

Commonwealth Edison Company's Infrastructure Investment Plan

January 6, 2012

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Executive Summary

Plan Overview

On November 8, 2011, Commonwealth Edison Company (“ComEd”) filed its proposed performance-based formula rate, Rate DSPP – Delivery Service Pricing and Performance (“Rate DSPP”), with the Illinois Commerce Commission (“Commission”) pursuant to Section 16-108.5 of the Public Utilities Act (“Act”). The Commission commenced Docket No. 11-0721 to review that filing. In making that filing, ComEd confirmed that it elected to become a “participating utility”, and committed to undertake the investments described in Section 16-108.5(b) of the Act. Section 16-108.5(b) also calls on ComEd, within 60 days of such filing, to submit a plan for satisfying its infrastructure investment program commitments, which must include information regarding scope, schedule and staffing, as well as certain information about its Smart Grid Test Bed Plan.

Accordingly, ComEd submits to the Commission this Infrastructure Investment Plan (“Plan”), for informational purposes, as prescribed by the Act. As also prescribed, the Plan organizes individual projects under two broad categories of investment:

Reliability-Related Investments: Section I of the Plan sets forth electric system upgrades, modernization projects, and training facilities; and

Smart Grid-Related Investments: Section II of the Plan describes the Smart Grid electric system upgrades and transmission and distribution infrastructure upgrades and modernization.

This Plan includes an estimated cumulative total of \$1.3 billion of capital investment plus associated expenses in electric system upgrades, modernization projects, and training facilities (“Reliability-Related Investments”) over the planned five-year period plus the permitted ramp-up and ramp-down time. The Plan also includes an estimated cumulative total of \$1.3 billion of capital investment plus associated expenses in Smart Grid electric system upgrades over the planned 10-year period plus the permitted ramp-up and ramp-down time.

As required by Section 16-108.5(b), the total estimated \$2.6 billion of cumulative capital investment under this Plan will be incremental to ComEd’s total annual capital investment program, as defined in Section 16-108.5(b). That is, over the term of the Plan, ComEd will invest an estimated cumulative total of \$2.6 billion more capital than a capital investment program that invested at an annual rate defined by ComEd’s average capital spend for calendar years 2008, 2009, and 2010, as reported in ComEd’s applicable Federal Energy Regulatory Commission (“FERC”) Form 1s. If the forecasted capital investment costs exceed \$3.0 billion a report will be submitted to the Commission that identifies the increased costs and explains the reasons. The report shall be submitted no later than the year in which the forecasts will exceed capital investment costs of \$3.0 billion. In no case will \$3.0 billion in capital investment costs be exceeded without the approval of the General Assembly.

In the event that Section 16-108.5 becomes inoperative or Rate DSPP is terminated, then the Plan, including but not limited to all programs and investments, will also become inoperative and terminate immediately.

Summary Plan Scope

Reliability-Related Investments. These programs are described in detail in Section I of the Plan, and include, but are not limited to, the following specific programs briefly described below:

- **Underground Residential Cable (“URD”) injection and replacement.** This program is designed to remediate nearly 4,200 miles of bare concentric cable, some of which was installed as early as 1966. This work will reduce long duration outages primarily experienced in residential subdivisions.
- **Mainline cable system refurbishment and replacement.** The most complex of all the Reliability-Related investments, this program includes planned assessment and refurbishment of all manholes on ComEd’s system (approximately 28,000), replacement of an estimated 500 miles of mainline underground cable, and testing of an estimated 1,780 sections of mainline cable over the course of the program. This program is primarily targeted at the testing and replacement of lead cable in urban areas.

Because remediation scope is based on inspection results, the complex nature of the underground system, interrelationship of multiple circuits within a manhole, and certain potential moratoriums on work, this program also contains the highest degree of scope uncertainty of all the Reliability-Related investments.

- **Ridgeland 69kV cable replacement.** This program involves planned replacement of approximately 10 miles of high voltage (69kV) underground cable, a majority of which was installed in the early 1950’s, and some as early as 1927.

- **Construction of training facilities.** This program provides for planned construction of two new facilities – one in Chicago and one in Rockford – to provide electric and customer operations training. These facilities will provide the ability to offer year-round practical, hands-on training to ComEd’s field employees and will enable them to practice classroom theory on real equipment and technology year-round.
- **Wood pole inspection, treatment, and replacement.** There are approximately 1.3 million wood poles on the ComEd system. Under current processes, ComEd inspects wood poles on the distribution system according to a 24-year cycle, which translates to approximately 56,000 poles inspected per year. This program entails planned inspection and treatment of approximately 650,000 wood poles over the five-year program period, and replacement or reinforcement of an estimated 15,000 additional poles over the course of the program. This program will reduce customer interruptions due to wood pole failures by programmatically assessing the strength and integrity of ComEd’s wood poles, and represents the first five years of a 10-year plan to transition ComEd to a 10-year inspection cycle for wood poles.
- **Storm hardening.** This program is designed to further reduce the susceptibility of circuits to storm-related damage, and will include deployment of a variety of engineered solutions, including, but not limited to, overhead-to-underground conversion, installation of tree-resistant conductors, and additional vegetation management. In order to optimize customer benefits, circuits will be prioritized based on historical susceptibility to storm-related damage. Engineered solutions will be designed specifically for each circuit.

These programs are planned to be completed over a five-year period plus reasonable ramp-up and ramp-down periods. More detailed descriptions of each of these programs, including scope, schedule, capital budget, staffing and units of work are included in Section I of this document.

Smart Grid Electric System Upgrades. These programs are described in detail in Section II of the Plan, and include, but are not limited to, the following specific programs briefly described below:

- **Distribution Automation (“DA”).** DA technology uses “sectionalizing” devices and remote communications to detect issues on the distribution system and automatically re-route power to minimize the number of customers impacted. This is commonly referred to as the self-healing nature of the Smart Grid. ComEd’s DA program includes planned installation of approximately 2,600 DA devices, upgrade of 780 additional devices, and installation of approximately 5,000 new radios.
- **Substation micro-processor relay upgrades.** This program is designed to modernize 10 ComEd substations, including upgrade of electro-mechanical protective relays to modern microprocessor-based devices, replacement of aging circuit breakers, two-way communications between ComEd’s control center and each substation, and installation of technology to remotely monitor the health of ComEd’s largest assets, its transformers. This program provides for fault detection, remote asset monitoring and improved site security. Partial upgrades may be applied across the service territory. ComEd has over 250 transmission-fed substations, and over 800 substations in total.

- **Smart Meters.** At the completion of this program, all retail meters on the ComEd distribution system will have been replaced with Smart Meters, including deployment of an Advanced Metering Infrastructure (“AMI”), which provides a two-way communications infrastructure to support other customer services and Smart Grid applications. Expected benefits include reductions in the number of estimated bills, unaccounted for energy, and consumption on inactive meters. Deployment of AMI will occur pursuant to the Advanced Metering Infrastructure Deployment Plan (“AMI Plan”), which will be reviewed with the Smart Grid Advisory Council and filed with the Commission no later than April 23, 2012.
- **Associated cyber-secure data communications network.** A cyber-secure data communications infrastructure will be incorporated into each functional area of the Smart Grid. It includes implementation of a robust security model that is aligned with industry best practices and existing security standards. This security model will address confidentiality, integrity, availability and non-repudiation of data transport through the network.
- **Smart Grid Test Bed Plan.** A plan for the creation, operation, and administration of a Smart Grid test bed as described in subsection (c) of Section 16-108.8 is attached hereto as Attachment 1.

Descriptions of each of these programs, including scope, schedule, capital budget, staffing and units of work are included in Section II of this document.

These descriptions, as with the forecasts generally included within this Plan, are illustrative of the investments that ComEd currently proposes to make pursuant to Section 16-108.5 of the Act over its 5- and 10-year horizons (exclusive of ramp-up and

ramp-down periods). Of course, as time passes, specific investment needs, customer electric use patterns, customer applications, customer attitudes, and commercially available equipment and technologies will all evolve. Section 16-108.5 recognizes that change will occur as ComEd implements this Plan, including in its annual reporting process, its emphasis on technological interoperability, and its innovative test bed feature. Moreover, the effects change and the need for adaptability in a plan only increase the further out the planning horizon extends. Over periods as long as those called for by Section 16-108.5, specific work plans must be conceptual.¹ A sound operating plan thus must not only retain the flexibility to adapt to such an evolutionary environment, it must embrace it, while still providing overall guidance and vision.

This Plan contains estimates of projected investment activity in future years. Consistent with this structure, those estimates are planning tools. They are not benchmarks. They will evolve both as new information becomes available, and as ComEd gains actual experience. In particular, the actual work plans will be developed on the quarterly cycles. The purpose of this work in any given period may evolve from that now planned, schedules may be either accelerated or delayed, and implementation may require either fewer or more units of work at lower or higher cost, even if the scope and timing of the planned work does not change. The Plan is not to limit or confine the ability of that process to function. Moreover, such change does not imply any flaw in this Plan, nor any imprudence or unreasonableness in its execution. To the contrary, planning without flexibility would be unwise and unreasonable.

¹ ComEd is also submitting a 2012 investment plan, which contains more specific detail about the planned activities for the 2012 year.

Summary Plan Schedule

In order to establish a framework to plan for and schedule future work while efficiently addressing this inherent change and uncertainty, ComEd is employing a proven iterative planning structure. Under this structure, work plans will be developed on a rolling basis for each quarter of the investment period. Each work plan will outline a series of tasks comprising: project and work planning, design, regulatory and public affairs functions where required (e.g., permitting), project implementation, and review. This periodic quarterly cycle is illustrated throughout this Plan in a series of Gantt charts showing repeating cycles of work planning and management activity. Please note that while this work planning and management cycle repeats on a quarterly basis, the activities associated with each quarter's iteration may take longer than a quarter to complete. This structure allows ComEd to implement its multi-year Plan effectively and rigorously, while retaining the required flexibility. The Gantt charts that appear in the Plan are illustrative and are not intended to establish specific milestones.

The individual program schedules included in this Plan explain when each program is planned to start and end. Most include both a rolling quarterly work plan process and a high-level task list. It is recognized that scope priorities will be adjusted over the course of the programs as new information is obtained.

The entire Plan covers a 10-year time period. All program areas are planned for completion within five years with the exception of the Smart Meter program, which is planned to be completed within 10 years. All time periods include reasonable ramp-up and ramp-down periods.

Figure B.1 in Appendix B presents a high level schedule to complete the entire scope of work associated with the Plan. Detailed schedules are provided in the sections that follow for specific program areas.

Summary Plan Budget

The program budget identifies the estimated annual capital cost for each program. The Plan budget total is estimated to be \$2.6 billion in capital investments plus associated expenses. As prescribed by the Act, the estimated \$2.6 billion of capital investment under the Plan must be incremental to ComEd's annual capital investment program, which the Act defines as ComEd's "average capital spend for calendar years 2008, 2009, and 2010 as reported in the applicable Federal Energy Regulatory Commission ("FERC") Form 1." 220 ILCS 5/16-108.5(b). The annual capital expenditures for calendar years 2008, 2009, and 2010 are \$951.6 million, \$848.7 million, and \$955.8 million, respectively, as reflected in the statement of cash flows from each year's respective FERC Form 1. This results in an annual baseline of \$918.7 million, derived by summing \$951.6 million + \$848.7 million + \$955.8 million = \$2.8 billion and dividing \$2.8 billion by 3. Thus, the baseline, over the 10-year period is \$9.2 billion. Table B.1 in Appendix B presents a summary of the Plan's estimated total capital budget by program, and Figure B.2 in Appendix B presents the estimated total capital budget by year associated with the Plan.

Summary Plan Staffing

Program staffing identifies the annual full-time equivalent employees ("FTEs") required for completion of program scope of work. (See Appendix A).

FTEs have been calculated by taking the estimated worker-hours to execute the Plan and dividing by 2,080. Estimated worker-hours are composed primarily of:

1. Worker-hours charged directly to work orders associated with specific scopes of work; and
2. Worker-hours charged on timesheets in support of the Plan.

Worker-hours charged on timesheets in support of the Plan have been allocated to the specific scopes of work proportionally, based on the estimated worker-hours charged to work orders for specific scopes of work. The estimated FTEs shown in the Plan include direct and contractor FTEs as defined in Appendix A. However, they do not include any induced FTEs.

Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft. Figure B.3 in Appendix B presents the estimated FTEs to execute the scheduled scope of work associated with the Plan. FTEs are not defined as employee head counts, and should not be confused with employment levels and trends.

Summary Plan Quantity of Units

The program quantity of units describes the estimated number of work units, where applicable, that are planned to be completed each year for the program area. Units of work for each program are discussed, as applicable, in that program's respective section of the Plan. All units of work associated with the identified work scopes are included in the estimated quantities in this document, and will be counted

towards achievement of the Plan goals. However, this does not limit additional units from being performed as part of the baseline spend at ComEd's discretion.

Submission of 2012 Investment Plan

This Plan also includes, for informational purposes, a schedule and staffing plan for the calendar year 2012 investments ("2012 Plan") included as Attachment 2 to this Plan. The 2012 Plan provides more information on scope, schedule, budget, staffing, and units of work that are planned to be completed in 2012 in association with the Plan. The monthly targets listed are not intended to be firm milestones, but rather to provide directional guidance towards accomplishment of the annual goals. The 2012 Plan is attached hereto as Attachment 2.

SECTION I: Reliability-Related Investments

SECTION I.A: Underground Residential Cable (“URD”) Injection and Replacement

I.A.1: Program Scope

ComEd's URD system has approximately 8,700 miles of bare concentric neutral cable that was installed between 1966 and 1985, which is primarily used to serve residential and commercial areas. The URD Injection and Replacement program excludes mainline cable, which is covered under the Mainline Cable System Refurbishment and Replacement program described in Section I.B below. URD cable failures mainly occur within the population of bare concentric neutral cable. The number of annual failures in this type of cable has been trending up in recent years as this cable continues to age. ComEd anticipates that it will be necessary to inject or replace approximately 4,177 miles of the problematic cable. ComEd anticipates that, by the end of the program, the number of annual failures in this type of cable will be significantly reduced. This reduction in faults will reduce long-duration outages primarily experienced in residential subdivisions. The program consists of two major components:

- URD Cable Injection
- URD Cable Replacement

Each of these components is described in more detail below.

URD Cable Injection

Cable injection fills in cable insulation voids and avoids cable failures. In general, URD cables that are candidates for injection typically have intact concentric neutral conductors, are not solid cable or strand-filled cable, and have a low number of cable splices. Where it is practical, cable injection is typically a more cost beneficial way to avoid URD cable failures than cable replacement. Based on ComEd's past experience with URD cable injection, it is estimated that during the course of the program approximately 810 miles of the approximately 4,177 miles of URD cable targeted for injection or replacement will be injected.

URD Cable Replacement

URD cables that cannot practically or economically be injected will be replaced on a schedule prioritized to replace worst performing URD cables first. It is expected that at the end of the program approximately 3,367 miles of URD cable will have been replaced.

I.A.2: Program Schedule

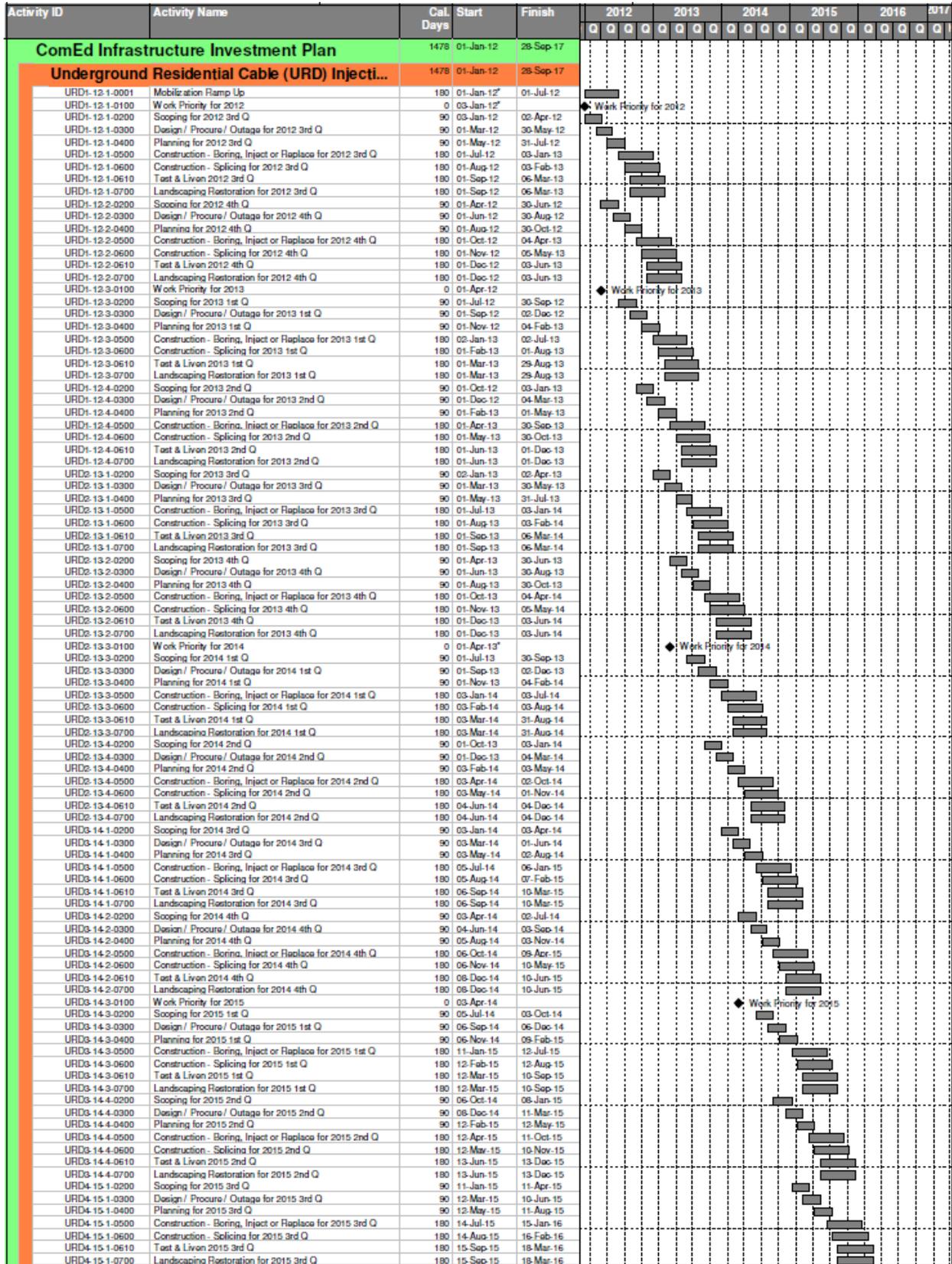
This program is planned to be completed over a five-year period plus reasonable ramp-up and ramp-down periods. Estimates of cost, units of work, and schedules for that work, may evolve over time.

Figure I.A.2 presents the estimated schedule to complete the URD Injection and Replacement program. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Mobilization and ramp-up

- Establish priority for the calendar year
- Perform scoping
- Perform design tasks, procure material, and identify required outages in schedule
- Planning (develop work packages and secure permits)
- Construction – Boring, injection or replacement
- Construction – Splicing where required
- Test and liven
- Landscaping restoration
- Demobilization and ramp-down period

FIGURE I.A.2: URD INJECTION AND REPLACEMENT SCHEDULE

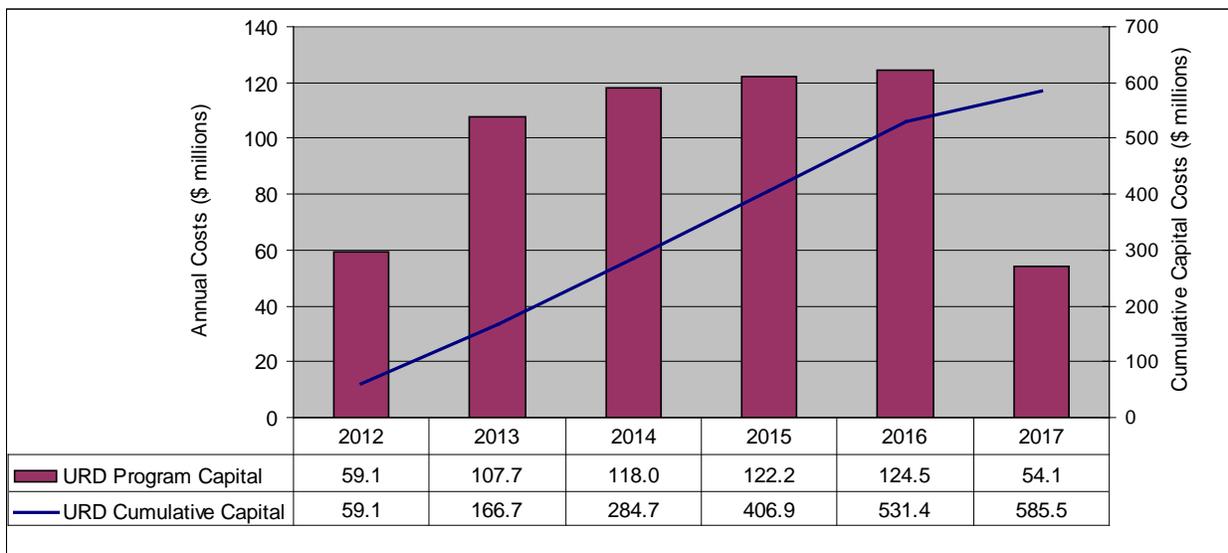


Activity ID	Activity Name	Cal. Days	Start	Finish	2012			2013			2014			2015			2016			2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
URD4-15-2-0200	Sooping for 2015 4th Q	90	12-Apr-15	12-Jul-15																
URD4-15-2-0300	Design/ Procure/ Outage for 2015 4th Q	90	13-Jun-15	12-Sep-15																
URD4-15-2-0400	Planning for 2015 4th Q	90	14-Aug-15	13-Nov-15																
URD4-15-2-0500	Construction - Boring, Inject or Replace for 2015 4th Q	180	15-Oct-15	17-Apr-16																
URD4-15-2-0600	Construction - Splicing for 2015 4th Q	180	15-Nov-15	18-May-16																
URD4-15-2-0610	Test & Liven 2015 4th Q	180	17-Dec-15	18-Jun-16																
URD4-15-2-0700	Landscaping Restoration for 2015 4th Q	180	17-Dec-15	18-Jun-16																
URD4-15-3-0100	Work Priority for 2016	0	12-Apr-15*																	
URD4-15-3-0200	Sooping for 2016 1st Q	90	14-Jul-15	12-Oct-15																
URD4-15-3-0300	Design/ Procure/ Outage for 2016 1st Q	90	15-Sep-15	15-Dec-15																
URD4-15-3-0400	Planning for 2016 1st Q	90	15-Nov-15	18-Feb-16																
URD4-15-3-0500	Construction - Boring, Inject or Replace for 2016 1st Q	180	21-Jan-16	20-Jul-16																
URD4-15-3-0600	Construction - Slicing for 2016 1st Q	180	21-Feb-16	20-Aug-16																
URD4-15-3-0610	Test & Liven 2016 1st Q	180	21-Mar-16	19-Sep-16																
URD4-15-3-0700	Landscaping Restoration for 2016 1st Q	180	21-Mar-16	19-Sep-16																
URD4-15-4-0200	Sooping for 2016 2nd Q	90	15-Oct-15	17-Jan-16																
URD4-15-4-0300	Design/ Procure/ Outage for 2016 2nd Q	90	17-Dec-15	19-Mar-16																
URD4-15-4-0400	Planning for 2016 2nd Q	90	21-Feb-16	20-May-16																
URD4-15-4-0500	Construction - Boring, Inject or Replace for 2016 2nd Q	180	21-Apr-16	20-Oct-16																
URD4-15-4-0600	Construction - Splicing for 2016 2nd Q	180	21-May-16	19-Nov-16																
URD4-15-4-0610	Test & Liven 2016 2nd Q	180	22-Jun-16	22-Dec-16																
URD4-15-4-0700	Landscaping Restoration for 2016 2nd Q	180	22-Jun-16	22-Dec-16																
URD6-16-1-0200	Sooping for 2016 3rd Q	90	21-Jan-16	19-Apr-16																
URD6-16-1-0300	Design/ Procure/ Outage for 2016 3rd Q	90	21-Mar-16	19-Jun-16																
URD6-16-1-0400	Planning for 2016 3rd Q	90	21-May-16	20-Aug-16																
URD6-16-1-0500	Construction - Boring, Inject or Replace for 2016 3rd Q	180	23-Jul-16	25-Jan-17																
URD6-16-1-0600	Construction - Splicing for 2016 3rd Q	180	23-Aug-16	25-Feb-17																
URD6-16-1-0610	Test & Liven 2016 3rd Q	180	24-Sep-16	28-Mar-17																
URD6-16-1-0700	Landscaping Restoration for 2016 3rd Q	180	24-Sep-16	28-Mar-17																
URD6-16-2-0200	Sooping for 2016 4th Q	90	21-Apr-16	21-Jul-16																
URD6-16-2-0300	Design/ Procure/ Outage for 2016 4th Q	90	22-Jun-16	21-Sep-16																
URD6-16-2-0400	Planning for 2016 4th Q	90	23-Aug-16	21-Nov-16																
URD6-16-2-0500	Construction - Boring, Inject or Replace for 2016 4th Q	180	24-Oct-16	27-Apr-17																
URD6-16-2-0600	Construction - Splicing for 2016 4th Q	180	26-Nov-16	28-May-17																
URD6-16-2-0610	Test & Liven 2016 4th Q	180	28-Dec-16	28-Jun-17																
URD6-16-2-0700	Landscaping Restoration for 2016 4th Q	180	28-Dec-16	28-Jun-17																
URD6-16-2-0800	Demobilization Ramp Down	0	02-Mar-17																	
URD6-16-3-0100	Work Priority for 2017	0	21-Apr-16																	
URD6-16-3-0200	Sooping for 2017 1st Q	90	23-Jul-16	21-Oct-16																
URD6-16-3-0300	Design/ Procure/ Outage for 2017 1st Q	90	24-Sep-16	26-Dec-16																
URD6-16-3-0400	Planning for 2017 1st Q	30	26-Nov-16	27-Dec-16																
URD6-16-3-0500	Construction - Boring, Inject or Replace for 2017 1st Q	180	30-Jan-17	30-Jul-17																
URD6-16-3-0600	Construction - Splicing for 2017 1st Q	180	02-Mar-17	30-Jul-17																
URD6-16-3-0610	Test & Liven 2017 1st Q	180	30-Mar-17	28-Sep-17																
URD6-16-3-0700	Landscaping Restoration for 2017 1st Q	180	30-Mar-17	28-Sep-17																

I.A.3: Program Budget

Figure I.A.3 represents the estimated capital budget for the URD Injection and Replacement program. ComEd estimates the program cost to be capital investments of \$586 million plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

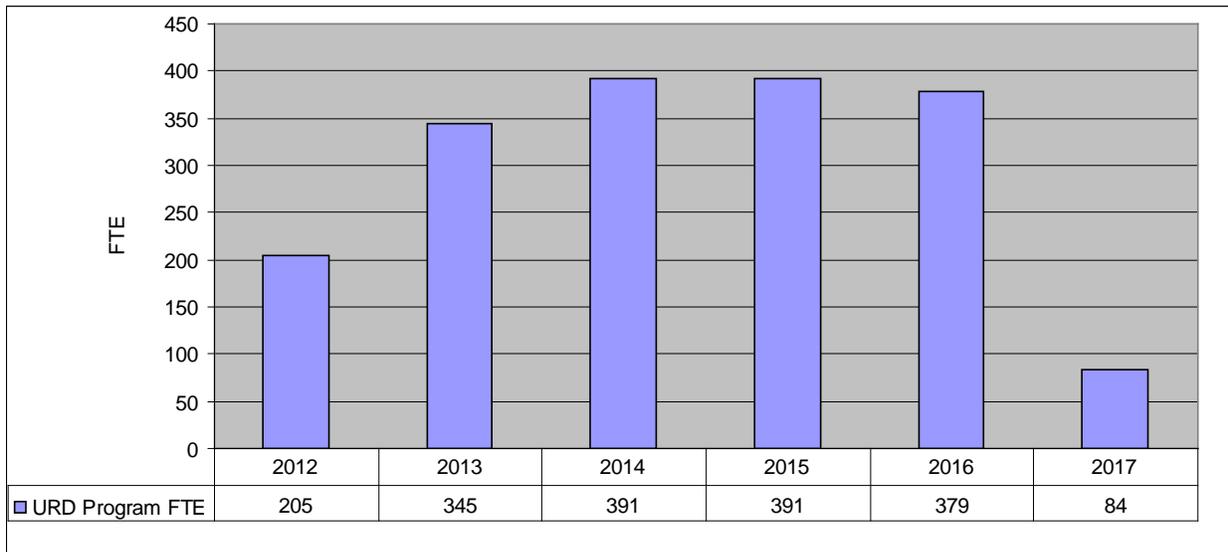
FIGURE I.A.3: URD INJECTION AND REPLACEMENT CAPITAL BUDGET



I.A.4: Program FTEs

Figure I.A.4 presents the estimated FTEs required to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

FIGURE I.A.4: URD INJECTION AND REPLACEMENT FTES



I.A.5: Program Units

Figure I.A.5.A shows the miles of URD cable estimated to be injected. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work to be accomplished, as well as the scope of work left to be performed. It is estimated that approximately 810 miles of URD cable will be injected over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE 1.A.5.A: URD CABLE INJECTION UNITS

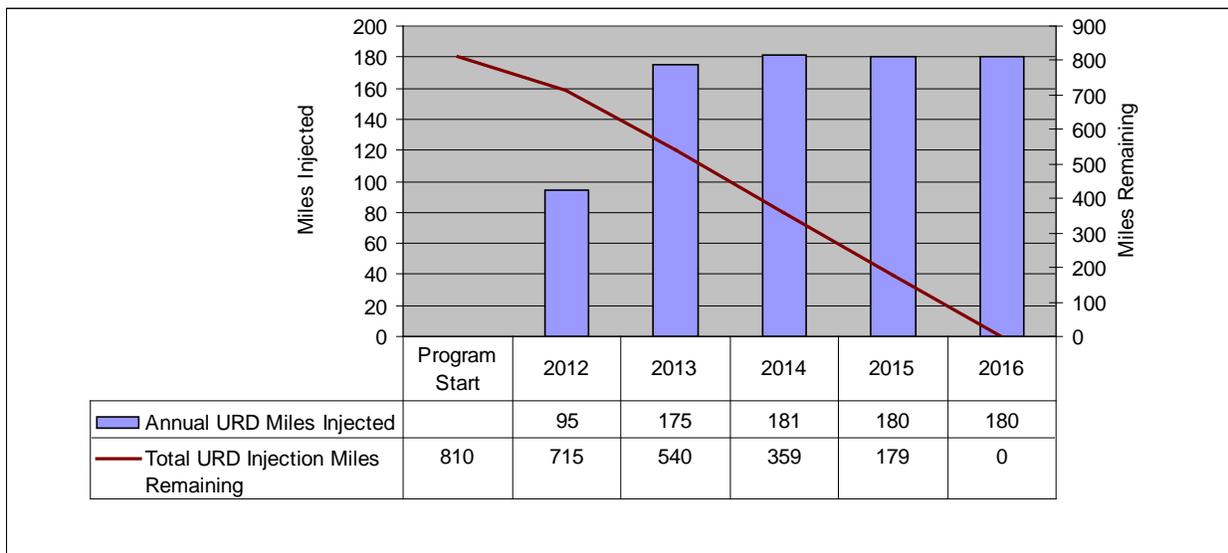
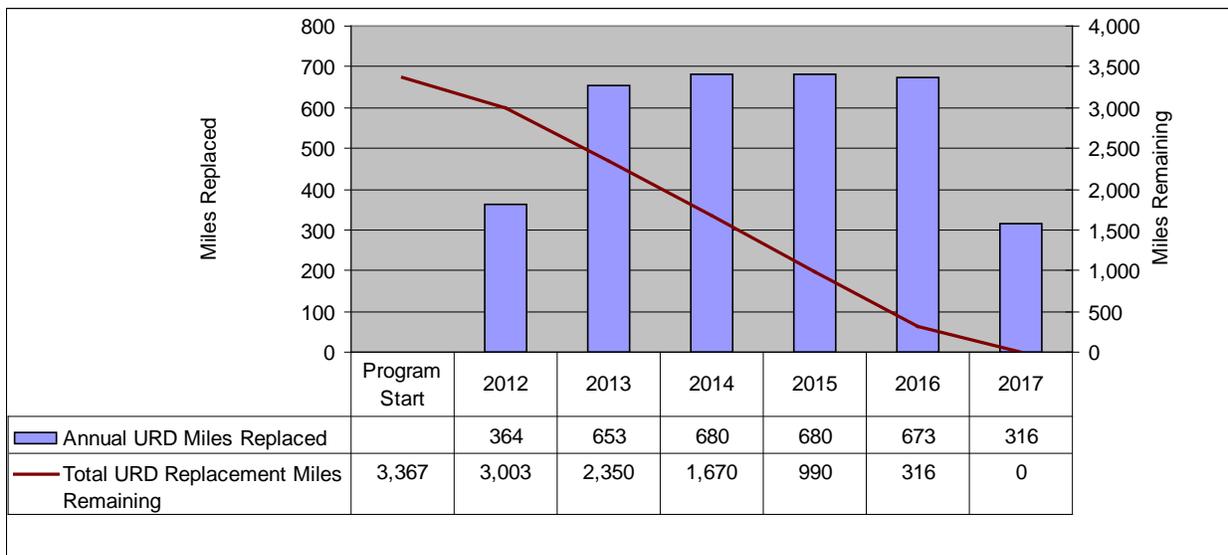


Figure I.A.5.B shows the miles of URD cable estimated to be replaced. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed. It is estimated that approximately 3,367 miles of URD cable will be replaced over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE I.A.5.B: URD CABLE REPLACEMENT UNITS



SECTION I.B: Mainline Cable System Refurbishment and Replacement

I.B.1: Program Scope

The ComEd mainline underground system includes approximately 8,300 miles of cable installed in conduit systems or direct buried. Mainline cable system refurbishment and replacement has the most complex scope of work of all the programs. The scope is composed of three main work categories:

- Manhole assessment and cable system refurbishment
- Cable replacement
- Cable testing

The accomplishment of this scope is highly dependent on the ability to obtain necessary permits and to schedule equipment outages. Certain periods of time or certain work restrictions, such as summer critical periods, may limit the types of work that can be performed due to the need to maintain system configuration. Such periods will be reflected in ComEd's annual or summer critical work plans. Because remediation scope is based on inspection results, the complex nature of the underground system, interrelationship of multiple circuits within a manhole, and certain potential moratoriums on work, this program contains the highest degree of scope uncertainty of all the Reliability-Related investments.

Manhole Assessment and Cable System Refurbishment

ComEd has approximately 28,300 manholes on its system. Over the course of the program, ComEd plans to assess all manholes on its system and perform refurbishment within the parameters of the Act.

Assessment includes the evaluation of the overall condition of the manhole, cables, and cable support systems. Refurbishment includes replacing or repairing cable systems in the manhole, and addressing other structural issues as required. Manhole structural work may range from minor refurbishment to replacement of an entire manhole.

Concurrent with manhole assessments, cable joint issues discovered within the manholes (e.g., bulging or leaking joints) will be addressed primarily with cable replacement. As assessments are performed, work plans will be generated to address the findings.

Cable Replacement

Replacement criteria will be based, in part, on the method of original installation. Replacement of cable in conduit will be based on manhole assessment findings. Direct buried mainline cable will either be replaced without testing, or replaced after testing, based on cable length and prior fault history. It is estimated that approximately 526 miles of mainline cable will be replaced over the course of the program. This estimate is based on assumptions concerning inspection results, which will be adjusted over time as actual data become available. Because of their inherent reliance on assumptions,

early estimates of cable replacement contain a high degree of uncertainty and are not intended to reflect firm scope.

Cable Testing

Underground cable is divided into sections largely as a result of limits placed on cable lengths by the manufacturers and limits due to the physical configuration of the circuits.

An estimated 1,780 circuit sections will be selected for Very Low Frequency (“VLF”) Testing per the Institute of Electric and Electronics Engineers (“IEEE”) standard 400.2 to validate the serviceability of the section of cable, including circuit sections that either have not had a prior test, or circuit sections that have had multiple faults within the last 36 months but are not candidates for replacement without testing. It is estimated that cable tests will result in replacement of cable sections, which are included in the estimate shown in the “Cable Replacement” section above. This estimate is based on assumptions concerning inspection results, which will be adjusted over time as actual data become available. Because of their inherent reliance on assumptions, early estimates of cable testing contain a high degree of uncertainty and are not intended to reflect firm scope.

I.B.2: Program Schedule

The overall Mainline Cable System Refurbishment and Replacement program is planned to be completed over a five-year period plus reasonable ramp-up and ramp-down periods. Estimates of cost, and units of work, and schedules for that work, may evolve over time. The schedule for each of the three program areas is described below.

Figure I.B.2.A presents the estimated schedule to complete the Manhole Assessment and Cable System Refurbishment program. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Mobilization and ramp-up
- Establish manhole inspection priority for the calendar year
- Perform scoping and configuration analysis; review sequence for capacity issues
- Perform design tasks, procure material, and identify required outages in schedule; include identified joint issues in evaluation
- Planning (develop work packages and secure permits)
- Construction – Manhole cleaning (environmental) if required
- Construction - Conduct manhole assessments and refurbish cable systems as necessary
- Evaluate results
- Develop cable replacement plans as necessary
- Demobilization ramp-down period

Figure I.B.2.B presents the estimated schedule to complete the Mainline Cable Replacement program. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish replacement priority for the calendar year

- Perform scoping and configuration analysis; review sequence for capacity issues
- Perform design tasks, procure material, and identify required outages in schedule; include identified joint issues in evaluation
- Planning (develop work packages and secure permits)
- Construction – Install conduit when required
- Construction – Pull / install cable and terminal pole work
- Construction – Pull / install cable
- Construction – Install dead joints
- Test cable and liven
- Demobilization ramp-down period

Figure I.B.2.C presents the estimated schedule to complete the Mainline Cable Testing program. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish testing priority for the calendar year
- Perform scoping and configuration analysis; review sequence for capacity issues
- Perform design tasks, procure material, and identify required outages in schedule; include identified joint issues in evaluation
- Planning (develop work packages and secure permits)
- Perform testing

- Evaluate results
- Develop work program for testing failures (*i.e.*, cable replacement) based on results
- Demobilization ramp-down period

FIGURE 1.B.2.A: MANHOLE ASSESSMENT SCHEDULE

Activity ID	Activity Name	Cal. Days	Start	Finish	2012		2013		2014		2015		2016		2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
ComEd Infrastructure Investment Plan					1278	01-Jan-12	22-Dec-16								
Manhole Assessment & Cable System Refurb...					1278	01-Jan-12	22-Dec-16								
MLV1-12-1-1000	Mobilization Ramp Up	180	01-Jan-12	01-Jul-12											
MLV1-12-1-1100	Work Priority for 2012	0	01-Jan-12	01-Jan-12											
MLV1-12-1-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Jan-12	03-Mar-12											
MLV1-12-1-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Mar-12	29-Apr-12											
MLV1-12-1-1400	Planning / Secure Permits for 2012 2nd Q	60	01-Apr-12	31-May-12											
MLV1-12-1-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-May-12	30-Jun-12											
MLV1-12-1-1500	Construction - Assess Manholes for 2012 2nd Q	60	01-May-12	30-Jun-12											
MLV1-12-1-1620	Evaluate Results for 2012 2nd Q	60	01-Jul-12	30-Aug-12											
MLV1-12-1-1650	Construction - Develop Refurbishment / Repair for 2012 ...	180	01-Jul-12	03-Jan-13											
MLV1-12-1-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Jul-12	03-Jan-13											
MLV1-12-2-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Apr-12	31-May-12											
MLV1-12-2-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Jun-12	31-Jul-12											
MLV1-12-2-1400	Planning / Secure Permits for 2012 3rd Q	60	01-Jul-12	30-Aug-12											
MLV1-12-2-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Aug-12	30-Sep-12											
MLV1-12-2-1500	Construction - Assess Manholes for 2012 3rd Q	60	01-Aug-12	30-Sep-12											
MLV1-12-2-1620	Evaluate Results for 2012 3rd Q	60	01-Oct-12	01-Dec-12											
MLV1-12-2-1650	Construction - Develop Refurbishment / Repair for 2012 ...	180	01-Oct-12	04-Apr-13											
MLV1-12-2-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Oct-12	04-Apr-13											
MLV1-12-3-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Jul-12	30-Aug-12											
MLV1-12-3-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Sep-12	31-Oct-12											
MLV1-12-3-1400	Planning / Secure Permits for 2012 4th Q	60	01-Oct-12	01-Dec-12											
MLV1-12-3-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Nov-12	04-Jan-13											
MLV1-12-3-1500	Construction - Assess Manholes for 2012 4th Q	60	01-Nov-12	04-Jan-13											
MLV1-12-3-1620	Evaluate Results for 2012 4th Q	60	02-Jan-13	03-Mar-13											
MLV1-12-3-1650	Construction - Develop Refurbishment / Repair for 2012 ...	180	02-Jan-13	02-Jul-13											
MLV1-12-3-1700	Construction - Replacement: Determine Schedule for 20...	180	02-Jan-13	02-Jul-13											
MLV1-12-4-1100	Work Priority for 2013	0	01-Jul-12	01-Jul-12											
MLV1-12-4-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Oct-12	01-Dec-12											
MLV1-12-4-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Dec-12	02-Feb-13											
MLV1-12-4-1400	Planning / Secure Permits for 2013 1st Q	60	02-Jan-13	03-Mar-13											
MLV1-12-4-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Feb-13	01-Apr-13											
MLV1-12-4-1500	Construction - Assess Manholes for 2013 1st Q	60	01-Feb-13	01-Apr-13											
MLV1-12-4-1620	Evaluate Results for 2013 1st Q	60	01-Apr-13	31-May-13											
MLV1-12-4-1650	Construction - Develop Refurbishment / Repair for 2013 ...	180	01-Apr-13	30-Sep-13											
MLV1-12-4-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Apr-13	30-Sep-13											
MLV2-13-1-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Dec-12	02-Feb-13											
MLV2-13-1-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Feb-13	01-Apr-13											
MLV2-13-1-1400	Planning / Secure Permits for 2013 2nd Q	60	01-Mar-13	29-Apr-13											
MLV2-13-1-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Apr-13	31-May-13											
MLV2-13-1-1500	Construction - Assess Manholes for 2013 2nd Q	60	01-Apr-13	31-May-13											
MLV2-13-1-1620	Evaluate Results for 2013 2nd Q	60	01-Jun-13	31-Jul-13											
MLV2-13-1-1650	Construction - Develop Refurbishment / Repair for 2013 ...	180	01-Jun-13	01-Dec-13											
MLV2-13-1-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Jun-13	01-Dec-13											
MLV2-13-2-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Mar-13	29-Apr-13											
MLV2-13-2-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-May-13	30-Jun-13											
MLV2-13-2-1400	Planning / Secure Permits for 2013 3rd Q	60	01-Jun-13	31-Jul-13											
MLV2-13-2-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Jul-13	30-Aug-13											
MLV2-13-2-1500	Construction - Assess Manholes for 2013 3rd Q	60	01-Jul-13	30-Aug-13											
MLV2-13-2-1620	Evaluate Results for 2013 3rd Q	60	01-Sep-13	31-Oct-13											
MLV2-13-2-1650	Construction - Develop Refurbishment / Repair for 2013 ...	180	01-Sep-13	06-Mar-14											
MLV2-13-2-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Sep-13	06-Mar-14											
MLV2-13-3-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Jun-13	31-Jul-13											
MLV2-13-3-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Aug-13	30-Sep-13											
MLV2-13-3-1400	Planning / Secure Permits for 2013 4th Q	60	01-Sep-13	31-Oct-13											
MLV2-13-3-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	01-Oct-13	01-Dec-13											
MLV2-13-3-1500	Construction - Assess Manholes for 2013 4th Q	60	01-Oct-13	01-Dec-13											
MLV2-13-3-1620	Evaluate Results for 2013 4th Q	60	01-Dec-13	02-Feb-14											
MLV2-13-3-1650	Construction - Develop Refurbishment / Repair for 2013 ...	180	01-Dec-13	03-Jun-14											
MLV2-13-3-1700	Construction - Replacement: Determine Schedule for 20...	180	01-Dec-13	03-Jun-14											
MLV2-13-4-1100	Work Priority for 2014	0	01-Jun-13	01-Jun-13											
MLV2-13-4-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Sep-13	31-Oct-13											
MLV2-13-4-1300	Design / Procure Material / Identify Outage in Schedule f...	60	01-Nov-13	04-Jan-14											
MLV2-13-4-1400	Planning / Secure Permits for 2014 1st Q	60	01-Dec-13	02-Feb-14											
MLV2-13-4-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	02-Jan-14	03-Mar-14											
MLV2-13-4-1500	Construction - Assess Manholes for 2014 1st Q	60	02-Jan-14	03-Mar-14											
MLV2-13-4-1620	Evaluate Results for 2014 1st Q	60	03-Mar-14	01-May-14											
MLV2-13-4-1650	Construction - Develop Refurbishment / Repair for 2014 ...	180	03-Mar-14	31-Aug-14											
MLV2-13-4-1700	Construction - Replacement: Determine Schedule for 20...	180	03-Mar-14	31-Aug-14											
MLV3-14-1-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	01-Dec-13	02-Feb-14											
MLV3-14-1-1300	Design / Procure Material / Identify Outage in Schedule f...	60	03-Feb-14	03-Apr-14											
MLV3-14-1-1400	Planning / Secure Permits for 2014 2nd Q	60	03-Mar-14	01-May-14											
MLV3-14-1-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	03-Apr-14	02-Jun-14											
MLV3-14-1-1500	Construction - Assess Manholes for 2014 2nd Q	60	03-Apr-14	02-Jun-14											
MLV3-14-1-1620	Evaluate Results for 2014 2nd Q	60	04-Jun-14	03-Aug-14											
MLV3-14-1-1650	Construction - Develop Refurbishment / Repair for 2014 ...	180	04-Jun-14	04-Dec-14											
MLV3-14-1-1700	Construction - Replacement: Determine Schedule for 20...	180	04-Jun-14	04-Dec-14											
MLV3-14-2-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	03-Mar-14	01-May-14											
MLV3-14-2-1300	Design / Procure Material / Identify Outage in Schedule f...	60	03-May-14	02-Jul-14											
MLV3-14-2-1400	Planning / Secure Permits for 2014 3rd Q	60	04-Jun-14	03-Aug-14											
MLV3-14-2-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	05-Jul-14	03-Sep-14											
MLV3-14-2-1500	Construction - Assess Manholes for 2014 3rd Q	60	05-Jul-14	03-Sep-14											
MLV3-14-2-1620	Evaluate Results for 2014 3rd Q	60	06-Sep-14	04-Nov-14											
MLV3-14-2-1650	Construction - Develop Refurbishment / Repair for 2014 ...	180	06-Sep-14	10-Mar-15											
MLV3-14-2-1700	Construction - Replacement: Determine Schedule for 20...	180	06-Sep-14	10-Mar-15											
MLV3-14-3-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	04-Jun-14	03-Aug-14											
MLV3-14-3-1300	Design / Procure Material / Identify Outage in Schedule f...	60	05-Aug-14	04-Oct-14											
MLV3-14-3-1400	Planning / Secure Permits for 2014 4th Q	60	06-Sep-14	04-Nov-14											
MLV3-14-3-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	06-Oct-14	06-Dec-14											
MLV3-14-3-1500	Construction - Assess Manholes for 2014 4th Q	60	06-Oct-14	06-Dec-14											
MLV3-14-3-1620	Evaluate Results for 2014 4th Q	60	08-Dec-14	08-Feb-15											
MLV3-14-3-1650	Construction - Develop Refurbishment / Repair for 2014 ...	180	08-Dec-14	10-Jun-15											
MLV3-14-3-1700	Construction - Replacement: Determine Schedule for 20...	180	08-Dec-14	10-Jun-15											
MLV3-14-4-1100	Work Priority for 2015	0	04-Jun-14	04-Jun-14											
MLV3-14-4-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	06-Sep-14	04-Nov-14											
MLV3-14-4-1300	Design / Procure Material / Identify Outage in Schedule f...	60	06-Nov-14	09-Jan-15											
MLV3-14-4-1400	Planning / Secure Permits for 2015 1st Q	60	08-Dec-14	08-Feb-15											

Activity ID	Activity Name	Cal. Days	Start	Finish	2012		2013		2014		2015		2016		2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MLV3-14-4-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	11-Jan-15	12-Mar-15											
MLV3-14-4-1500	Construction - Assess Manholes for 2015 1st Q	60	11-Jan-15	12-Mar-15											
MLV3-14-4-1620	Evaluate Results for 2015 1st Q	60	12-Mar-15	10-May-15											
MLV3-14-4-1650	Construction - Develop Refurbishment / Repair for 2015 ...	180	12-Mar-15	10-Sep-15											
MLV3-14-4-1700	Construction - Replacement: Determine Schedule for 20...	180	12-Mar-15	10-Sep-15											
MLV4-15-1-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	08-Dec-14	09-Feb-15											
MLV4-15-1-1300	Design / Procure Material / Identify Outage in Schedule f...	60	12-Feb-15	12-Apr-15											
MLV4-15-1-1400	Planning / Secure Permits for 2015 2nd Q	60	12-Mar-15	10-May-15											
MLV4-15-1-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	12-Apr-15	11-Jun-15											
MLV4-15-1-1500	Construction - Assess Manholes for 2015 2nd Q	60	12-Apr-15	11-Jun-15											
MLV4-15-1-1620	Evaluate Results for 2015 2nd Q	60	13-Jun-15	12-Aug-15											
MLV4-15-1-1650	Construction - Develop Refurbishment / Repair for 2015 ...	180	13-Jun-15	13-Dec-15											
MLV4-15-1-1700	Construction - Replacement: Determine Schedule for 20...	180	13-Jun-15	13-Dec-15											
MLV4-15-2-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	12-Mar-15	10-May-15											
MLV4-15-2-1300	Design / Procure Material / Identify Outage in Schedule f...	60	12-Apr-15	12-Jul-15											
MLV4-15-2-1400	Planning / Secure Permits for 2015 3rd Q	60	13-Jun-15	12-Aug-15											
MLV4-15-2-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	14-Jul-15	12-Sep-15											
MLV4-15-2-1500	Construction - Assess Manholes for 2015 3rd Q	60	14-Jul-15	12-Sep-15											
MLV4-15-2-1620	Evaluate Results for 2015 3rd Q	60	15-Sep-15	13-Nov-15											
MLV4-15-2-1650	Construction - Develop Refurbishment / Repair for 2015 ...	180	15-Sep-15	18-Mar-16											
MLV4-15-2-1700	Construction - Replacement: Determine Schedule for 20...	180	15-Sep-15	18-Mar-16											
MLV4-15-3-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	13-Jun-15	12-Aug-15											
MLV4-15-3-1300	Design / Procure Material / Identify Outage in Schedule f...	60	14-Aug-15	13-Oct-15											
MLV4-15-3-1400	Planning / Secure Permits for 2015 4th Q	60	15-Sep-15	13-Nov-15											
MLV4-15-3-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	15-Oct-15	15-Dec-15											
MLV4-15-3-1500	Construction - Assess Manholes for 2015 4th Q	60	15-Oct-15	15-Dec-15											
MLV4-15-3-1620	Evaluate Results for 2015 4th Q	60	17-Dec-15	18-Feb-16											
MLV4-15-3-1650	Construction - Develop Refurbishment / Repair for 2015 ...	180	17-Dec-15	18-Jun-16											
MLV4-15-3-1700	Construction - Replacement: Determine Schedule for 20...	180	17-Dec-15	18-Jun-16											
MLV4-15-4-1100	Work Priority for 2016	0	13-Jun-15*												
MLV4-15-4-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	15-Sep-15	13-Nov-15											
MLV4-15-4-1300	Design / Procure Material / Identify Outage in Schedule f...	60	15-Nov-15	19-Jan-16											
MLV4-15-4-1400	Planning / Secure Permits for 2016 1st Q	60	17-Dec-15	18-Feb-16											
MLV4-15-4-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	21-Jan-16	20-Mar-16											
MLV4-15-4-1500	Construction - Assess Manholes for 2016 1st Q	60	21-Jan-16	20-Mar-16											
MLV4-15-4-1620	Evaluate Results for 2016 1st Q	60	21-Mar-16	19-May-16											
MLV4-15-4-1650	Construction - Develop Refurbishment / Repair for 2016 ...	180	21-Mar-16	19-Sep-16											
MLV4-15-4-1700	Construction - Replacement: Determine Schedule for 20...	180	21-Mar-16	19-Sep-16											
MLV5-16-1-1200	Scoping & Config. Analysis / Review Capacity Sequence ...	60	17-Dec-15	18-Feb-16											
MLV5-16-1-1300	Design / Procure Material / Identify Outage in Schedule f...	60	21-Feb-16	20-Apr-16											
MLV5-16-1-1400	Planning / Secure Permits for 2016 2nd Q	60	21-Mar-16	19-May-16											
MLV5-16-1-1440	Demobilization Ramp Down	0	21-Jun-16*												
MLV5-16-1-1450	Construction - Manhole Cleaning (Environmental) for 201...	60	21-Apr-16	20-Jun-16											
MLV5-16-1-1500	Construction - Assess Manholes for 2016 2nd Q	60	21-Apr-16	20-Jun-16											
MLV5-16-1-1620	Evaluate Results for 2016 2nd Q	60	22-Jun-16	21-Aug-16											
MLV5-16-1-1650	Construction - Develop Refurbishment / Repair for 2016 ...	180	22-Jun-16	22-Dec-16											
MLV5-16-1-1700	Construction - Replacement: Determine Schedule for 20...	180	22-Jun-16	22-Dec-16											

FIGURE 1.B.2.B: MAINLINE CABLE REPLACEMENT SCHEDULE

Activity ID	Activity Name	Cal. Days	Start	Finish	2012	2013	2014	2015	2016	2017
					Q	Q	Q	Q	Q	Q
ComEd Infrastructure Investment Plan										
Mainline Cable Replacement										
MLV1-12-1-0000	Mobilization Ramp Up	180	01-Jan-12	28-Jun-17						
MLV1-12-1-0100	Work Priority for 2012	0	01-Jan-12	01-Jan-12						
MLV1-12-1-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Jan-12	01-Apr-12						
MLV1-12-1-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Feb-12	30-Apr-12						
MLV1-12-1-0400	Planning / Secure Permits for 2012 2nd Q	90	01-Mar-12	30-May-12						
MLV1-12-1-0500	Construction - Install Conduit When Req'd for 2012 2nd Q	60	01-Apr-12	31-May-12						
MLV1-12-1-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Apr-12	31-May-12						
MLV1-12-1-0650	Construction - Pull / Install Cable for 2012 2nd Q	60	01-Jun-12	30-Aug-12						
MLV1-12-1-0700	Construction - Install Dead Joints for 2012 2nd Q	90	01-Jun-12	30-Aug-12						
MLV1-12-1-0750	Test & Live for 2012 2nd Q	90	01-Jul-12	30-Sep-12						
MLV1-12-2-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Apr-12	30-Jun-12						
MLV1-12-2-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-May-12	31-Jul-12						
MLV1-12-2-0400	Planning / Secure Permits for 2012 3rd Q	90	01-Jun-12	30-Aug-12						
MLV1-12-2-0500	Construction - Install Conduit When Req'd for 2012 3rd Q	60	01-Jul-12	30-Aug-12						
MLV1-12-2-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Jul-12	30-Aug-12						
MLV1-12-2-0650	Construction - Pull / Install Cable for 2012 3rd Q	90	01-Sep-12	02-Dec-12						
MLV1-12-2-0700	Construction - Install Dead Joints for 2012 3rd Q	90	01-Sep-12	02-Dec-12						
MLV1-12-2-0750	Test & Live for 2012 3rd Q	90	01-Oct-12	03-Jan-13						
MLV1-12-3-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Jul-12	30-Sep-12						
MLV1-12-3-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Aug-12	30-Oct-12						
MLV1-12-3-0400	Planning / Secure Permits for 2012 4th Q	90	01-Sep-12	02-Dec-12						
MLV1-12-3-0500	Construction - Install Conduit When Req'd for 2012 4th Q	60	01-Oct-12	01-Dec-12						
MLV1-12-3-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Oct-12	01-Dec-12						
MLV1-12-3-0650	Construction - Pull / Install Cable for 2012 4th Q	90	01-Dec-12	04-Mar-13						
MLV1-12-3-0700	Construction - Install Dead Joints for 2012 4th Q	90	01-Dec-12	04-Mar-13						
MLV1-12-3-0750	Test & Live for 2012 4th Q	90	02-Jan-13	02-Apr-13						
MLV1-12-4-0100	Work Priority for 2013	0	01-Jul-12	01-Jul-12						
MLV1-12-4-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Oct-12	03-Jan-13						
MLV1-12-4-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Nov-12	04-Feb-13						
MLV1-12-4-0400	Planning / Secure Permits for 2013 1st Q	90	01-Dec-12	04-Mar-13						
MLV1-12-4-0500	Construction - Install Conduit When Req'd for 2013 1st Q	60	02-Jan-13	03-Mar-13						
MLV1-12-4-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	02-Jan-13	03-Mar-13						
MLV1-12-4-0650	Construction - Pull / Install Cable for 2013 1st Q	90	01-Mar-13	30-May-13						
MLV1-12-4-0700	Construction - Install Dead Joints for 2013 1st Q	90	01-Mar-13	30-May-13						
MLV1-12-4-0750	Test & Live for 2013 1st Q	90	01-Apr-13	30-Jun-13						
MLV2-13-1-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	02-Jan-13	02-Apr-13						
MLV2-13-1-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Feb-13	01-May-13						
MLV2-13-1-0400	Planning / Secure Permits for 2013 2nd Q	90	01-Mar-13	30-May-13						
MLV2-13-1-0500	Construction - Install Conduit When Req'd for 2013 2nd Q	60	01-Apr-13	31-May-13						
MLV2-13-1-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Apr-13	31-May-13						
MLV2-13-1-0650	Construction - Pull / Install Cable for 2013 2nd Q	90	01-Jun-13	30-Aug-13						
MLV2-13-1-0700	Construction - Install Dead Joints for 2013 2nd Q	90	01-Jun-13	30-Aug-13						
MLV2-13-1-0750	Test & Live for 2013 2nd Q	90	01-Jul-13	30-Sep-13						
MLV2-13-2-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Apr-13	30-Jun-13						
MLV2-13-2-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-May-13	31-Jul-13						
MLV2-13-2-0400	Planning / Secure Permits for 2013 3rd Q	90	01-Jun-13	30-Aug-13						
MLV2-13-2-0500	Construction - Install Conduit When Req'd for 2013 3rd Q	60	01-Jul-13	30-Aug-13						
MLV2-13-2-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Jul-13	30-Aug-13						
MLV2-13-2-0650	Construction - Pull / Install Cable for 2013 3rd Q	90	01-Sep-13	02-Dec-13						
MLV2-13-2-0700	Construction - Install Dead Joints for 2013 3rd Q	90	01-Sep-13	02-Dec-13						
MLV2-13-2-0750	Test & Live for 2013 3rd Q	90	01-Oct-13	03-Jan-14						
MLV2-13-3-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Jul-13	30-Sep-13						
MLV2-13-3-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Aug-13	30-Oct-13						
MLV2-13-3-0400	Planning / Secure Permits for 2013 4th Q	90	01-Sep-13	02-Dec-13						
MLV2-13-3-0500	Construction - Install Conduit When Req'd for 2013 4th Q	60	01-Oct-13	01-Dec-13						
MLV2-13-3-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	01-Oct-13	01-Dec-13						
MLV2-13-3-0650	Construction - Pull / Install Cable for 2013 4th Q	90	01-Dec-13	04-Mar-14						
MLV2-13-3-0700	Construction - Install Dead Joints for 2013 4th Q	90	01-Dec-13	04-Mar-14						
MLV2-13-3-0750	Test & Live for 2013 4th Q	90	03-Jan-14	03-Apr-14						
MLV2-13-4-0100	Work Priority for 2014	0	01-Jul-13	01-Jul-13						
MLV2-13-4-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	01-Oct-13	03-Jan-14						
MLV2-13-4-0300	Design / Procure Material / Identify Outages in Schedule...	90	01-Nov-13	04-Feb-14						
MLV2-13-4-0400	Planning / Secure Permits for 2014 1st Q	90	01-Dec-13	04-Mar-14						
MLV2-13-4-0500	Construction - Install Conduit When Req'd 1st Q	60	02-Jan-14	03-Mar-14						
MLV2-13-4-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	02-Jan-14	03-Mar-14						
MLV2-13-4-0650	Construction - Pull / Install Cable for 2014 1st Q	90	03-Mar-14	01-Jun-14						
MLV2-13-4-0700	Construction - Install Dead Joints for 2014 1st Q	90	03-Mar-14	01-Jun-14						
MLV2-13-4-0750	Test & Live for 2014 1st Q	90	03-Apr-14	02-Jul-14						
MLV3-14-1-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	03-Jan-14	03-Apr-14						
MLV3-14-1-0300	Design / Procure Material / Identify Outages in Schedule...	90	03-Feb-14	03-May-14						
MLV3-14-1-0400	Planning / Secure Permits for 2014 2nd Q	90	03-Mar-14	01-Jun-14						
MLV3-14-1-0500	Construction - Install Conduit When Req'd for 2014 2nd Q	60	03-Apr-14	02-Jun-14						
MLV3-14-1-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	03-Apr-14	02-Jun-14						
MLV3-14-1-0650	Construction - Pull / Install Cable for 2014 2nd Q	90	04-Jun-14	03-Sep-14						
MLV3-14-1-0700	Construction - Install Dead Joints for 2014 2nd Q	90	04-Jun-14	03-Sep-14						
MLV3-14-1-0750	Test & Live for 2014 2nd Q	90	05-Jul-14	03-Oct-14						
MLV3-14-2-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	03-Apr-14	02-Jul-14						
MLV3-14-2-0300	Design / Procure Material / Identify Outages in Schedule...	90	03-Mar-14	02-Aug-14						
MLV3-14-2-0400	Planning / Secure Permits for 2014 3rd Q	90	04-Jun-14	03-Sep-14						
MLV3-14-2-0500	Construction - Install Conduit When Req'd for 2014 3rd Q	60	05-Jul-14	03-Sep-14						
MLV3-14-2-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	05-Jul-14	03-Sep-14						
MLV3-14-2-0650	Construction - Pull / Install Cable for 2014 3rd Q	90	06-Sep-14	06-Dec-14						
MLV3-14-2-0700	Construction - Install Dead Joints for 2014 3rd Q	90	06-Sep-14	06-Dec-14						
MLV3-14-2-0750	Test & Live for 2014 3rd Q	90	06-Oct-14	06-Jan-15						
MLV3-14-3-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	05-Jul-14	03-Oct-14						
MLV3-14-3-0300	Design / Procure Material / Identify Outages in Schedule...	90	05-Aug-14	03-Nov-14						
MLV3-14-3-0400	Planning / Secure Permits for 2014 4th Q	90	06-Sep-14	06-Dec-14						
MLV3-14-3-0500	Construction - Install Conduit When Req'd for 2014 4th Q	60	06-Oct-14	06-Dec-14						
MLV3-14-3-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	06-Oct-14	06-Dec-14						
MLV3-14-3-0650	Construction - Pull / Install Cable for 2014 4th Q	90	06-Dec-14	11-Mar-15						
MLV3-14-3-0700	Construction - Install Dead Joints for 2014 4th Q	90	06-Dec-14	11-Mar-15						
MLV3-14-3-0750	Test & Live for 2014 4th Q	90	11-Jan-15	11-Apr-15						
MLV3-14-4-0100	Work Priority for 2015	0	05-Jul-14	05-Jul-14						
MLV3-14-4-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	06-Oct-14	06-Jan-15						
MLV3-14-4-0300	Design / Procure Material / Identify Outages in Schedule...	90	06-Nov-14	06-Feb-15						
MLV3-14-4-0400	Planning / Secure Permits for 2015 1st Q	90	06-Dec-14	11-Mar-15						

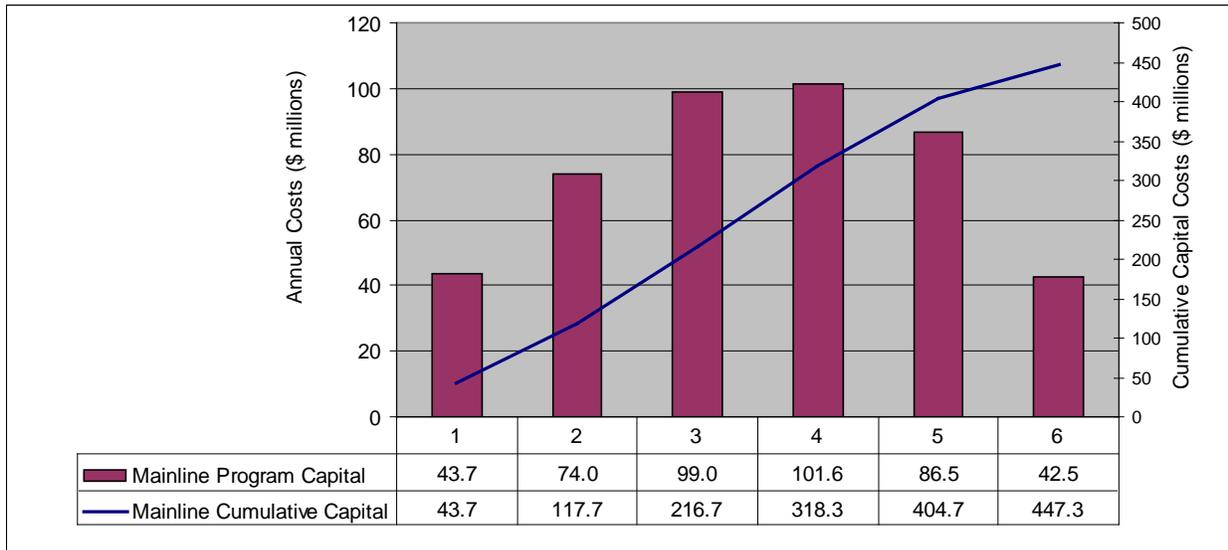
Activity ID	Activity Name	Cal. Days	Start	Finish	2012			2013			2014			2015			2016			2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MLV3-14.4-0500	Construction - Install Conduit When Req'd for 2015 1st Q	60	11-Jan-15	12-Mar-15																
MLV3-14.4-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	11-Jan-15	12-Mar-15																
MLV3-14.4-0650	Construction - Pull / Install Cable for 2015 1st Q	90	12-Mar-15	10-Jun-15																
MLV3-14.4-0700	Construction - Install Dead Joints for 2015 1st Q	90	12-Mar-15	10-Jun-15																
MLV3-14.4-0750	Test & Live for 2015 1st Q	90	12-Apr-15	12-Jul-15																
MLV4-15-1-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	11-Jan-15	11-Apr-15																
MLV4-15-1-0300	Design / Procure Material / Identify Outages in Schedule...	90	12-Feb-15	12-May-15																
MLV4-15-1-0400	Planning / Secure Permits for 2015 2nd Q	90	12-Mar-15	10-Jun-15																
MLV4-15-1-0500	Construction - Install Conduit When Req'd for 2015 2nd Q	60	12-Apr-15	11-Jun-15																
MLV4-15-1-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	12-Apr-15	11-Jun-15																
MLV4-15-1-0650	Construction - Pull / Install Cable for 2015 2nd Q	90	13-Jun-15	12-Sep-15																
MLV4-15-1-0700	Construction - Install Dead Joints for 2015 2nd Q	90	13-Jun-15	12-Sep-15																
MLV4-15-1-0750	Test & Live for 2015 2nd Q	90	14-Jul-15	12-Oct-15																
MLV4-15-2-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	12-Apr-15	12-Jul-15																
MLV4-15-2-0300	Design / Procure Material / Identify Outages in Schedule...	90	12-May-15	11-Aug-15																
MLV4-15-2-0400	Planning / Secure Permits for 2015 3rd Q	90	13-Jun-15	12-Sep-15																
MLV4-15-2-0500	Construction - Install Conduit When Req'd for 2015 3rd Q	60	14-Jul-15	12-Sep-15																
MLV4-15-2-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	14-Jul-15	12-Sep-15																
MLV4-15-2-0650	Construction - Pull / Install Cable for 2015 3rd Q	90	15-Sep-15	15-Dec-15																
MLV4-15-2-0700	Construction - Install Dead Joints for 2015 3rd Q	90	15-Sep-15	15-Dec-15																
MLV4-15-2-0750	Test & Live for 2015 3rd Q	90	15-Oct-15	17-Jan-16																
MLV4-15-3-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	14-Jul-15	12-Oct-15																
MLV4-15-3-0300	Design / Procure Material / Identify Outages in Schedule...	90	14-Aug-15	12-Nov-15																
MLV4-15-3-0400	Planning / Secure Permits for 2015 4th Q	90	15-Sep-15	15-Dec-15																
MLV4-15-3-0500	Construction - Install Conduit When Req'd for 2015 4th Q	60	15-Oct-15	15-Dec-15																
MLV4-15-3-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	15-Oct-15	15-Dec-15																
MLV4-15-3-0650	Construction - Pull / Install Cable for 2015 4th Q	90	17-Dec-15	19-Mar-16																
MLV4-15-3-0700	Construction - Install Dead Joints for 2015 4th Q	90	17-Dec-15	19-Mar-16																
MLV4-15-3-0750	Test & Live for 2015 4th Q	90	21-Jan-16	19-Apr-16																
MLV4-15-4-0100	Work Priority for 2016	0	14-Jul-15*																	
MLV4-15-4-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	15-Oct-15	17-Jan-16																
MLV4-15-4-0300	Design / Procure Material / Identify Outages in Schedule...	90	15-Nov-15	18-Feb-16																
MLV4-15-4-0400	Planning / Secure Permits for 2016 1st Q	90	17-Dec-15	19-Mar-16																
MLV4-15-4-0500	Construction - Install Conduit When Req'd for 2016 1st Q	60	21-Jan-16	20-Mar-16																
MLV4-15-4-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	21-Jan-16	20-Mar-16																
MLV4-15-4-0650	Construction - Pull / Install Cable for 2016 1st Q	90	21-Jan-16	19-Jun-16																
MLV4-15-4-0700	Construction - Install Dead Joints for 2016 1st Q	90	21-Mar-16	19-Jun-16																
MLV4-15-4-0750	Test & Live for 2016 1st Q	90	21-Apr-16	21-Jul-16																
MLV5-16-1-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	21-Jan-16	19-Apr-16																
MLV5-16-1-0300	Design / Procure Material / Identify Outages in Schedule...	90	21-Feb-16	20-May-16																
MLV5-16-1-0400	Planning / Secure Permits for 2016 2nd Q	90	21-Mar-16	19-Jun-16																
MLV5-16-1-0500	Construction - Install Conduit When Req'd for 2016 2nd Q	60	21-Apr-16	20-Jun-16																
MLV5-16-1-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	21-Apr-16	20-Jun-16																
MLV5-16-1-0650	Construction - Pull / Install Cable for 2016 2nd Q	90	22-Jun-16	21-Sep-16																
MLV5-16-1-0700	Construction - Install Dead Joints for 2016 2nd Q	90	22-Jun-16	21-Sep-16																
MLV5-16-1-0750	Test & Live for 2016 2nd Q	90	23-Jul-16	21-Oct-16																
MLV5-16-2-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	21-Apr-16	21-Jul-16																
MLV5-16-2-0300	Design / Procure Material / Identify Outages in Schedule...	90	21-May-16	20-Aug-16																
MLV5-16-2-0400	Planning / Secure Permits for 2016 3rd Q	90	22-Jun-16	21-Sep-16																
MLV5-16-2-0500	Construction - Install Conduit When Req'd for 2016 3rd Q	60	23-Jul-16	21-Sep-16																
MLV5-16-2-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	23-Jul-16	21-Sep-16																
MLV5-16-2-0650	Construction - Pull / Install Cable for 2016 3rd Q	90	24-Sep-16	26-Dec-16																
MLV5-16-2-0700	Construction - Install Dead Joints for 2016 3rd Q	90	24-Sep-16	26-Dec-16																
MLV5-16-2-0750	Test & Live for 2016 3rd Q	90	24-Oct-16	27-Jan-17																
MLV5-16-3-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	23-Jul-16	21-Oct-16																
MLV5-16-3-0300	Design / Procure Material / Identify Outages in Schedule...	90	23-Aug-16	21-Nov-16																
MLV5-16-3-0400	Planning / Secure Permits for 2016 4th Q	90	24-Sep-16	26-Dec-16																
MLV5-16-3-0500	Construction - Install Conduit When Req'd for 2016 4th Q	60	24-Oct-16	26-Dec-16																
MLV5-16-3-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	24-Oct-16	26-Dec-16																
MLV5-16-3-0650	Construction - Pull / Install Cable for 2016 4th Q	90	26-Dec-16	29-Mar-17																
MLV5-16-3-0700	Construction - Install Dead Joints for 2016 4th Q	90	26-Dec-16	29-Mar-17																
MLV5-16-3-0750	Test & Live for 2016 4th Q	90	30-Jan-17	29-Apr-17																
MLV5-17-4-0100	Work Priority for 2017	0	23-Jul-16*																	
MLV5-17-4-0200	Scoping & Config. Analysis / Review Sequence for Capa...	90	24-Oct-16	27-Jan-17																
MLV5-17-4-0300	Design / Procure Material / Identify Outages in Schedule...	90	26-Nov-16	27-Feb-17																
MLV5-17-4-0400	Planning / Secure Permits for 2017 1st Q	90	26-Dec-16	29-Mar-17																
MLV5-17-4-0450	Demobilization Ramp Down	0	30-Jan-17*																	
MLV5-17-4-0500	Construction - Install Conduit When Req'd for 2017 1st Q	60	30-Jan-17	30-Mar-17																
MLV5-17-4-0600	Construction - Pull / Install Cable Terminal Pole Work for...	60	30-Jan-17	30-Mar-17																
MLV5-17-4-0650	Construction - Pull / Install Cable for 2017 1st Q	90	30-Mar-17	28-Jun-17																
MLV5-17-4-0700	Construction - Install Dead Joints for 2017 1st Q	90	30-Mar-17	28-Jun-17																
MLV5-17-4-0750	Test & Live for 2017 1st Q	90	30-Mar-17	28-Jun-17																

Activity ID	Activity Name	Cal. Days	Start	Finish	2012			2013			2014			2015			2016			2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MC4-15-4-0150	Work Scope / Configuration Analysis / Review Capacity I...	90	15-Oct-15	17-Jan-16																
MC4-15-4-0200	Design / Procure Material / Identify Required Outages in ...	90	15-Nov-15	18-Feb-16																
MC4-15-4-0250	Work Planning - 2016 1st Q	90	17-Dec-15	18-Mar-16																
MC4-15-4-0300	Perform Testing - 2016 1st Q	60	21-Jan-16	20-Mar-16																
MC4-15-4-0350	Evaluate Results - 2016 1st Q	60	21-Jan-16	20-Mar-16																
MC4-15-4-0400	Develop Work Program for Testing Failures - 2016 1st Q	90	21-Feb-16	20-May-16																
MC5-16-1-0150	Work Scope / Configuration Analysis / Review Capacity I...	90	21-Jan-16	19-Apr-16																
MC5-16-1-0200	Design / Procure Material / Identify Required Outages in ...	90	21-Feb-16	20-May-16																
MC5-16-1-0250	Work Planning - 2016 2nd Q	90	21-Mar-16	19-Jun-16																
MC5-16-1-0300	Perform Testing - 2016 2nd Q	60	21-Apr-16	20-Jun-16																
MC5-16-1-0350	Evaluate Results - 2016 2nd Q	60	21-Apr-16	20-Jun-16																
MC5-16-1-0400	Develop Work Program for Testing Failures - 2016 2nd Q	90	21-May-16	20-Aug-16																
MC5-16-2-0150	Work Scope / Configuration Analysis / Review Capacity I...	90	21-Apr-16	21-Jul-16																
MC5-16-2-0200	Design / Procure Material / Identify Required Outages in ...	90	21-May-16	20-Aug-16																
MC5-16-2-0250	Work Planning - 2016 3rd Q	90	22-Jun-16	21-Sep-16																
MC5-16-2-0300	Perform Testing - 2016 3rd Q	60	23-Jul-16	21-Sep-16																
MC5-16-2-0350	Evaluate Results - 2016 3rd Q	60	23-Jul-16	21-Sep-16																
MC5-16-2-0400	Develop Work Program for Testing Failures - 2016 3rd Q	90	23-Aug-16	21-Nov-16																
MC5-16-3-0150	Work Scope / Configuration Analysis / Review Capacity I...	90	23-Jul-16	21-Oct-16																
MC5-16-3-0200	Design / Procure Material / Identify Required Outages in ...	90	23-Aug-16	21-Nov-16																
MC5-16-3-0250	Work Planning - 2016 4th Q	90	24-Sep-16	26-Dec-16																
MC5-16-3-0300	Perform Testing - 2016 4th Q	60	24-Oct-16	26-Dec-16																
MC5-16-3-0350	Evaluate Results - 2016 4th Q	60	24-Oct-16	26-Dec-16																
MC5-16-3-0400	Develop Work Program for Testing Failures - 2016 4th Q	90	26-Nov-16	27-Feb-17																
MC5-16-3-1000	Demobilization Ramp Down	0	30-Jan-17																	
MC5-16-4-0100	Work Priority 2017	0	23-Jul-16																	
MC5-16-4-0150	Work Scope / Configuration Analysis / Review Capacity I...	90	24-Oct-16	27-Jan-17																
MC5-16-4-0200	Design / Procure Material / Identify Required Outages in ...	90	26-Nov-16	27-Feb-17																
MC5-16-4-0250	Work Planning - 2017 1st Q	90	28-Dec-16	29-Mar-17																
MC5-16-4-0300	Perform Testing - 2017 1st Q	60	30-Jan-17	30-Mar-17																
MC5-16-4-0350	Evaluate Results - 2017 1st Q	60	30-Jan-17	30-Mar-17																
MC5-16-4-0400	Develop Work Program for Testing Failures - 2017 1st Q	90	02-Mar-17	31-May-17																

I.B.3: Program Budget

Figure I.B.3 presents the estimated capital budget for the Mainline Cable System Refurbishment and Replacement program. ComEd estimates the program cost to be capital investments of \$447 million, plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

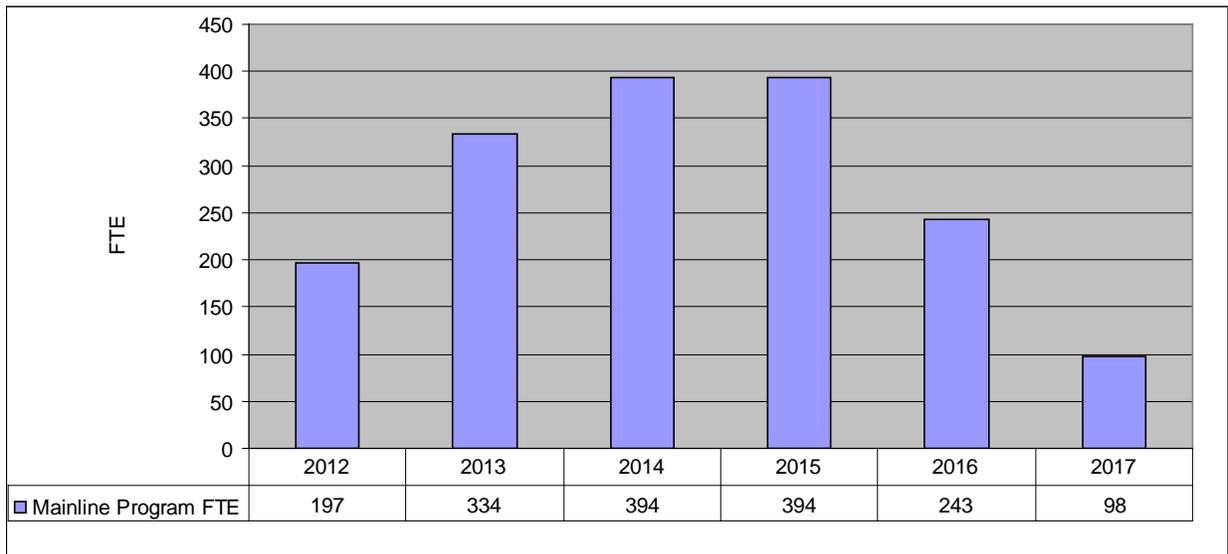
FIGURE I.B.3: MAINLINE CABLE SYSTEM REFURBISHMENT AND REPLACEMENT CAPITAL BUDGET



I.B.4: Program FTEs

Figure I.B.4 presents the estimated FTEs to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

FIGURE I.B.4: MAINLINE CABLE SYSTEM REFURBISHMENT AND REPLACEMENT FTES



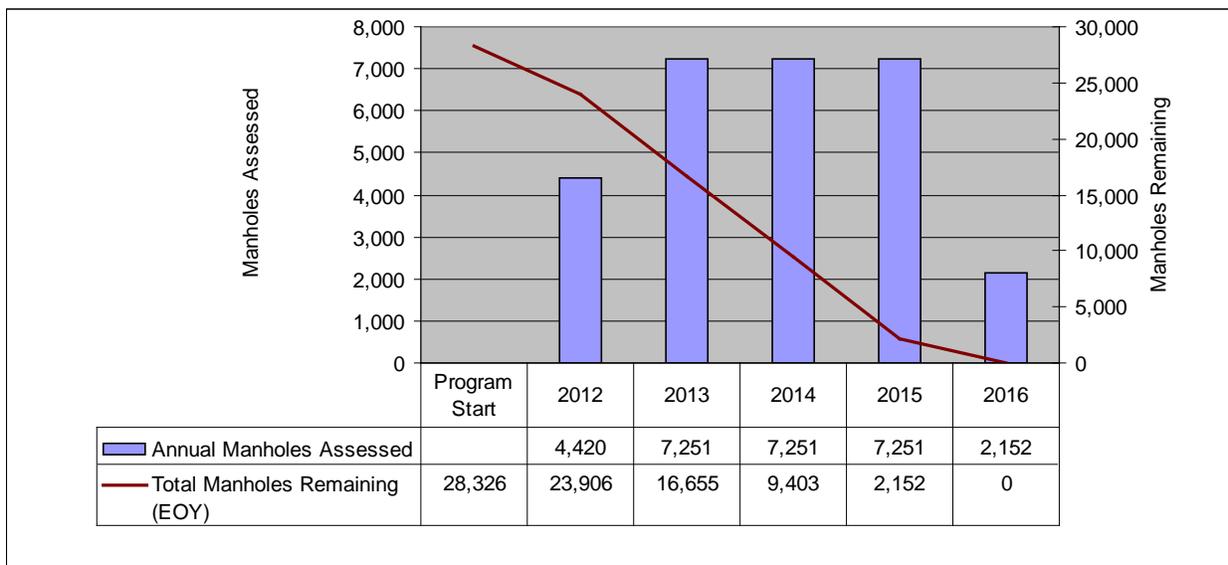
I.B.5: Program Units

Manhole Assessment and Cable System Refurbishment

Figure I.B.5.A shows the estimated number of manhole assessments to take place over the course of the program at 28,326. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed.

Estimates of cost, units of work, and schedules for that work may evolve over time.

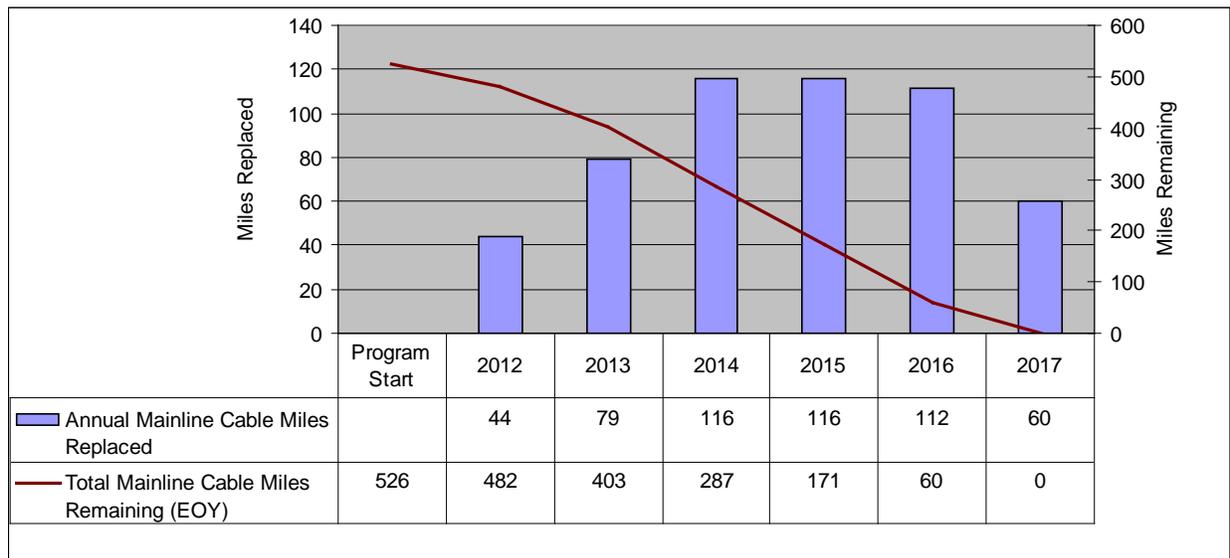
FIGURE I.B.5.A: MANHOLE ASSESSMENT UNITS



Cable Replacement

Figure I.B.5.B shows the estimated miles of mainline cable to be replaced. It is expected that some cables will be replaced based on historical performance of the cable, without the need for prior VLF testing. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year as well as the scope of work left to be performed. The current estimate for replacement is approximately 526 miles of mainline underground cable, which includes cables replaced and those that may fail VLF testing. Estimates of cost, units of work, and schedules for that work may evolve over time.

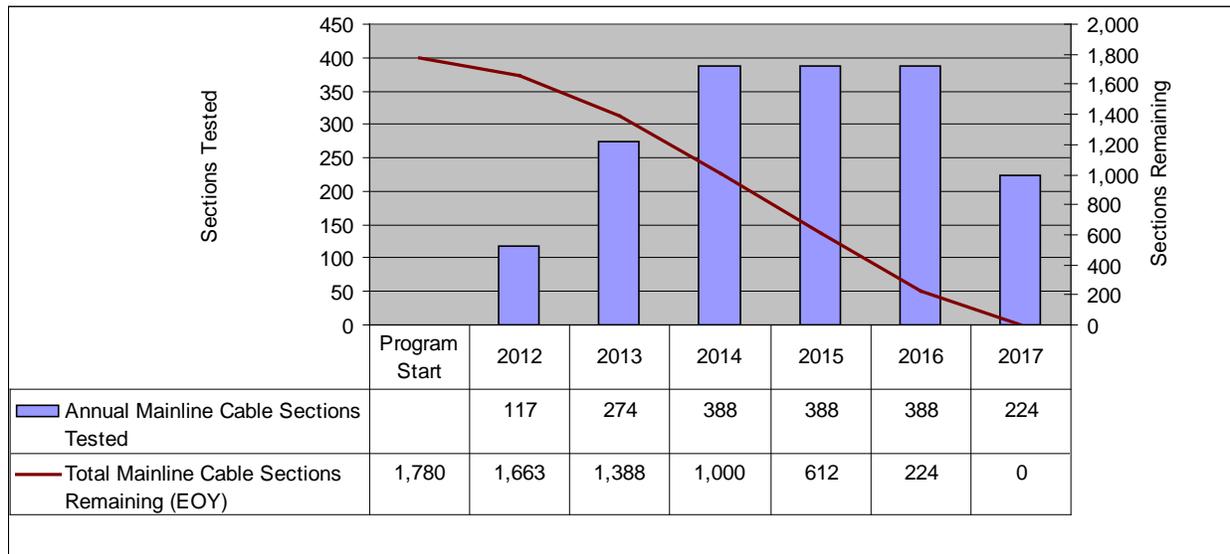
FIGURE I.B.5.B: MAINLINE CABLE REPLACEMENT UNITS



Cable Testing

Figure I.B.5.C shows the estimated number of sections of mainline cable to be VLF tested. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work to be accomplished as well as the scope of work left to be performed. It is estimated that approximately 1,780 sections of mainline cable will be VLF tested over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE I.B.5.C: MAINLINE CABLE TESTING UNITS



SECTION I.C: Ridgeland 69kV Cable Replacement

I.C.1: Program Scope

The Ridgeland 69kV cable system is approximately 40.5 circuit miles, composed of four cable subsystems: Solid Paper Lead (“PL”), Cross-Link Polyethylene (“XLPE”), Low Pressure Fluid Filled (“LPFF”), and High Pressure Fluid Filled (“HPFF”).

The cable replacement program for the Ridgeland area began in 1998, targeting poor performing paper insulated lines. The majority of the paper insulated lines that are being replaced were installed in the early 1950’s, although some were installed as early as 1927. Replacement of circuits with the reliable XLPE cable systems will increase the long term reliability in the area.

The focus of this program is to replace five circuits with XLPE cable systems, representing a total of 10.2 circuit miles

I.C.2: Program Schedule

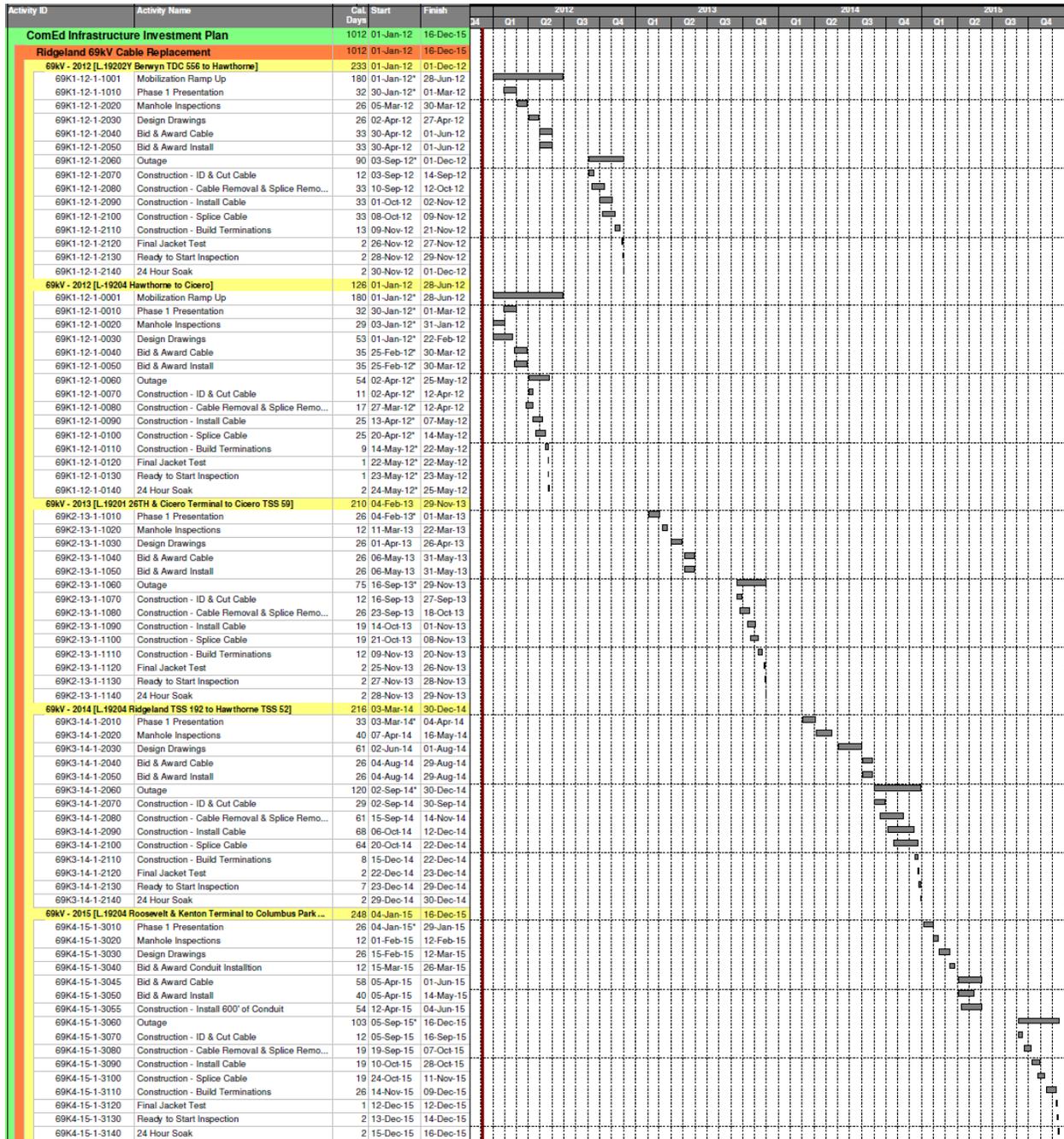
The Ridgeland 69kV Cable Replacement program is planned to be completed over a four-year period. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure I.C.2 presents the estimated schedule to complete the Ridgeland 69kV Cable Replacement program. The schedule consists of the following key tasks:

- Ramp-up period
- Establish replacement priority for the calendar year

- Perform scoping and configuration analysis; review sequence for capacity issues
- Perform design tasks, procure material, and identify required outages in schedule; include identified joint issues in evaluation
- Planning (develop work packages and secure permits)
- Construction – Remove old cable
- Construction – Pull / install new cable and splice
- Cable Commissioning (test cable and liven)
- Demobilization ramp-down period

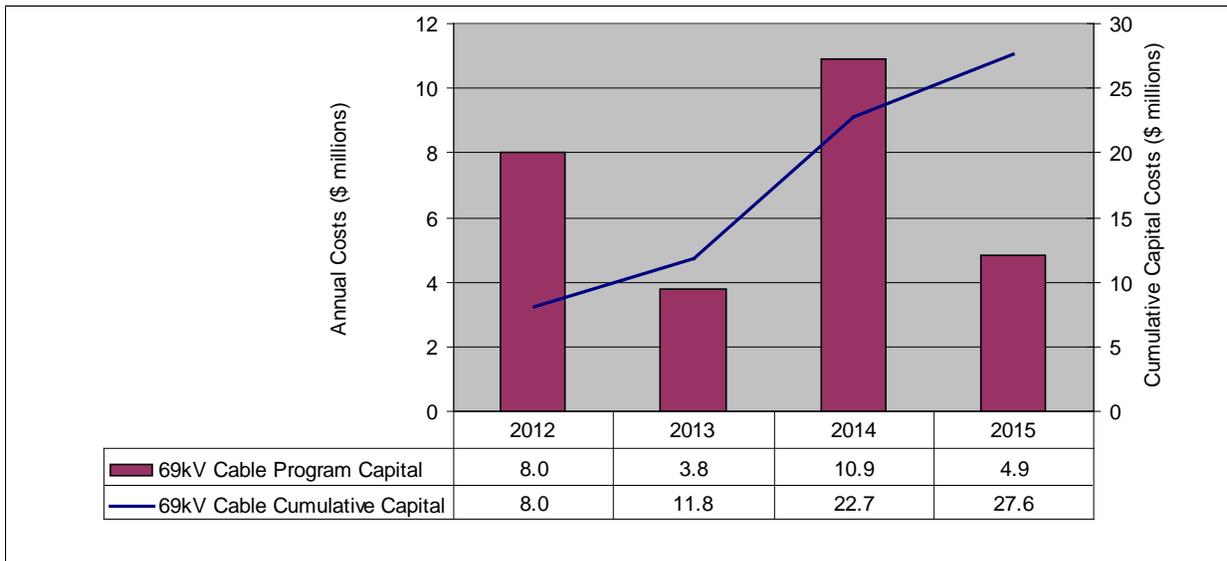
FIGURE I.C.2: RIDGELAND 69kV CABLE REPLACEMENT SCHEDULE



I.C.3: Program Budget

Figure I.C.3 presents the estimated capital budget for the Ridgeland 69kV Cable Replacement program. ComEd estimates the program cost to be capital investments of \$28 million, plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

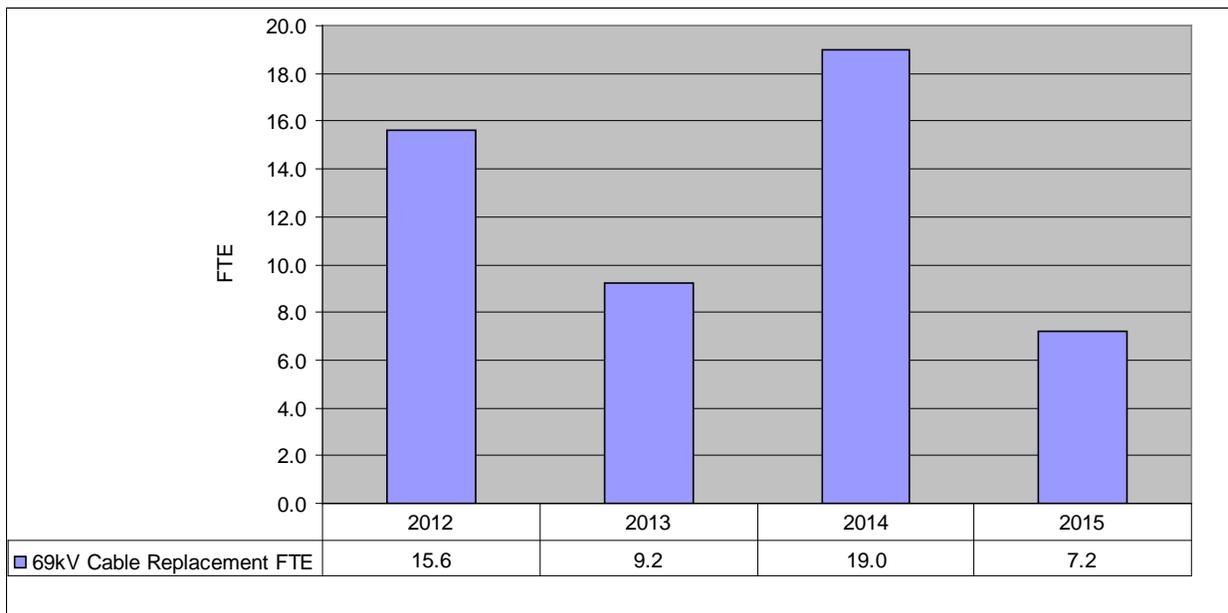
FIGURE I.C.3: RIDGELAND 69kV REPLACEMENT CAPITAL BUDGET



I.C.4: Program FTEs

Figure I.C.4 presents the estimated FTEs to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

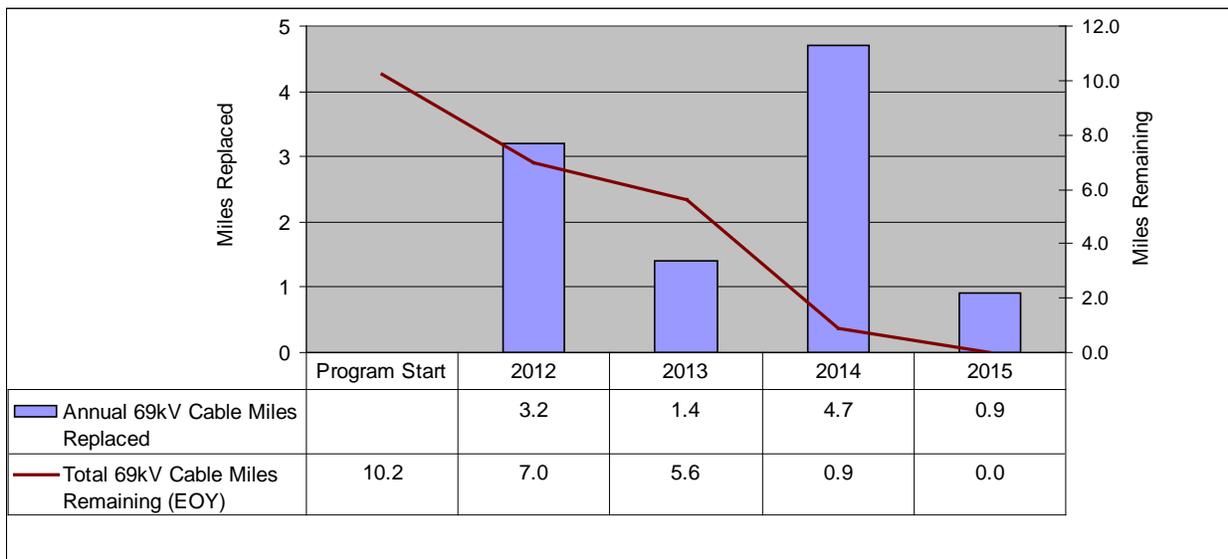
FIGURE I.C.4: RIDGELAND 69kV CABLE REPLACEMENT FTES



I.C.5: Program Units

Figure I.C.5 shows the estimated miles of 69kV cable to be replaced. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed. An estimated 10.2 circuit miles of 69kV cable will be replaced over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE I.C.5: RIDGELAND 69kV CABLE REPLACEMENT UNITS



SECTION I.D: Construction of Training Facilities

I.D.1: Program Scope

ComEd currently provides electric and customer operations training at five locations within its service territory, with one location being leased and two locations using temporary trailers. Under Section 16-108.5(b)(1)(A)(ii), ComEd must undertake training facility construction or upgrade projects totaling an estimated \$10,000,000. This Section further provides that, at a minimum, one facility must be located in a municipality having a population of more than 2 million residents and one facility must be located in a municipality having a population of between 150,000 and 170,000 residents. Accordingly, the Training Facilities program provides for construction or upgrade of two training facilities - one facility to be located in Chicago (approximately 2.7 million residents); and one facility to be located in Rockford (approximately 153,000 residents).

Chicago Facility

The Chicago facility will be designed for the purpose of obtaining certification under the United States Green Building Council's Leadership in Energy Efficiency Design (LEED) Green Building Rating System. The Chicago facility will be an overhead, underground, substation construction, transmission underground, area operating and distribution operations training facility planned to have the following characteristics:

- Indoor space consisting of classrooms, instructor office space, restroom and locker facilities, indoor equipment area, new technology area, storage, conference room,

student break area, food area (microwaves/refrigerators), 20 indoor underground cable splicing bays, and an indoor pole yard.

- Outdoor yard area consisting of approximately 40 poles and associated overhead primary and secondary conductors, overhead equipment, distribution automation equipment, URD distribution equipment, underground manholes and conduit, and substation equipment. The estimated yard size is 400' x 600'.

Rockford Facility

The Rockford facility will be an overhead construction training facility planned to have the following characteristics:

- Indoor area consisting of classrooms, instructor office space, restroom & locker facilities, storage, conference room, student break area, and a food area (microwaves/refrigerators).
- Outdoor yard area consisting of approximately 40 poles and associated overhead primary and secondary conductors, overhead equipment, distribution automation equipment, and URD distribution equipment. The estimated yard size is 200' x 300'.

I.D.2: Program Schedule

The Training Facilities program is planned to be completed over a three-year period. Estimates of cost, and units of work, and schedules for that work, may evolve over time. Figure I.D.2 presents the estimated schedule to complete the Training Facilities program. The schedule consists of the following key tasks for each facility:

- Mobilization and ramp-up

- Building requirement and location research
- Concept and schematic design
- Construction design
- Construction documents
- Permitting
- Bidding process
- Award contract
- Construction phase
 - Grading and foundations
 - Building construction
 - Paving
 - Punch list
- Demobilization and ramp-down

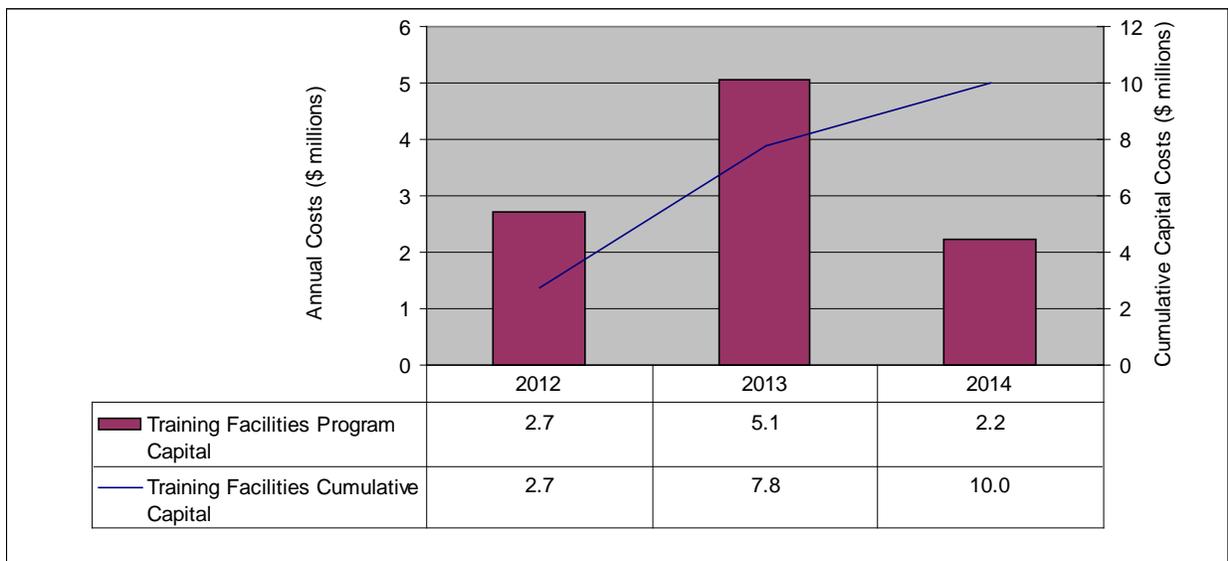
FIGURE I.D.2: TRAINING FACILITIES SCHEDULE

Activity ID	Activity Name	Cal. Days	Start	Finish	2012		2013		2014		2015		2016		2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
ComEd Infrastructure Investment Plan															
Training Facilities															
Rockford Training Facility															
FR-12-0010	Confirmation of project use and building square footage s...	10	20-Jan-12	29-Jan-12											
FR-12-0020	Confirmation of site needs and area	5	30-Jan-12	03-Feb-12											
FR-12-0030	Property search (size based on building at site needs det...	5	04-Feb-12	08-Feb-12											
FR-12-0040	Initial property selection	5	09-Feb-12	13-Feb-12											
FR-12-0110	Zoning analysis	5	14-Feb-12	18-Feb-12											
FR-12-0120	Geotechnical investigation	5	14-Feb-12	18-Feb-12											
FR-12-0130	Survey & title commitment analysis	5	14-Feb-12	18-Feb-12											
FR-12-0140	Easement and encumbrance analysis	5	14-Feb-12	18-Feb-12											
FR-12-0150	Site concept plan evaluation	5	14-Feb-12	18-Feb-12											
FR-12-0160	Property procurement & closing (based on favorable due ...	5	19-Feb-12	23-Feb-12											
FR-12-0310	Design Contracting	5	24-Feb-12	28-Feb-12											
FR-12-0320	Schematic Design: Cost Estimate	15	29-Feb-12	14-Mar-12											
FR-12-0330	Schematic Design: Preliminary meetings with City & otha...	15	15-Mar-12	29-Mar-12											
FR-12-0340	Design Development: Design Development Cost Estimate	29	29-Feb-12	28-Mar-12											
FR-12-0350	Construction Documents	21	30-Mar-12	19-Apr-12											
FR-12-0360	Submit for Building Permit	30	20-Apr-12	19-May-12											
FR-12-0370	Issue Construction Documents for Bidding	0		20-Apr-12											
FR-12-0380	Bidding & scope reviews	30	20-Apr-12	19-May-12											
FR-12-0385	Award Construction Contracts	0		19-May-12											
FR-12-0390	Contractor submittals and reviews by design professional	15	20-May-12	04-Jun-12											
FR-12-0410	Mobilization	2	03-Jun-12	04-Jun-12											
FR-12-0420	Property clearing and grubbing	5	05-Jun-12	08-Jun-12											
FR-12-0430	Site work and mass grading	10	10-Jun-12	19-Jun-12											
FR-12-0440	Site Utilities	14	20-Jun-12	03-Jul-12											
FR-12-0450	Foundation excavation, forming, pouring and backfill	18	03-Jul-12	21-Jul-12											
FR-12-0460	Building structure erection	31	20-Jul-12	19-Aug-12											
FR-12-0465	Site Work (Pavin etc...)	20	20-Aug-12	08-Sep-12											
FR-12-0470	Building exterior enclosure	16	20-Aug-12	06-Sep-12											
FR-12-0480	Mechanical, Electrical, Plumbing & Fire Protection (MEP)...	15	06-Sep-12	20-Sep-12											
FR-12-0490	Interior framing	15	21-Sep-12	06-Oct-12											
FR-12-0500	Interior finishes	10	06-Oct-12	15-Oct-12											
FR-12-0510	MEP Trim	10	16-Oct-12	25-Oct-12											
FR-12-0520	Systems start-up and testing	10	26-Oct-12	04-Nov-12											
FR-12-0530	Equipment & Technology Installation	15	05-Nov-12	19-Nov-12											
FR-12-0540	Substantial Completion	0		19-Nov-12											
FR-12-0550	Punch list & walk through	29	20-Nov-12	20-Dec-12											
FR-12-0555	Final Completion	0		20-Dec-12											
Chicago Training Facility															
FR-12-1010	Confirmation of project use and building square footage s...	5	20-Jun-12	24-Jun-12											
FR-12-1020	Confirmation of site needs and area	5	25-Jun-12	28-Jun-12											
FR-12-1030	Property search (size based on building at site needs det...	10	30-Jun-12	10-Jul-12											
FR-12-1040	Initial property selection	10	11-Jul-12	20-Jul-12											
FR-12-1110	Zoning analysis	10	21-Jul-12	30-Jul-12											
FR-12-1120	Geotechnical investigation	10	21-Jul-12	30-Jul-12											
FR-12-1130	Survey & title commitment analysis	10	21-Jul-12	30-Jul-12											
FR-12-1140	Easement and encumbrance analysis	10	21-Jul-12	30-Jul-12											
FR-12-1150	Site concept plan evaluation	10	21-Jul-12	30-Jul-12											
FR-12-1160	Property procurement & closing (based on favorable due ...	10	31-Jul-12	08-Aug-12											
FR-12-1310	Design Contracting	10	10-Aug-12	19-Aug-12											
FR-12-1320	Schematic Design: Cost Estimate	30	20-Aug-12	19-Sep-12											
FR-12-1330	Schematic Design: Preliminary meetings with City & otha...	30	20-Sep-12	18-Oct-12											
FR-12-1340	Design Development: Design Development Cost Estimate	60	20-Aug-12	19-Oct-12											
FR-12-1350	Construction Documents	32	20-Oct-12	20-Nov-12											
FR-12-1360	Issue Construction Documents for Bidding	0		20-Nov-12											
FR-12-1370	Submit for Building Permit	30	20-Nov-12	21-Dec-12											
FR-12-1380	Bidding & scope reviews	86	21-Nov-12	20-Feb-13											
FR-12-1385	Award Construction Contracts	0		20-Feb-13											
FR-12-1390	Contractor submittals and reviews by design professional	110	21-Feb-13	11-Jun-13											
FR-12-1410	Mobilization	1	12-Jun-13	12-Jun-13											
FR-12-1420	Property clearing and grubbing	7	13-Jun-13	19-Jun-13											
FR-12-1430	Site work and mass grading	10	20-Jun-13	29-Jun-13											
FR-12-1440	Site Utilities	26	30-Jun-13	26-Jul-13											
FR-12-1450	Foundation excavation, forming, pouring and backfill	27	26-Jul-13	21-Aug-13											
FR-12-1460	Building structure erection	120	20-Aug-13	20-Dec-13											
FR-12-1465	Site Work (Pavin etc...)	20	22-Mar-14	10-Apr-14											
FR-12-1470	Building exterior enclosure	20	21-Dec-13	12-Jan-14											
FR-12-1480	Mechanical, Electrical, Plumbing & Fire Protection (MEP)...	20	13-Jan-14	02-Feb-14											
FR-12-1490	Interior framing	20	03-Feb-14	22-Feb-14											
FR-12-1500	Interior finishes	15	23-Feb-14	08-Mar-14											
FR-12-1510	MEP Trim	15	10-Mar-14	24-Mar-14											
FR-12-1520	Systems start-up and testing	10	25-Mar-14	03-Apr-14											
FR-12-1530	Equipment & Technology Installation	18	04-Apr-14	21-Apr-14											
FR-12-1540	Substantial Completion	0		21-Apr-14											
FR-12-1550	Punch list & walk through	31	22-Apr-14	22-May-14											
FR-12-1555	Final Completion	0		22-May-14											

I.D.3: Program Budget

Pursuant to Section 16-108.5(b) of the Act, ComEd will invest in training facility construction or upgrade projects totaling an estimated \$10 million. Figure I.D.3 presents the estimated capital budget for the Training Facilities program to be accounted for under the Plan.²

FIGURE I.D.3: TRAINING FACILITIES CAPITAL BUDGET UNDER PLAN

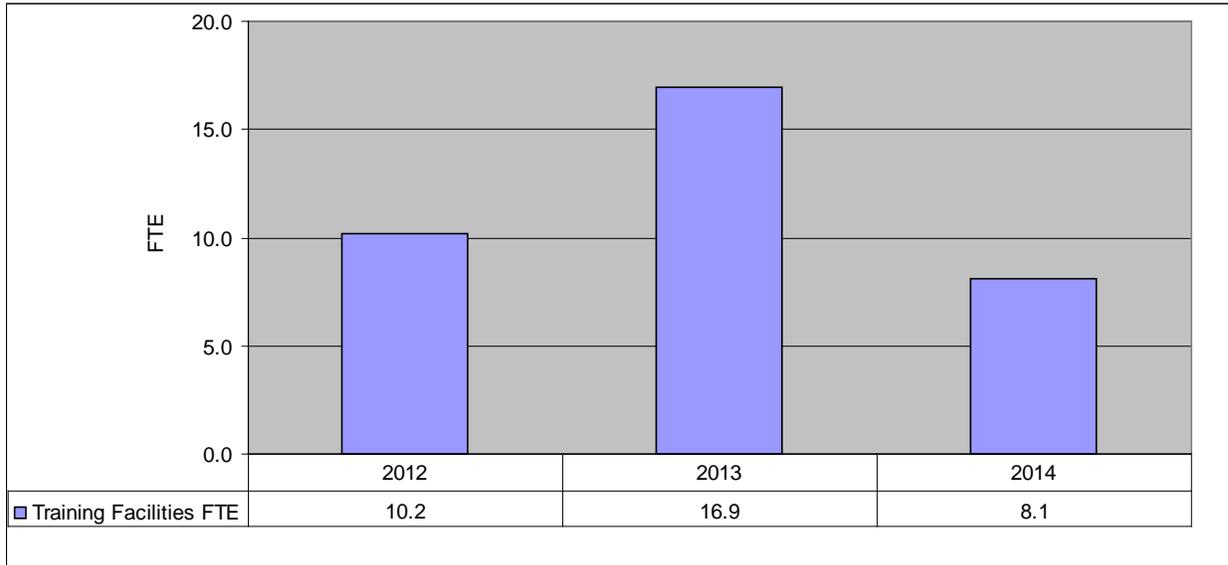


² Although the Plan includes capital investments of \$10 million in Training Facilities, plus associated expenses, pursuant to Section 16-108.5(b) of the Act, this does not limit ComEd’s ability to make additional capital investments in Training Facilities through baseline capital investments at ComEd’s discretion.

I.D.4: Program FTEs

Figure I.D.4 presents the estimated FTEs to perform the scheduled scope of work for the Training Facilities program. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include but are not limited to engineers, technicians, work planners, finance support, safety support, scheduling support and craft.

FIGURE I.D.4: TRAINING FACILITIES FTES



Note that the FTEs shown in Figure I.D.4 above reflect only those associated with the \$10 million capital investment, plus associated expenses, which will be accounted for under the Plan.

SECTION I.E: Wood Pole Inspection, Treatment and Replacement

I.E.1: Program Scope

Under current processes, ComEd inspects wood poles on the distribution system according to a 24-year cycle, which translates to approximately 56,000 poles inspected per year. The Wood Pole Inspection, Treatment and Replacement program entails inspection and required treatment of approximately 667,000 wood poles over the five-year program period, or approximately 133,400 poles per year. Based on ComEd's past inspection experience, about 15,000 pole replacements or reinforcements are projected to be identified from the inspections over the five-year program period. This program represents the first five years of a 10-year plan to transition ComEd to a 10-year inspection cycle for wood poles.

I.E.2: Program Schedule

Figure I.E.2 presents the estimated schedule to complete the scope of work associated with the Wood Pole Inspection, Treatment and Replacement program during the five-year period. Estimates of cost, and units of work, and schedules for that work, may evolve over time. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish work priority for the calendar year
- Perform inspections
- Perform scoping and configuration analysis for pole treatments or replacements

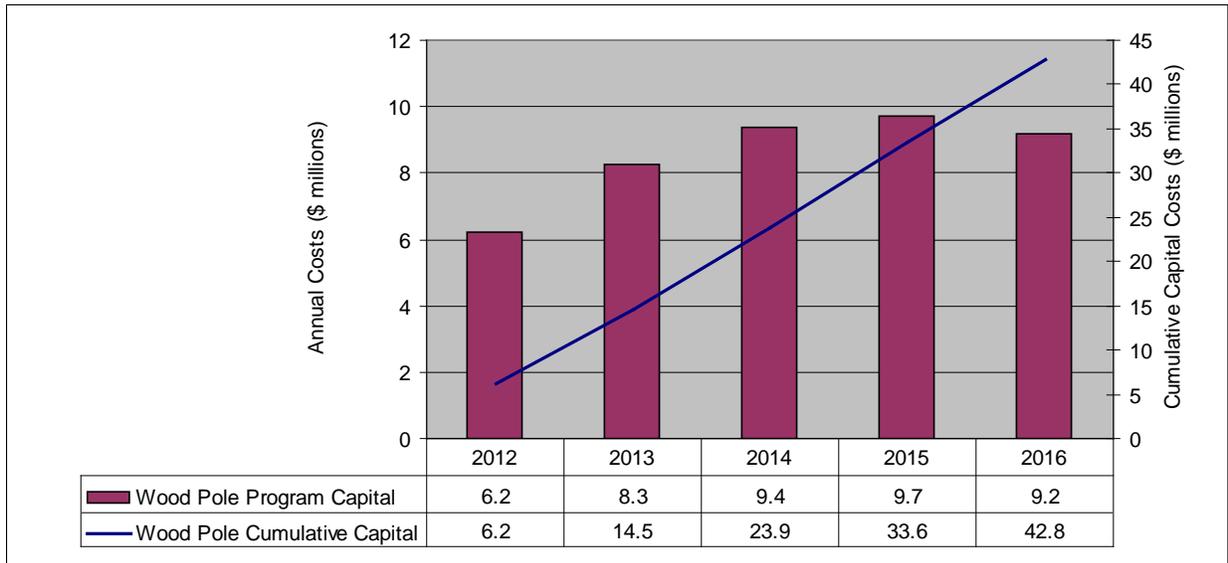
- Perform design tasks, procure material, and identify required outages in schedule
- Planning (develop work packages and secure permits)
- Construction – replace, treat or reinforce poles

I.E.3: Program Budget

Figure I.E.3 presents the estimated capital budget for the Wood Pole Inspection, Treatment and Replacement program. ComEd estimates the program cost to be capital investments of \$43 million, plus associated expenses over the program period.

Estimates of cost, units of work, and schedules for that work may evolve over time.

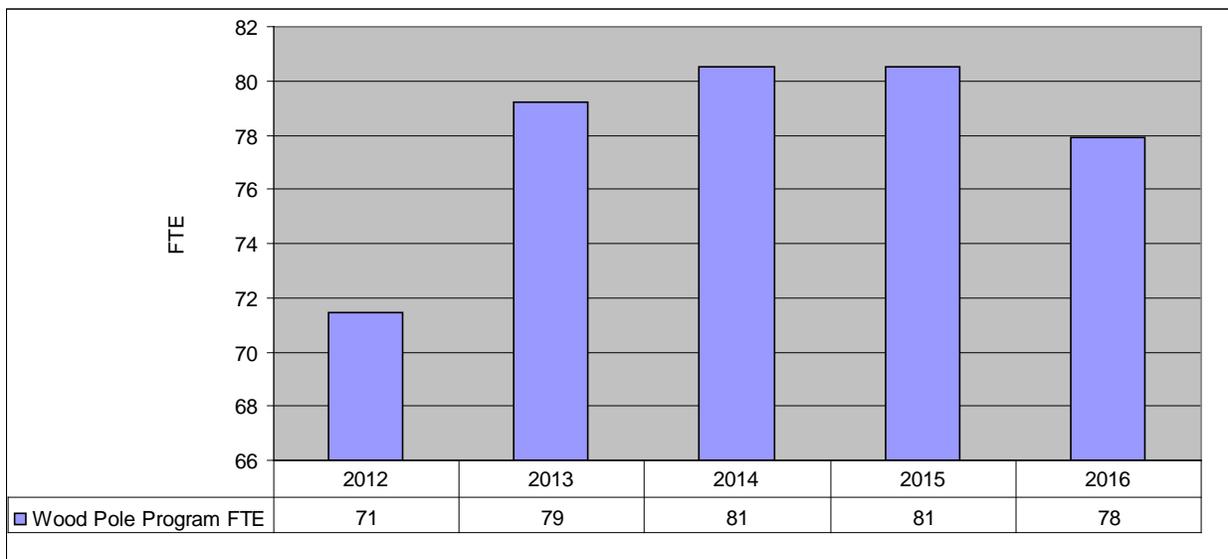
FIGURE I.E.3: WOOD POLE INSPECTION, TREATMENT AND REPLACEMENT CAPITAL BUDGET



I.E.4: Program FTEs

Figure I.E.4 presents the estimated FTEs to perform the scheduled scope of work for the Wood Pole Inspection, Treatment and Replacement program. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

FIGURE I.E.4: WOOD POLE INSPECTION, TREATMENT AND REPLACEMENT FTEs

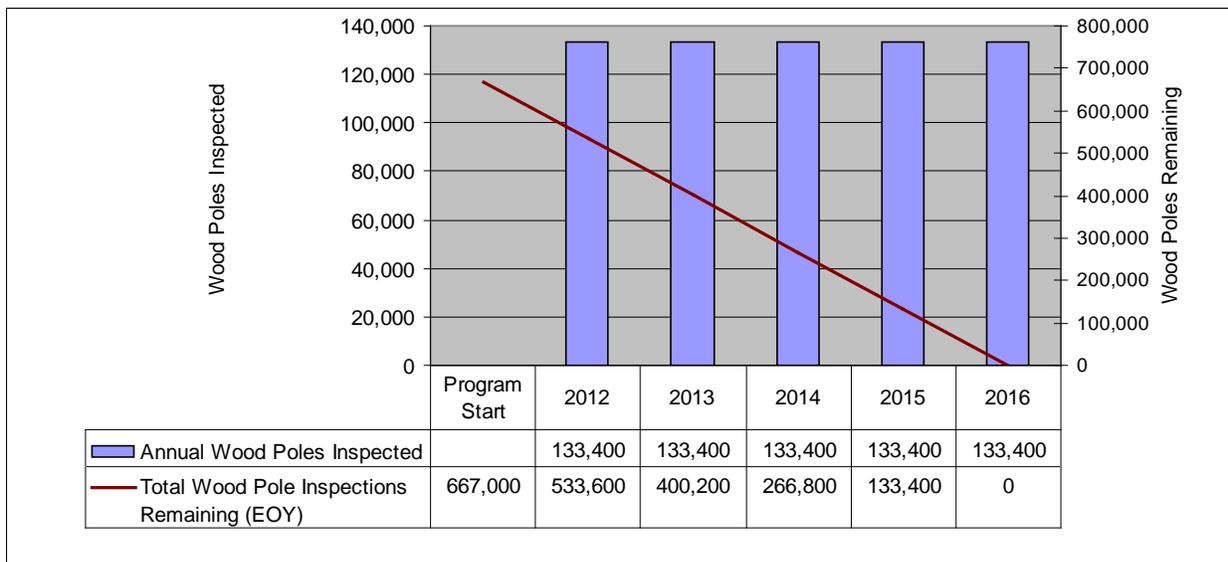


I.E.5: Program Units

Wood Pole Inspections

Figure I.E.5 shows the estimated quantity of wood poles to be inspected. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed. It is estimated that approximately 667,000 wood poles will be inspected over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

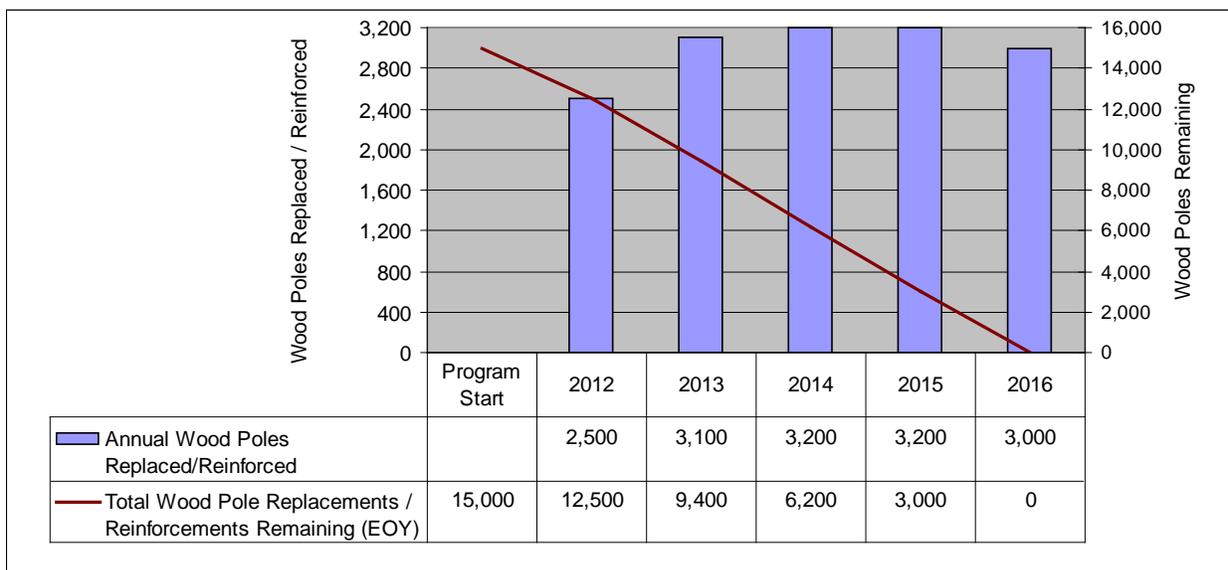
FIGURE I.E.5: WOOD POLE INSPECTION UNITS



Wood Pole Replacements/Reinforcements

Figure I.E.6 shows the estimated quantity of wood poles to be replaced or reinforced. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed. It is estimated that approximately 15,000 wood poles will be replaced or reinforced over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time. This estimate is based on assumptions concerning inspection results which will be adjusted over time as actual data become available. Early estimates of wood pole replacement / reinforcements such as these, therefore, contain a high degree of uncertainty and are not intended to reflect firm scope.

FIGURE I.E.6: WOOD POLE REPLACEMENT/REINFORCEMENT UNITS



SECTION I.F: Storm Hardening

I.F.1: Program Scope

Storm hardening is designed to further reduce the susceptibility of circuits to storm-related damage, including but not limited to high winds, thunderstorms, and ice storms. Improvements may include, but are not limited to, overhead to underground conversion, installation of tree-resistant cable, additional vegetation management and other engineered solutions. This program is aimed at hardening facilities in accordance with the directives of Section 16-108.5(b) of the Act, and is not directed at any defect or failure to properly design, engineer, construct, or maintain the existing system. Additionally, while storm hardening is designed to further reduce the susceptibility of circuits to storm-related damage, it does not make circuits immune to damage from storms or other sources.

Circuits will be prioritized based on each circuit's historical susceptibility to storm-related damage and the ability to provide the greatest customer benefit upon completion of the improvement.

For a circuit to be eligible for improvement, ComEd's ability to maintain proper tree clearances surrounding the overhead circuit must not have been impeded by third parties.

Considerations for storm hardening of circuits include, but are not limited to:

- Mainline Circuits- (Focus on circuits with the highest customer storm impact)
 - 4kV and 12kV overhead circuits

- Prioritized by weighted reliability (SAIFI, Customers Served) and vegetation scores from 2008 to 2011
- Circuits with fewer than 500 customers
- Engineering review for determining targeted mainline portions and hardening solution
- Circuit Taps- (Focus on circuits with pocket area storm duration impact)
 - 4kV and 12kV overhead circuits
 - Prioritized by weighted reliability (SAIFI, customer Interruptions) and vegetation scores from 2008 to 2011
 - Circuit tap must meet vegetation outage and CAIDI gates
 - Engineering review for determining tap portions and hardening solutions (e.g., URD, spacer cable, and enhanced trimming)

I.F.2: Program Schedule

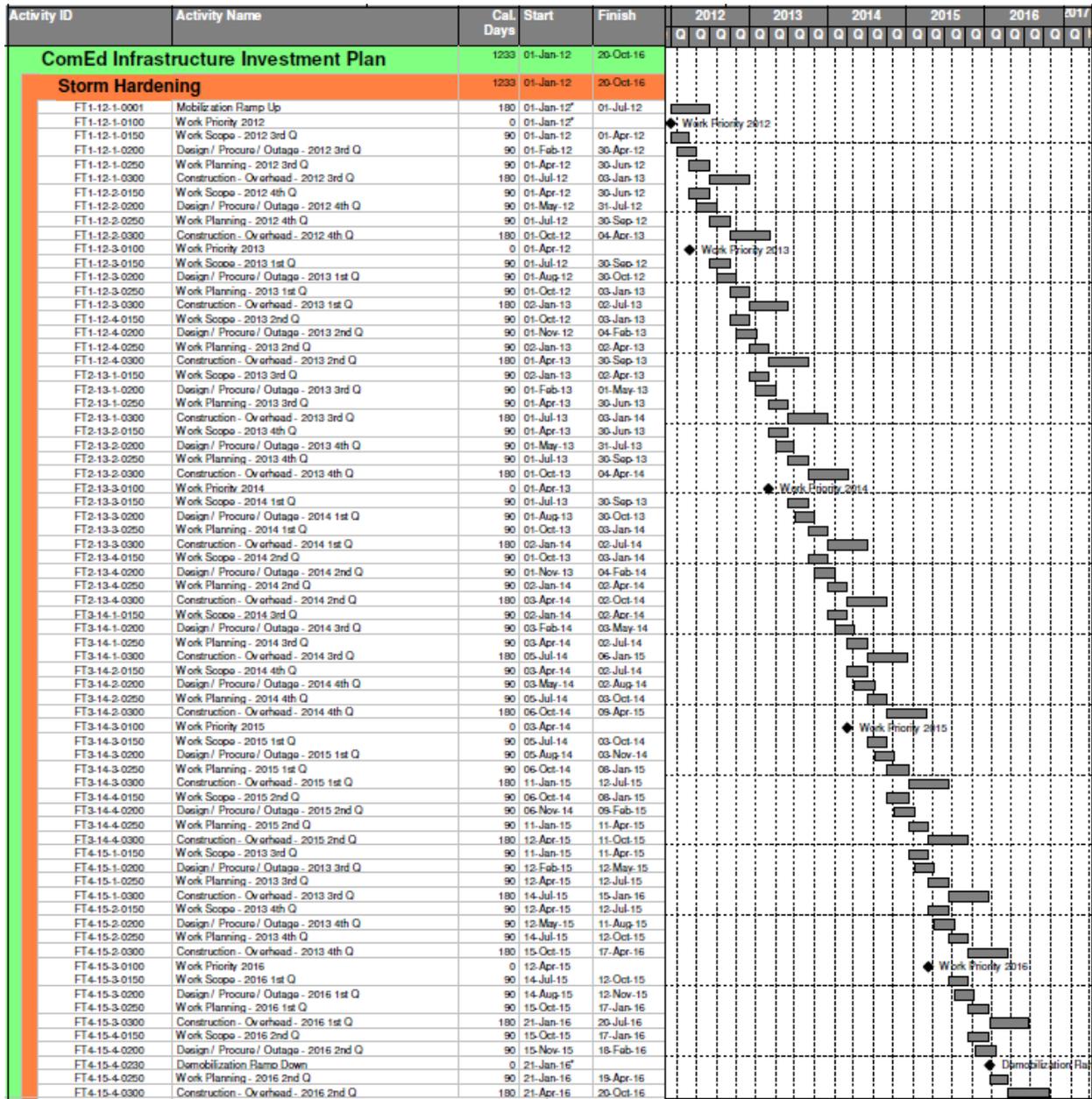
The Storm Hardening program is planned to be completed over a five-year period with reasonable ramp-up and ramp-down periods. Estimates of cost, and units of work, and schedules for that work, may evolve over time.

Figure I.F.2 presents the estimated schedule to complete the Storm Hardening program. The schedule consists of essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish priority for the calendar year

- Perform scoping and configuration analysis; review sequence for capacity issues
- Perform design tasks, procure material, and identify required outages in schedule
- Planning (develop work packages and secure permits)
- Construction – Install conduit when required
- Construction – Cable terminal pole work
- Construction – Install cable / overhead conductor / other engineered solutions
- Test cable / conductor and liven
- Demobilization ramp-down period

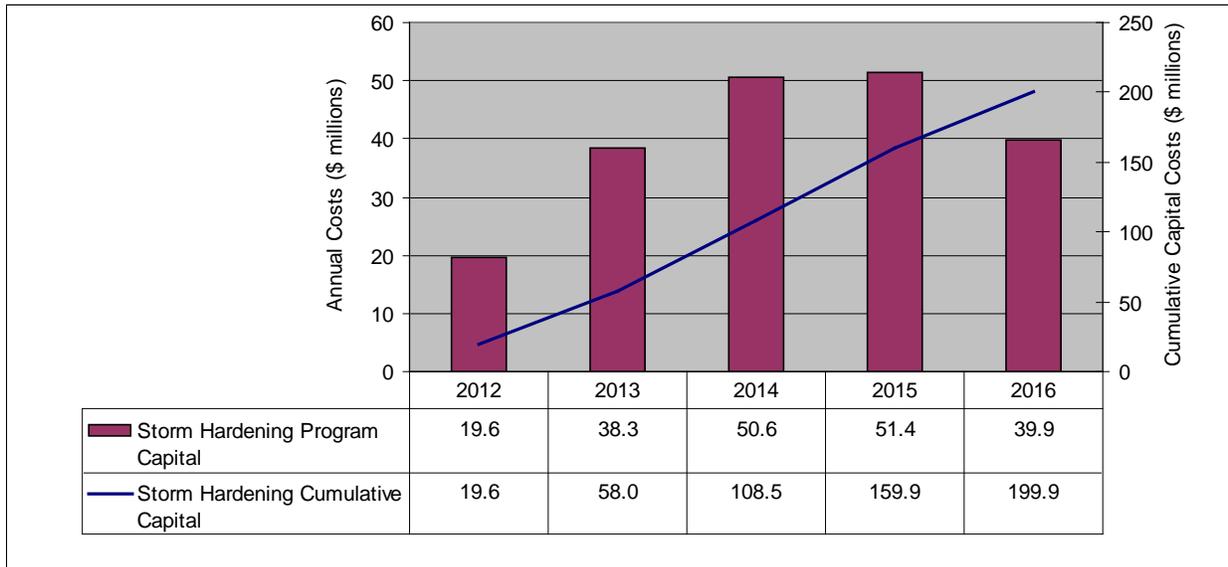
FIGURE I.F.2: STORM HARDENING SCHEDULE



I.F.3: Program Budget

Figure I.F.3 presents the estimated capital budget for the Storm Hardening program. ComEd estimates the program cost to be capital investments of \$200 million, plus associated expenses, over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

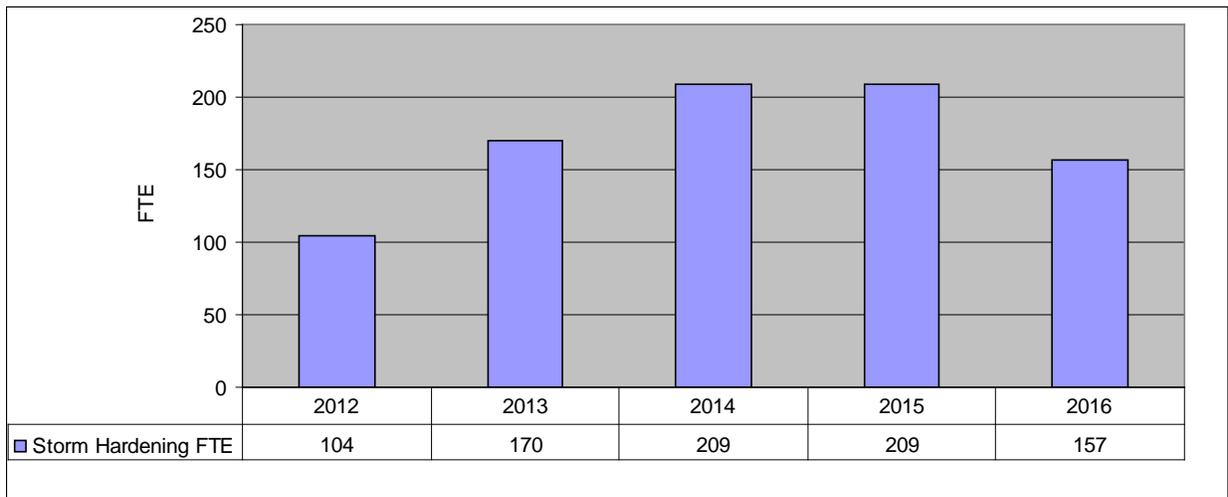
FIGURE I.F.3: STORM HARDENING CAPITAL BUDGET



I.F.4: Program FTEs

Figure I.F.4 presents the estimated FTEs to perform the scheduled scope of work for the Storm Hardening program. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

FIGURE I.F.4: STORM HARDENING FTES



SECTION II: SMART GRID-RELATED INVESTMENTS

SECTION II.A: Distribution Automation

II.A.1: Program Scope

Distribution Automation (“DA”) technology uses “sectionalizing” devices and remote communications to detect issues on the distribution system and automatically re-route power, accordingly, to minimize the number of customers impacted. This is commonly referred to as the self-healing nature of the Smart Grid.

The ComEd DA technologies include:

- Field sectionalizing devices to detect and isolate faults at various segments of the distribution system;
- A radio system to remotely transmit and relay control functions and indicate the status of various system parameters; and
- The computer systems that control, operate, monitor and store the data for the DA system.

The DA program targets installing DA field devices, and also encompasses the replacement of the older 900 MHZ radio system with a new higher security system that meets newly-established government regulations. In addition, the older 34kV field devices will be upgraded to the newer Intelli-team (“IT-2”) software to allow for better flexibility with fault isolation and operation with the new radio system.

The DA program includes the planned installation of 2,600 new DA devices; upgrade of 780 34kV devices to the new IT-2 platform; and installation of approximately

5,000 new radios to upgrade the radio system to the new information security requirements.

II.A.2: Program Schedule

This program is planned to be completed over a five-year period plus reasonable ramp-up and ramp-down periods. Estimates of cost, and units of work, and schedules for that work, may evolve over time.

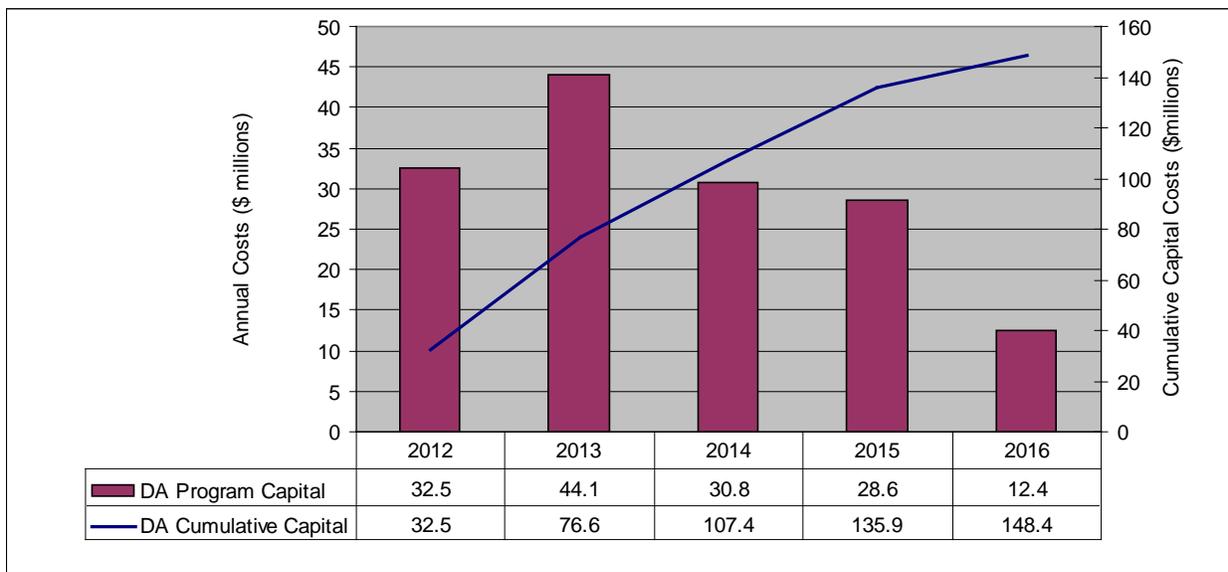
Figure II.A.2 presents the estimated schedule to complete the DA program. The schedule consists of essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish priority for the calendar year
- Perform scoping
- Perform design tasks, procure material, and identify required outages in schedule
- Planning (develop work packages and secure permits)
- Construction – install reclosers
- Construction – install radios, repeaters
- Test and liven
- Demobilization ramp-down period

II.A.3: Program Budget

Figure II.A.3 presents the estimated capital budget for the DA program. ComEd estimates the program cost to be capital investments of \$148 million, plus associated expenses, over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

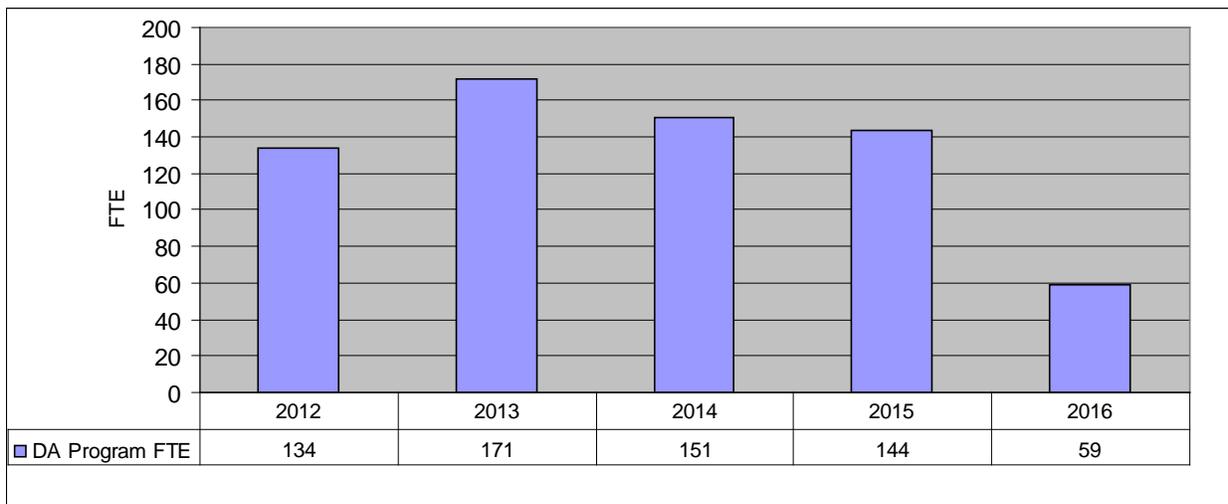
FIGURE II.A.3: DISTRIBUTION AUTOMATION CAPITAL BUDGET



II.A.4: Program FTEs

Figure II.A.4 presents the estimated FTEs required to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support and craft.

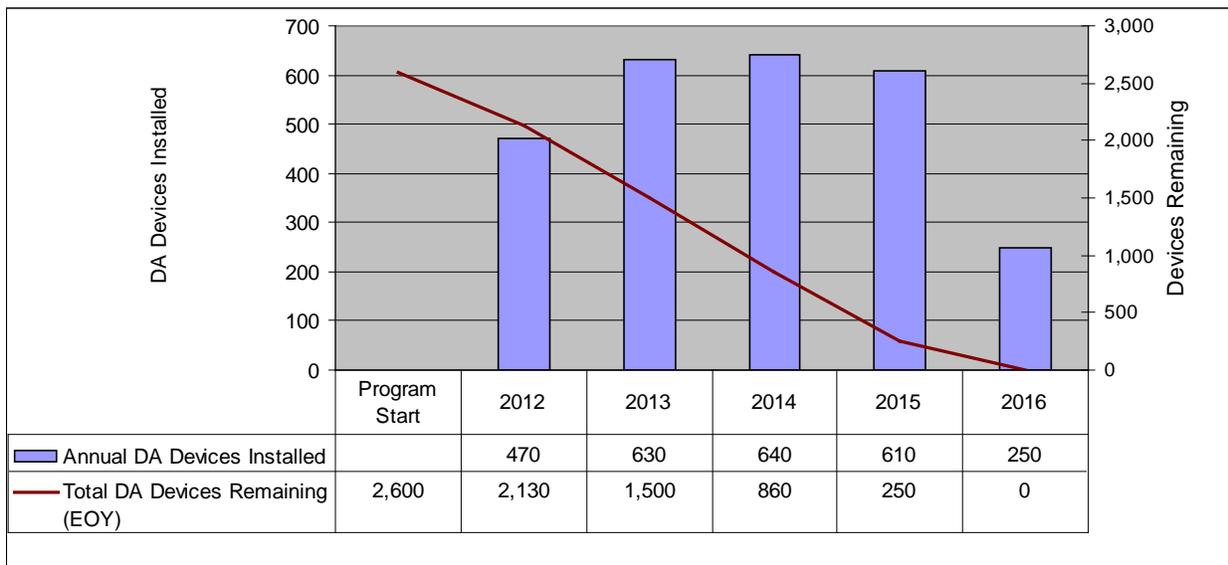
FIGURE II.A.4: DISTRIBUTION AUTOMATION FTES



II.A.5: Program Units

Figure II.A.5 shows the estimated quantity of DA devices to be installed. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year, as well as the scope of work left to be performed. It is estimated that approximately 2,600 DA devices will be installed over the course of the program. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE II.A.5: DISTRIBUTION AUTOMATION UNITS



SECTION II.B: Substation Micro-Processor Relay Upgrades

II.B.1: Program Scope

This program is planned to modernize 10 ComEd substations, including upgrade of electro-mechanical protective relays to modern microprocessor-based devices, replacement of aging circuit breakers, enabling two-way communications between ComEd's control center and each substation, and installation of technology to remotely monitor the health of ComEd's largest assets, its transformers. This program provides for fault detection, remote asset monitoring, improved site security, and dynamic voltage regulation. Partial upgrades may be applied across the service territory. ComEd has over 250 transmission-fed substations, and over 800 substations in total.

II.B.2: Program Schedule

This program is planned to be completed over a five-year period plus reasonable ramp-up and ramp-down periods. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure II.B.2 presents the estimated schedule to complete the Substation Micro-Processor Relay Upgrade Program. The schedule is essentially a rolling quarterly work plan consisting of the following key tasks:

- Ramp-up period
- Establish priority for the calendar year
- Perform scoping

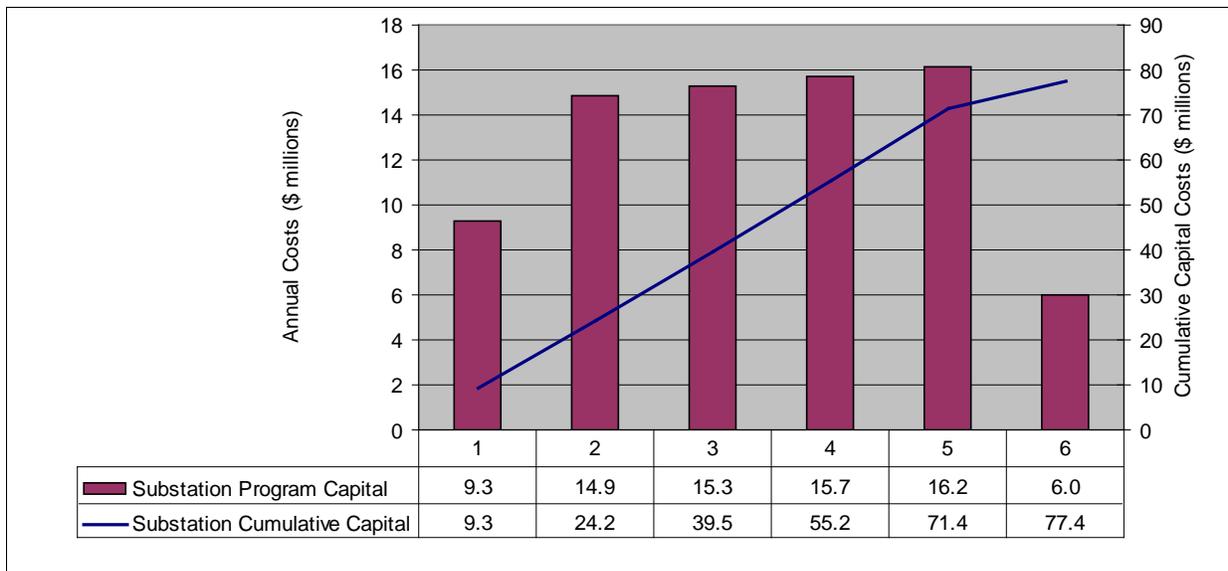
- Perform design tasks, procure material, and identify required outages in schedule
- Relay and protection schemes
- Planning tasks
- Construction – install conduit, breakers, monitoring, micro-processor relays
- Test and liven
- Demobilization ramp-down period

Activity ID	Activity Name	Cal. Days	Start	Finish	2012		2013		2014		2015		2016		2017
					Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
IS1-12-1-3115	Non-Outage Realted Work - Intl. Sub. #7	92	01-Jun-15	01-Sep-15											
IS1-12-1-3120	Schedule 2016 Distribution Bus Outages	0	29-Jun-15	29-Jun-15											
IS1-12-1-3130	Procure Long Lead-Times - Intl. Sub. #8	8	24-Jun-15	01-Jul-15											
IS1-12-1-3140	Issue & Review Construction Drawings - Intl. Sub. #8	36	20-Aug-15	25-Sep-15											
IS1-12-1-3150	Procure Long Lead-Times - Intl. Sub. #9	8	24-Jun-15	01-Jul-15											
IS1-12-1-3160	Issue & Review Construction Drawings - Intl. Sub. #9	36	20-Aug-15	25-Sep-15											
IS1-12-1-3170	Bus Outage Related Work (Bus Relays, Trans Monitoring...	91	02-Sep-15	04-Dec-15											
IS1-12-1-3175	Bus Outage Related Work (Bus Relays, Trans Monitoring...	91	02-Sep-15	04-Dec-15											
IS1-12-1-3180	Final Wiring & Commissioning - Intl. Sub. #6	28	05-Dec-15	04-Jan-16											
IS1-12-1-3185	Final Wiring & Commissioning - Intl. Sub. #7	28	05-Dec-15	04-Jan-16											
IS1-12-1-3190	Develop Relay & SCADA Settings - Intl. Sub. #8	112	28-Sep-15	23-Jan-16											
IS1-12-1-3200	Develop Dashboard - Intl. Sub. #8	51	05-Nov-15	29-Dec-15											
IS1-12-1-3210	Develop Relay & SCADA Settings - Intl. Sub. #9	112	28-Sep-15	23-Jan-16											
IS1-12-1-3220	Develop Dashboard - Intl. Sub. #9	51	05-Nov-15	29-Dec-15											
IS1-12-1-4010	Mobilization - Intl. Sub. #8	12	05-Mar-16	16-Mar-16											
IS1-12-1-4015	Mobilization - Intl. Sub. #9	12	05-Mar-16	16-Mar-16											
IS1-12-1-4020	AC/DC Panel Install - Intl. Sub. #8	47	05-Mar-16	20-Apr-16											
IS1-12-1-4025	AC/DC Panel Install - Intl. Sub. #9	47	05-Mar-16	20-Apr-16											
IS1-12-1-4030	Develop Work Scope - Intl. Sub. #10	61	16-Jan-16	17-Mar-16											
IS1-12-1-4060	Schedule 2017 Transmission Outages	0	21-Mar-16	21-Mar-16											
IS1-12-1-4065	Remote Terminal Work - Intl. Sub. #8	5	01-May-16	05-May-16											
IS1-12-1-4065	Remote Terminal Work - Intl. Sub. #9	5	01-May-16	05-May-16											
IS1-12-1-4070	Transmission Line Outage Related Work - Intl. Sub. #8	33	01-May-16	03-Jun-16											
IS1-12-1-4075	Transmission Line Outage Related Work - Intl. Sub. #9	33	01-May-16	03-Jun-16											
IS1-12-1-4080	Design & Engineer - Intl. Sub. #10	71	31-Mar-16	10-Jun-16											
IS1-12-1-4100	Construction - Substation Outages Suspended	92	01-Jun-16	01-Sep-16											
IS1-12-1-4110	Non-Outage Realted Work - Intl. Sub. #8	92	01-Jun-16	01-Sep-16											
IS1-12-1-4115	Non-Outage Realted Work - Intl. Sub. #9	92	01-Jun-16	01-Sep-16											
IS1-12-1-4120	Schedule 2017 Distribution Bus Outages	0	29-Jun-16	29-Jun-16											
IS1-12-1-4130	Procure Long Lead-Times - Intl. Sub. #10	8	24-Jun-16	01-Jul-16											
IS1-12-1-4140	Issue & Review Construction Drawings - Intl. Sub. #10	36	20-Aug-16	25-Sep-16											
IS1-12-1-4170	Bus Outage Related Work (Bus Relays, Trans Monitoring...	91	02-Sep-16	04-Dec-16											
IS1-12-1-4175	Bus Outage Related Work (Bus Relays, Trans Monitoring...	91	02-Sep-16	04-Dec-16											
IS1-12-1-4180	Final Wiring & Commissioning - Intl. Sub. #8	28	05-Dec-16	04-Jan-17											
IS1-12-1-4185	Final Wiring & Commissioning - Intl. Sub. #9	28	05-Dec-16	04-Jan-17											
IS1-12-1-4190	Develop Relay & SCADA Settings - Intl. Sub. #10	112	28-Sep-16	23-Jan-17											
IS1-12-1-4200	Develop Dashboard - Intl. Sub. #10	51	05-Nov-16	29-Dec-16											
IS1-12-1-5010	Mobilization - Intl. Sub. #10	12	05-Mar-17	16-Mar-17											
IS1-12-1-5020	AC/DC Panel Install - Intl. Sub. #10	47	05-Mar-17	20-Apr-17											
IS1-12-1-5060	Remote Terminal Work - Intl. Sub. #10	5	30-Apr-17	04-May-17											
IS1-12-1-5070	Transmission Line Outage Related Work - Intl. Sub. #10	33	30-Apr-17	03-Jun-17											
IS1-12-1-5100	Construction - Substation Outages Suspended	92	01-Jun-17	01-Sep-17											
IS1-12-1-5110	Non-Outage Realted Work - Intl. Sub. #10	92	01-Jun-17	01-Sep-17											
IS1-12-1-5170	Bus Outage Related Work (Bus Relays, Trans Monitoring...	91	02-Sep-17	04-Dec-17											
IS1-12-1-5180	Final Wiring & Commissioning - Intl. Sub. #10	28	05-Dec-17	04-Jan-18											
IS1-12-1-5190	Demobilization Ramp Down	28	05-Dec-17	04-Jan-18											

II.B.3: Program Budget

Figure II.B.3 presents the estimated capital budget for the Substation Micro-Processor Relay Upgrade program. ComEd estimates the program cost to be capital investments of \$77 million, plus associated expenses, over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

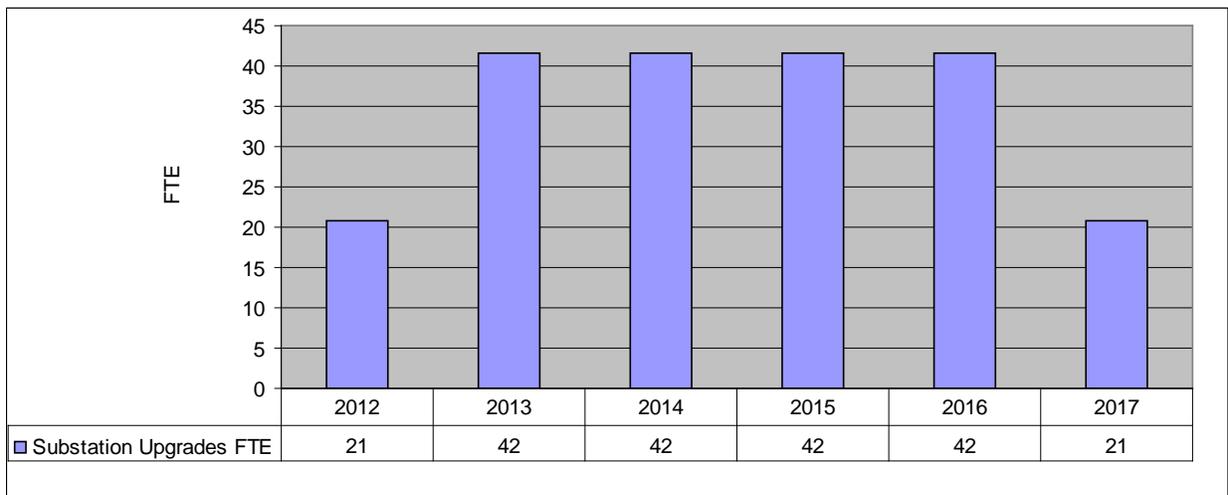
FIGURE II.B.3: SUBSTATION MICRO-PROCESSOR RELAY UPGRADE CAPITAL BUDGET



II.B.4: Program FTEs

Figure II.B.4 presents the estimated FTEs required to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support and craft.

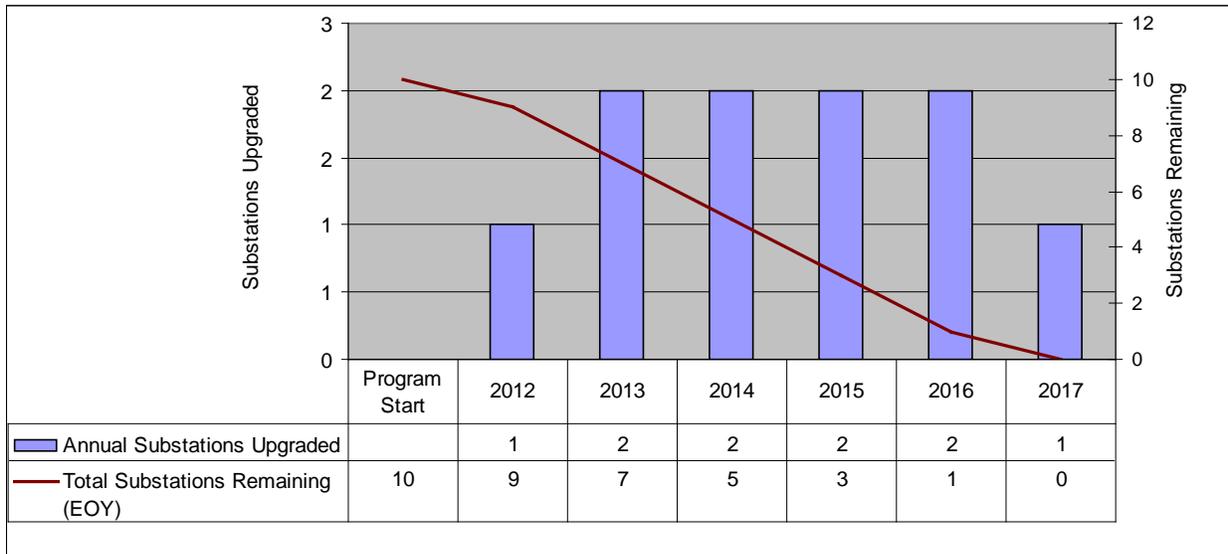
FIGURE II.B.4: SUBSTATION MICRO-PROCESSOR RELAY UPGRADES FTES



II.B.5: Program Units

Figure II.B.5 shows the estimated quantity of substation upgrades to be completed. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work planned to be accomplished each year as well as the scope of work left to be performed. An estimated 10 substations will be upgraded over the course of the program. Partial upgrades may be applied across the service territory. Estimates of cost, units of work, and schedules for that work may evolve over time.

FIGURE II.B.5: SUBSTATION MICRO-PROCESSOR RELAY UPGRADES UNITS



SECTION II.C: Smart Meters

II.C.1: Program Scope

ComEd will install retail Smart Meters across its entire service territory over a 10-year period. Deployment of Smart Meters will occur pursuant to the Advanced Metering Infrastructure Deployment Plan (“AMI Plan”) to be filed with the Commission no later than April 23, 2012. Prior to ComEd’s filing, ComEd will review its proposed AMI Plan with the Smart Grid Advisory Council.

Although the AMI Plan remains under development, in general ComEd expects at this time that Smart Meter installs pursuant to the AMI Plan will be completed in 2021. Preparatory activities began in the 4th quarter of 2011 and included planning for workshops.

Any Smart Meter deployment, including that which ComEd expects to propose, necessarily has both one-time implementation costs as well as ongoing expenses to monitor and maintain the technologies and network for communicating with these meters. The one-time costs include the equipment (e.g., meters, network devices, telecommunication infrastructure), labor (e.g., meters and network device installation, network design, systems design and integration, project management), and computer hardware and software. (Of course, at the end of the equipment’s lifespan it will need replacement, but these costs are “one time” for purposes of the deployment and the AMI Plan.) The ongoing expense to maintain and operate the Smart Meter network and systems is primarily composed of additional employees in Customer Operations and Information Technology (“IT”) to monitor and maintain the systems, network and meters

as well as ongoing AMI vendor fees to provide services with the operating software, systems and network.

In addition, the project scope includes the transformational redesign of the customer service processes (and others like outage management) to fully leverage the capabilities of the technology and deliver added benefits to customers. Given the extensive scope, the process redesign part of the project will last three to five years and involves the operating, IT, and other support organizations. For example, one of the first work streams will involve the replacement of the meter data management system. This work stream alone is expected to take approximately one year.

Finally, the scope includes initial and on-going customer experience activities in order to maximize the customer's positive experience with the installation, educate customers on the features and functions of the solution, proactively address general customer issues, and minimize the impact of customer-specific issues.

Subject to the outcome of the AMI Plan development and approval process, ComEd expects to install approximately 130,000 meters during 2012 and, thereafter, an average of 443,000 meters per year through 2021.

II.C.2: Program Schedule

This program is planned to be completed over a 10-year period including reasonable ramp-up and ramp-down periods. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure II.C.2 presents the estimated schedule to complete the Smart Meter program.

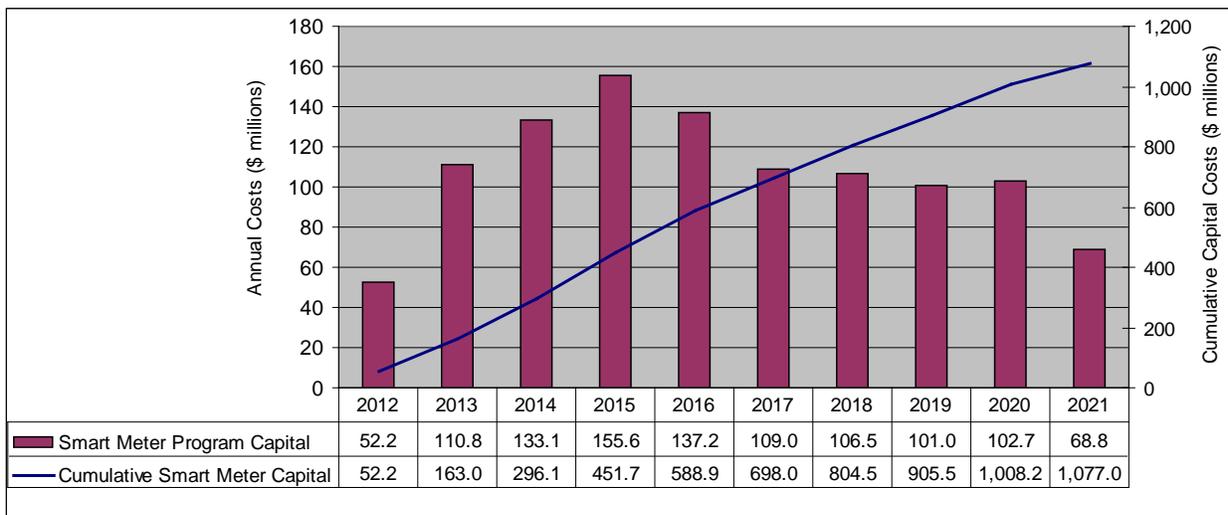
The schedule consists of tasks that are essentially repeated for each of ComEd's operating regions, including the following:

- Ramp-up period
- Establish priority for the calendar year
- Perform scoping
- Install communications network (repeaters, collectors, backhaul)
- Complete meter exchanges
- Demobilization ramp-down period

II.C.3: Program Budget

Figure II.C.3 presents the preliminary capital budget for the Smart Meter program. All work associated with the program will be covered by this budget. ComEd estimates the program cost to be capital investments of \$1.08 billion, plus associated expenses, over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

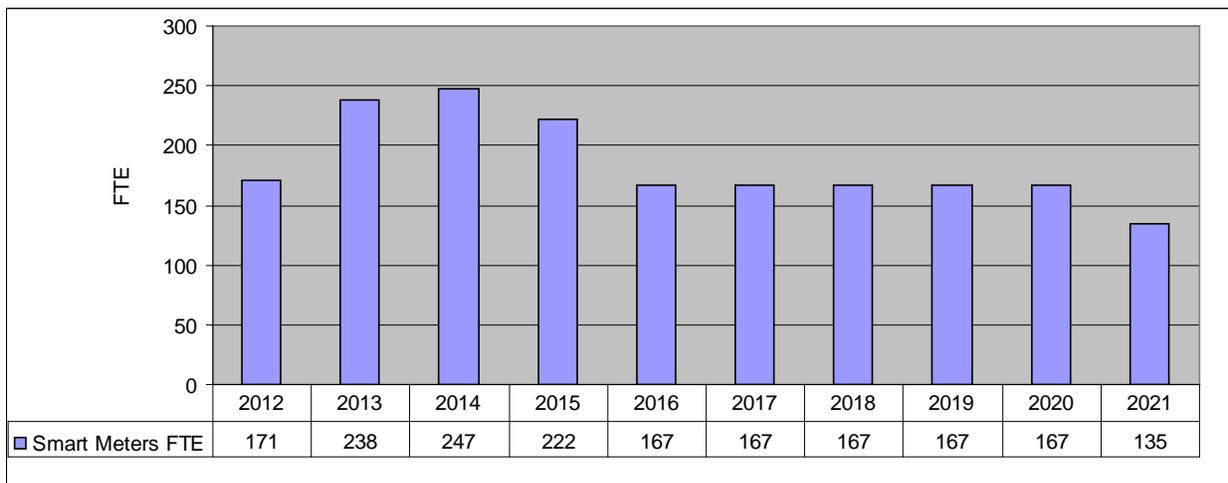
FIGURE II.C.3: PRELIMINARY SMART METER CAPITAL BUDGET



II.C.4: Program FTEs

Figure II.C.4 presents the preliminary estimated FTEs required to perform the scheduled scope of work. FTEs have been calculated by taking the estimated worker-hours to execute the scope of work and dividing by 2,080. Job classifications may include, but are not limited to, project management, business analysts, technicians, work planners, IT company and contractor professionals, safety support, scheduling support, legal support and physical and clerical craft.

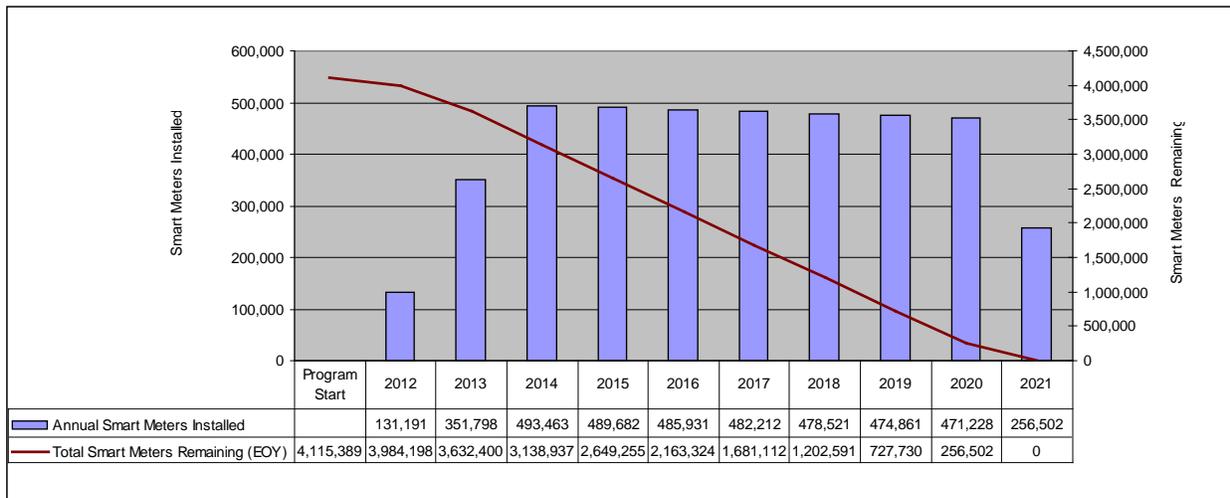
FIGURE II.C.4: PRELIMINARY SMART METER FTES



II.C.5: Program Units

Figure II.C.5 shows the preliminary estimated quantity of Smart Meters to be installed. This chart reflects the scope of work currently planned to be accomplished each year, as well as the scope of work left to be performed. These estimates are subject to revision in the AMI plan, as filed and approved by the Commission. An estimated 4.1 million Smart Meters will have been installed by the end of the program.

FIGURE II.C.5: PRELIMINARY SMART METER UNITS



SECTION II.D. Associated Cyber Secure Data Communications Network

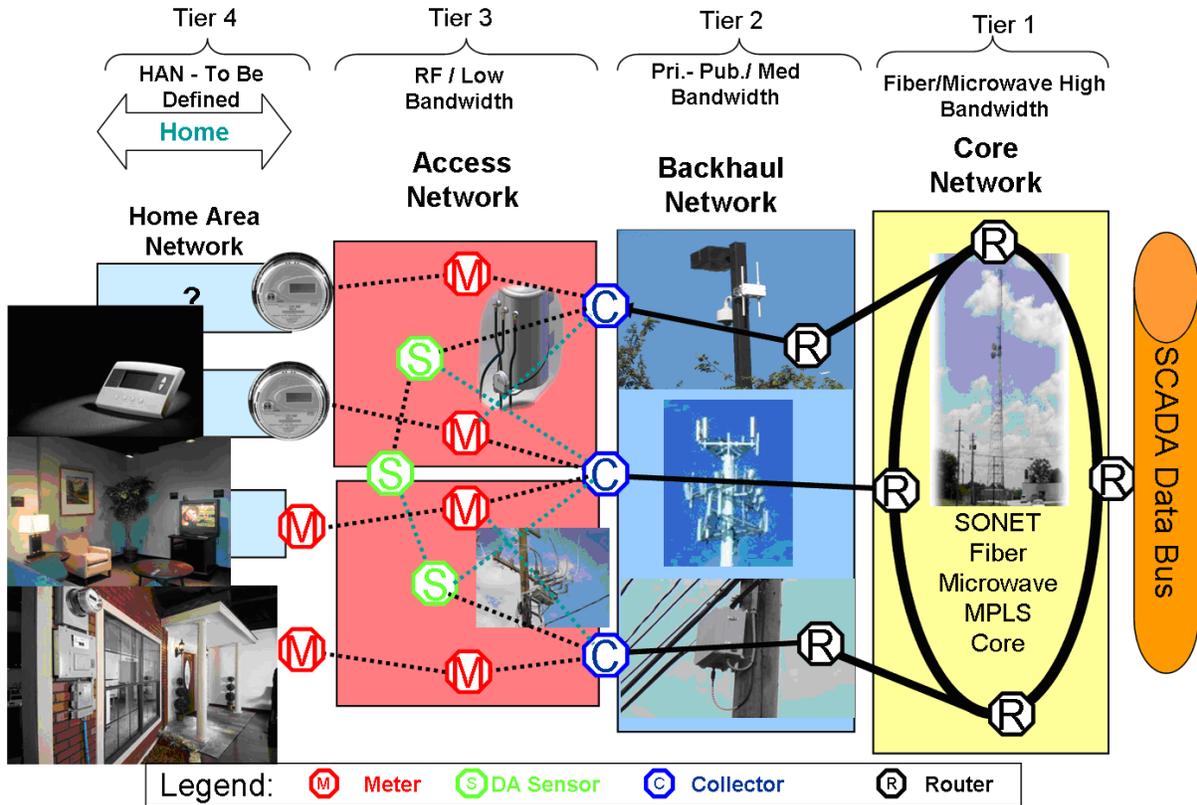
Communications infrastructure forms the foundation platform for enabling Smart Grid technologies and applications because it transcends each functional area of the Smart Grid. Consequently, the ComEd Smart Grid Communications Infrastructure will provide a secure tiered, robust and deterministic communications architecture with adequate capacity to meet the current and foreseeable future performance requirements of the Smart Grid Application portfolio.

A cyber-secure communications infrastructure is a system that includes and implements a robust security model that is aligned with industry best practices and existing security standards (such as NISTIR 7628 developed by the National Institute of Standards and Technology). The security model will address confidentiality, integrity, availability and non-repudiation of data transport through the network.

Figure II.D depicts the high-level architecture for the four tiers of the proposed ComEd communication network that would support Smart Grid communication.

FIGURE II.D: SMART GRID COMMUNICATION TIERS

Smart Grid Communication Tiers



Appendix A: Full-Time Equivalent Jobs

Requirements from 220 ILCS 5/16-108.5

As defined in Section 16-108.5(b) of the Act, ComEd will demonstrate that at least 2,000 full-time equivalent jobs in Illinois were created in a “peak program year,” which is defined as the consecutive 12-month period with the highest number of full-time equivalent (“FTE”) jobs that occurs between January 1, 2013 and December 31, 2015. These jobs will include direct jobs, contractor positions, and induced jobs. A

portion of the FTE jobs created will include incremental personnel hired subsequent to the effective date of Section 16-108.5.

Reporting Schedule

ComEd will submit a report no later than April 1 of each year that includes any updates to the Plan. Such reports will include the number of FTE jobs created for the prior calendar year and cumulatively.

Further, ComEd will report no later than 45 days after the last day of the first, second and third quarter of each year, which equates to the dates of May 15, August 14 and November 14 of each year, a verified quarterly report for the prior quarter including:

1. Total number of FTE jobs created during the prior quarter;
2. Total number of employees as of the last day of the prior quarter;
3. Total number of FTE hours in each job classification or job title; and
4. Total number of incremental employees and contractors in support of the investments included in this Plan for the prior quarter.

The quarterly reporting will not include induced full time equivalent jobs.

Definition of Full-Time Equivalent (FTE)

The full-time equivalent (“FTE”) metric is a calculation used to convert full-time, temporary and part-time jobs into comparable metrics. Full-time equivalent (FTE) employment is a standard concept used by the Department of Energy and other government agencies which follows the general formula:

Total Number of Hours Worked and Funded by the Plan within the Annual Period

Annual Hours in a Full-time Schedule

Total Number of Hours Worked and Funded within the Annual Period:

In order to perform the calculation, ComEd has estimated the total worker-hours in support of the Plan on an annual basis. Estimated worker-hours are composed primarily of:

1. Worker-hours charged directly to work orders associated with specific scopes of work; and
2. Worker-hours charged on timesheets in support of the Plan

Worker-hours charged on timesheets in support of the Plan have been allocated to the specific scopes of work proportionally, based on the estimated worker-hours charged to work orders for specific scopes of work.

Job classifications may include but are not limited to engineers, technicians, work planners, finance support, safety support, scheduling support, legal support and craft.

Annual Hours in a Full Time Schedule:

For ComEd, the full-time hours for an annual period are 2,080 (52 weeks per year * 40 hours per week). This same calculation will be applied on a quarterly basis for the purpose of reporting requirements.

However, FTEs are not defined as employee 'head counts' and should not be confused with employment levels and trends. This is because the 2,080 hours number used in the denominator includes compensable hours for approved time off such as

vacation time, holidays, sick leave, jury duty and other approved time off, and does not just represent hours available to work in support of the Plan.

For this reason, in addition to the calculation above, and in order to provide a more accurate estimate of employment levels that result from work in support of the Plan. ComEd will also report Full Time Equivalent Jobs on a quarterly basis using the following formula:

$$\frac{\text{Total Number of Hours Worked and Funded by the Plan within Reporting Quarter for ComEd and its affiliates}}{\text{Quarterly Hours available for work in a ComEd Full-time Schedule}}$$

Plus

$$\frac{\text{Total Number of Hours Worked and Funded by the Plan within Reporting Quarter for Contractors}}{\text{Quarterly Hours available for work in a Contractor Full-time Schedule}}$$

The numerator calculation is the same as above.

Quarterly Hours available for work in a ComEd full-time schedule is defined as 260 days in a year minus 13 paid holidays, 20 days average vacation, 3 average sick days, and 4 average other days (jury duty, funeral leave, etc.) for a net of 220 days per year. This value is then converted to a number of quarterly hours using the following formula:

$$(220 \text{ days} * 8 \text{ hours per day}) / 4 \text{ quarters per year} = 440 \text{ hours per quarter}$$

Quarterly Hours available for work in a contractor full-time schedule is defined as 2,000 hours in a year divided by 4 quarters per year.

Definition of FTE Job Categories

- Direct jobs includes employees of ComEd and its affiliates
- Contractor positions of ComEd or its affiliates includes non-employees, for example staff augmentation, project labor, outsourcing, consulting, physical craft contractors, clerical/administrative contractors, and construction of training facilities
- Induced jobs means jobs that are econometrically estimated using a statistical “jobs multiplier” of quarterly capital spending by program over time under this Plan.
Induced jobs essentially account for the multiplier effects of direct and contractor jobs created, and is a function of such jobs. FTEs described above in each sub-part of the Plan, however, do not include induced jobs.

FTE Job Examples

Figure A.1 presents an example of total FTE jobs by year based on 2,080 full-time hours for an annual period. This example includes the total estimated FTEs to execute the scheduled scope of work associated with the Plan, plus an assumed 40 percent multiplier for induced FTEs. Figure A.1 is included for illustrative purposes only, and is not intended to be a demonstration of ComEd’s peak program year FTE job commitment. The actual estimate of induced FTEs to be used in calculating ComEd’s peak program year FTE jobs will be econometrically estimated by a third party using a statistical “jobs multiplier” of capital spending by program over time under this Plan.

FIGURE A.1: FTE JOB EXAMPLE USING 2,080 ANNUAL HOURS

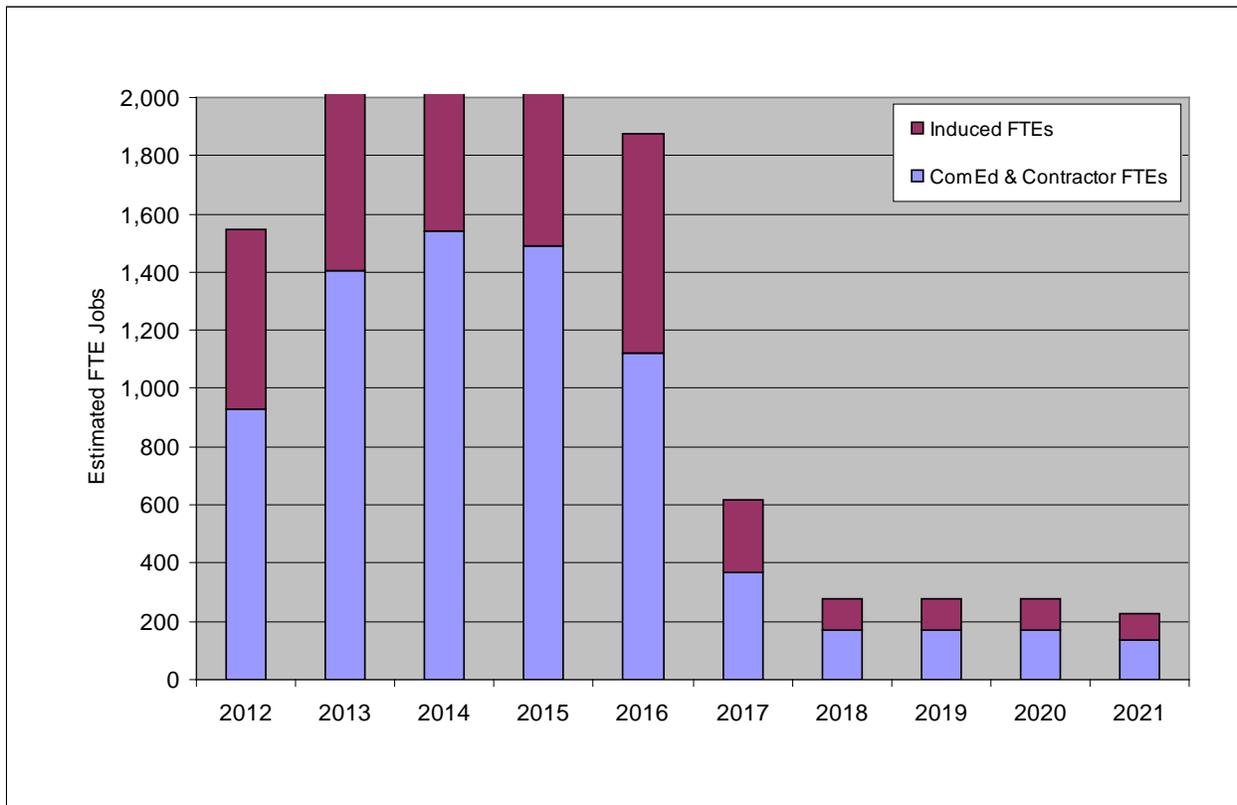
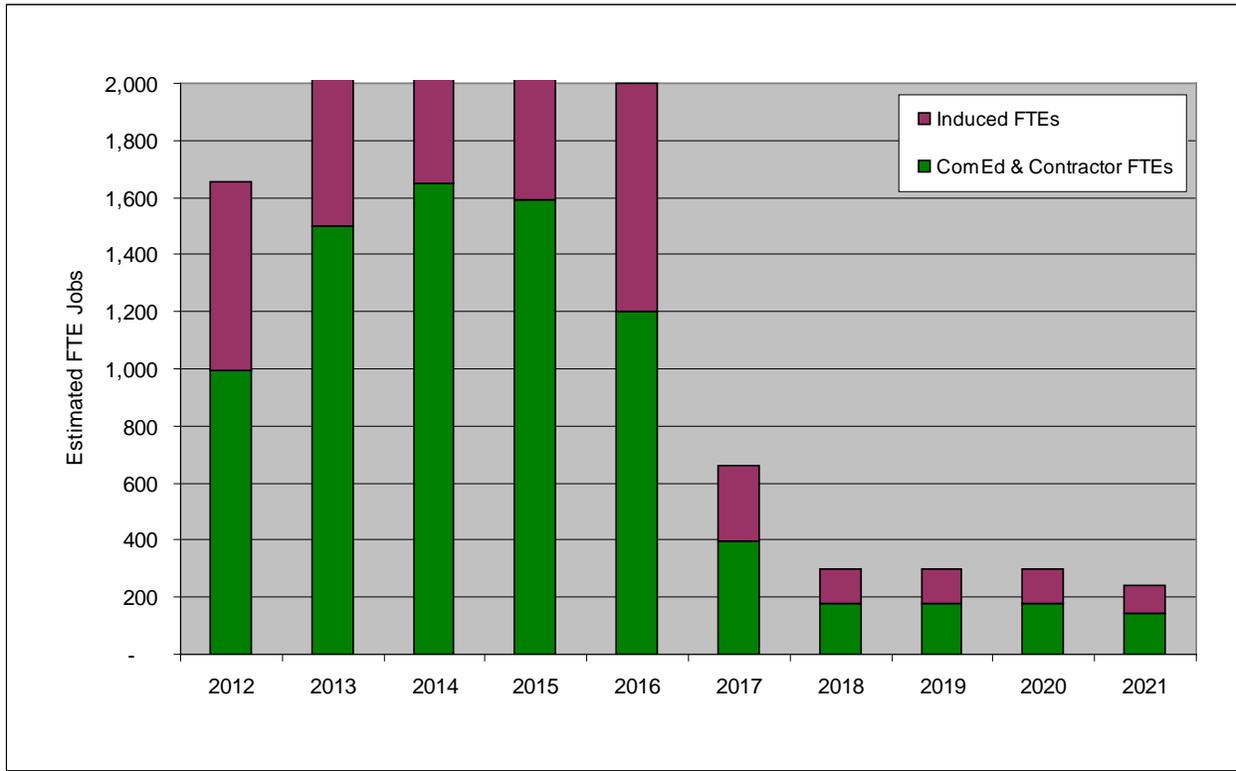


Figure A.2 presents an example of total FTE jobs by year based on a calculation of FTE jobs for an annual period using available hours, which accounts for compensable hours for approved time off. In this example, ComEd FTEs are calculated based on 1,760 hours per annual period, and contractor FTEs are calculated based on 2,000 hours per annual period, as described in the preceding section. This example includes the total estimated FTEs to execute the scheduled scope of work associated with the Plan, plus an assumed 40 percent multiplier for induced FTEs. Figure A.2 is included for illustrative purposes only, and is not intended to be a demonstration of ComEd's peak program year FTE jobs commitment. The actual estimate of induced FTEs to be used in calculating ComEd's peak program year FTE jobs will be econometrically estimated by a third party using a statistical "jobs multiplier" of capital spending by program over time under this Plan.

FIGURE A.2: FTE JOB EXAMPLE USING AVAILABLE ANNUAL HOURS



Activity ID	Activity Name	Weeks Days	Start	Finish	2012				2013				2014				2015				2016				2017				2018				2019				2020				2021											
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
	Design (Quarterly Cycle)		1030 01-Apr-12	19-Apr-16	[Gantt bar]																																															
	Construction - Reinforce (Quarterly Cycle)		1104 01-Apr-12	20-Jul-16	[Gantt bar]																																															
	Construction - Replace (Quarterly Cycle)		1106 01-Jul-12	20-Oct-16	[Gantt bar]																																															
	Storm Hardening		1222 01-Jan-12	30-Oct-16	[Gantt bar]																																															
	Storm Hardening		1222 01-Jan-12	30-Oct-16	[Gantt bar]																																															
	Work Priority (Yearly Cycle)		890 01-Jan-12	12-Jul-15	[Gantt bar]																																															
	Scoping (Quarterly Cycle)		222 06-Oct-14	17-Jan-16	[Gantt bar]																																															
	Design, Procure & Install (Quarterly Cycle)		1038 01-Feb-12	18-Feb-16	[Gantt bar]																																															
	Work Planning (Quarterly Cycle)		1038 01-Apr-12	19-Apr-16	[Gantt bar]																																															
	Construction OH (Quarterly Cycle)		1106 01-Jul-12	20-Oct-16	[Gantt bar]																																															
	Distribution Automation		1182 01-Jan-12	20-Aug-16	[Gantt bar]																																															
	DA Devices		1182 01-Jan-12	20-Aug-16	[Gantt bar]																																															
	Work Priority (Yearly Cycle)		634 01-Jan-12	05-Jul-14	[Gantt bar]																																															
	Scoping (Quarterly Cycle)		965 01-Jan-12	12-Oct-15	[Gantt bar]																																															
	Design / Procure (Quarterly Cycle)		370 01-Mar-12	15-Dec-15	[Gantt bar]																																															
	Planning (Quarterly Cycle)		374 01-May-12	18-Feb-16	[Gantt bar]																																															
	Construction (Quarterly Cycle)		1040 01-Jul-12	20-Jul-16	[Gantt bar]																																															
	Testing & Learning (Quarterly Cycle)		1041 01-Aug-12	20-Aug-16	[Gantt bar]																																															
	Substation Micro-Processor Relay Upgrades		1032 17-Jan-12	04-Jan-16	[Gantt bar]																																															
	Intelligent Substations		1022 17-Jan-12	04-Jan-16	[Gantt bar]																																															
	Scoping & Design (Quarterly Cycle)		1022 20-Mar-12	29-Jun-16	[Gantt bar]																																															
	Design & Procure (Quarterly Cycle)		1291 17-Jan-12	23-Jan-17	[Gantt bar]																																															
	Conduit & Prep (Quarterly Cycle)		1505 05-Mar-12	04-Jan-16	[Gantt bar]																																															
	Smart Meters		2054 02-Jan-12	24-Dec-21	[Gantt bar]																																															
	AMI Smart Meters		2054 02-Jan-12	24-Dec-21	[Gantt bar]																																															
	Work Priority (Yearly Cycle)		0 02-Jan-12	03-Jan-12	[Gantt bar]																																															
	AP & Relay Install		2324 02-Jul-12	22-Jun-21	[Gantt bar]																																															
	Meter Exchanges		2410 07-Sep-12	24-Dec-21	[Gantt bar]																																															
	Facilities		2332 05-Jul-12	07-Jul-21	[Gantt bar]																																															

As required by Section 16-108.5(b), the total estimated \$2.6 billion of cumulative capital investment under this Plan will be incremental to ComEd’s total annual capital investment program, as defined in Section 16-108.5(b). That is, over the term of the Plan, ComEd will invest an estimated cumulative total of \$2.6 billion more capital than a capital investment program that invested at an annual rate defined by ComEd’s average capital spend for calendar years 2008, 2009, and 2010, as reported in ComEd’s applicable Federal Energy Regulatory Commission (“FERC”) Form 1s. Table B.1 presents a summary of the Plan’s estimated total capital budget by program, and Figure B.2 presents the estimated total capital budget by year associated with the Plan.

TABLE B.1: SUMMARY OF PLAN 10-YEAR CAPITAL COSTS BY PROGRAM

Program	Capital Total (\$M)
<i>URD Injection and Replacement Program</i>	\$586
<i>Mainline Cable System Refurbishment and Replacement Program</i>	\$447
<i>Ridgeland 69kV Cable Program</i>	\$28
<i>Training Facilities Program</i>	\$10
<i>Wood Pole Program</i>	\$43
<i>Storm Hardening Program</i>	\$200
Total Reliability-Related Investments	\$1,313
<i>Distribution Automation Program</i>	\$148
<i>Substation Micro-Processor Relay Upgrade Program</i>	\$77
<i>Smart Meter Program (10-year)</i>	\$1,077
Total Smart Grid Related Investments	\$1,303
Total Plan Investments	\$2,616

FIGURE B.2: PLAN 10-YEAR CAPITAL COSTS

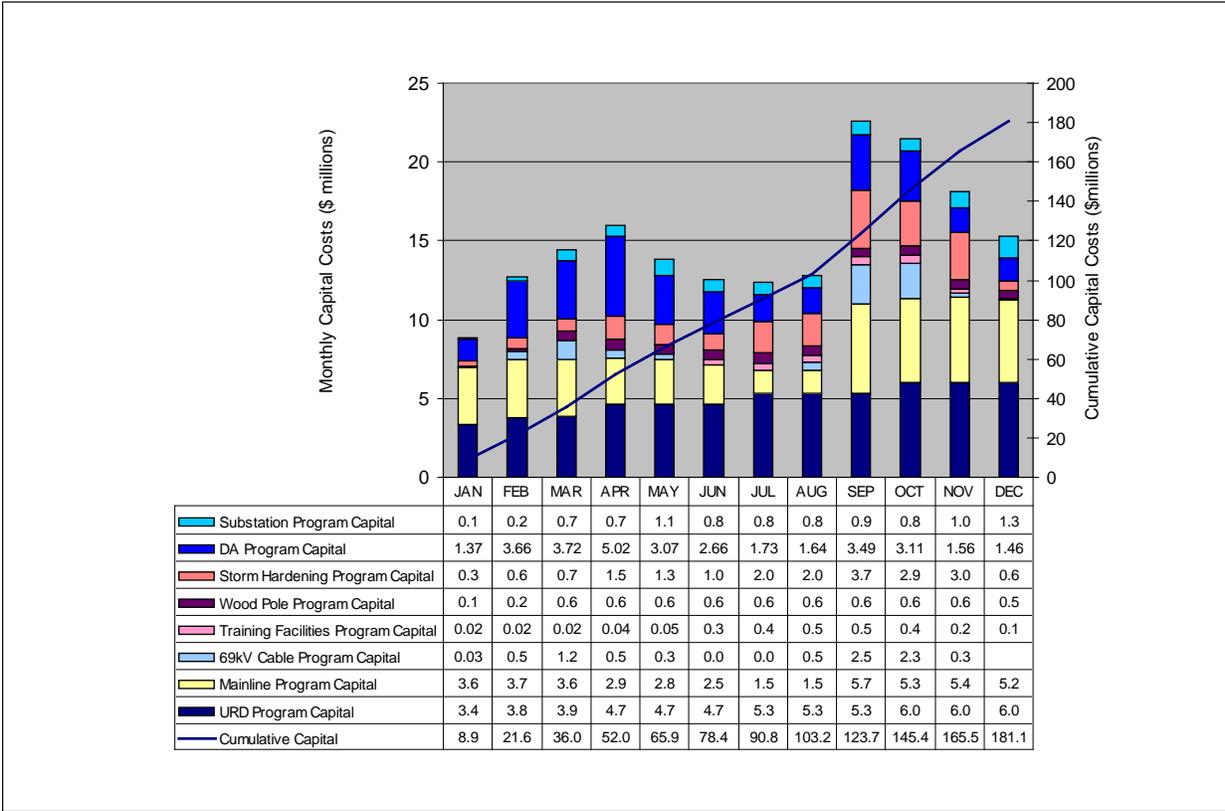
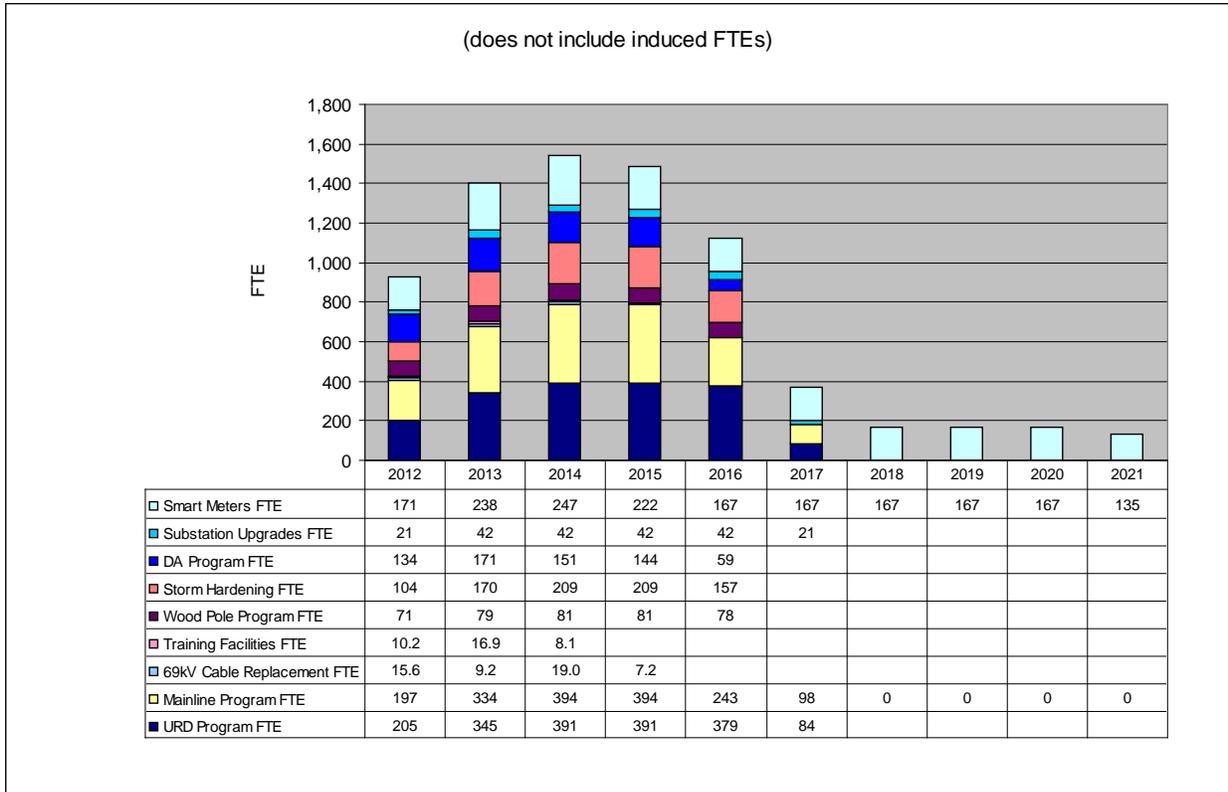


Figure B.3 presents the total estimated FTEs to execute the scheduled scope of work associated with the Plan. The estimated FTEs shown in Figure B.3 do not, however, include any induced FTEs.

FIGURE B.3: PLAN 10-YEAR FTES



Attachments

Attachment 1: Smart Grid Test Bed Plan

Attachment 2: 2012 Infrastructure Investment Plan