109	15,509
Meters	\$ 20.2						
PI/SI	\$ 37.2			15	13	2,034	3,099
HP	\$ 40.0			2	0	0	0
Transmission	\$ 27.1			N/A	N/A	N/A	N/A
Neighborhood	\$ 155.6			72	58	6,075	12,410
<i>Beverly</i>				16	18	1,068	2,101
<i>South Austin</i>				11	10	1,159	1,680
<i>South Shore</i>				1	1	3	1
<i>Portage Park</i>				2	2	0	0
<i>Albany Park</i>				28	18	2,653	7,192
<i>West Beverly</i>				6	3	537	633
<i>West Morgan Park</i>				6	5	546	653
<i>Morgan Park WOF</i>				2	1	109	150
2018	Proposed Budget	\$ 280.4	million	Install (mi)	Retire (mi)	Services	Meters
				95	69	11,095	24,572
Meters	\$ 31.9						
PI/SI	\$ 46.6			16	14	1,500	3,000
HP	\$ 10.5			0	0	0	0
Transmission	\$ 19.1			N/A	N/A	N/A	N/A
Neighborhood	\$ 172.3			79	55	9,595	21,572
<i>Albany Park</i>				41	29	3,888	12,130
<i>Morgan Park WOF</i>				15	8	1,184	1,507
<i>Schorsch Village</i>				TBD	TBD	1,812	2,513
<i>Irving Woods</i>				11	9	1,420	2,840
<i>Belmont Terrace</i>				TBD	TBD	TBD	TBD
<i>Bowmanville</i>				TBD	TBD	464	928
<i>Old Norwood Park</i>				13	10	827	1,654
2019	Proposed Budget	\$ 279.6	million	Install (mi)	Retire (mi)	Services	Meters
				90	70	11,000	23,000
Meters	\$ 35.4						
PI/SI	\$ 46.6			16	14	1,500	3,000
HP	\$ 35.7			4	0	0	0
Transmission	\$ -			N/A	N/A	N/A	N/A
Neighborhood	\$ 162.0			70	56	9,500	20,000
<i>Mayfair</i>				16	10	1,353	3,092
<i>Stoney Island</i>				TBD	TBD	1,221	1,837
<i>North Mayfair</i>				10	8	1,372	2,744
<i>Craigin</i>				TBD	TBD	TBD	TBD
<i>Ravenswood</i>				TBD	TBD	TBD	TBD
<i>Norwood Park East</i>				TBD	TBD	2,182	4,364
<i>Avalon Park</i>				TBD	TBD	879	1,010



APPENDIX:

Uniform Main Ranking Index (UMRI): UMRI is a tool that maintains historical information on individual pipe segments and creates an "index factor" for each segment based upon past performance indicators of the pipe. The index factor is based on the following inputs: historical information, cracks, breaks, observations made on the pipe, analysis of coupons of the pipe, and repairs made on the pipe. The index factor provides a means of comparing pipe segments and determining those that are most at risk for failure and is used to prioritize the projects in the three-year plan. The UMRI is system driven and its results are reviewed monthly. If there are specific segments of pipe that need to be addressed immediately due to condition, those will be replaced as part of small projects on an expedited timeline.

Neighborhood Ranking: Neighborhood ranking is an annual process used to compare the risks associated with the facilities from one neighborhood to another. The factors taken into consideration are based on Peoples Gas' Distribution Integrity Management Program ("DIMP"):

- percentage of medium pressure cast and ductile iron pipe,
- percentage of small diameter cast iron pipe,
- the mean UMRI index,
- the number of pending unrepaired leaks, and
- the number of services which are constructed of vulnerable material types (cast iron, ductile iron, bare steel, copper, and clear plastic).

The Neighborhood Ranking is used to prioritize work to be included in the three-year plan. The sequencing of projects is also affected by coordination with the City of Chicago and other entities, conflicts with other construction and the timeliness of permits and authorizations.

Rider QIP Plant Addition Types: Under Rider QIP and the Commission's rules, the term "Qualifying Infrastructure Investment" means Qualifying Infrastructure Plant ("QIP") and costs associated with investments in QIP. Section D(4) of Rider QIP and Section 556.40 of the Commission's rules identifies seven types of plant additions that may qualify as QIP. The below table outlines these seven types of plant additions and highlights how the scope of the AMRP and the new SMP differ based on the individual categories included within each program.



AMRP and SMP scope elements based on Rider QIP Investment Categories	
Rider QIP Plant Addition or Investment Types	<ol style="list-style-type: none"> 1. Replace materials prone to leakage 2. Relocate meters from inside to outside locations 3. Upgrade low pressure to medium pressure including high pressure facilities to support upgrade 4. <i>Modernization of gas meters and network*</i> 5. Replace high pressure transmission without maximum allowable operating pressure (MAOP) records 6. <i>Replace un-locatable facilities*</i> 7. Replace regulation stations, regulators, and valve assemblies <p>----- <i>*Not applicable</i></p>
Accelerated Main Replacement Program (AMRP) Scope Elements (QIP categories 1,2, and 3)	<ol style="list-style-type: none"> 1. Replace materials prone to leakage 2. Relocate meters from inside to outside locations 3. Upgrade low pressure to medium pressure including high pressure facilities to support upgrade
SMP Scope Elements (QIP categories 1,2,3,5, and 7)	<ol style="list-style-type: none"> 1. Replace materials prone to leakage 2. Relocate meters from inside to outside locations 3. Upgrade low pressure to medium pressure including high pressure facilities to support upgrade 5. Replace high pressure transmission without MAOP records 7. Replace regulation stations, regulators, and valve assemblies