

**SECTION 285.6100
SCHEDULE F-4
ADDITIONS TO PLANT IN SERVICE SINCE THE LAST RATE CASE**

Utility: Commonwealth Edison Company

| <u>Line No.</u> | <u>Description of Addition (A)</u> | <u>Date Project Started (B)</u> | <u>Completion Date (1) (C)</u> | <u>Completion Cost (millions of Dollars) (D)</u> | <u>Reason for the Project (E)</u> | <u>Alternatives Considered and Reasons for Rejecting Each(4) (F)</u> | <u>List of Reports Relied Upon by Management when Deciding to Pursue the Addition (G)</u> |
|-----------------|---|---------------------------------|--------------------------------|--|--|---|--|
| 1 | Installation of TSS 90 Substation. | 2/1/2001 | 6/26/2002 | \$45.8 | New substation to increase reliability and capacity. | Alt. 1: Do nothing; rejected for risk of outages. Alt. 2: TSS at Arthington; rejected for cost. Alt. 3: Rebuild Jefferson TSS; rejected for cost and inconsistency with overall plan. | -PowerPoint (6/29/01): Project Authorization Overview -Doc. (7/10/01): Substation Projects Functional Review Group Questions -Memo (7/12/01): Substation Projects Corporate Functional Review Group -Project Charter: TSS 90 -PowerPoint (7/16/01): Project Authorization Overview -Memo (7/16/01): Substation- Recommendation -Memo (7/17/01): Summary Discussion from 7/16/01 ECAP Meeting |
| 2 | Installation of TSS 36 Substation. | 11/26/1997 | 10/15/2004 | \$44.7 | New substation to increase reliability, avoid projected overloads, and serve increased local load. | Alt. 1: Do nothing; rejected for risk of outages. Alt. 2: TSS at alternative location; rejected for cost. Alt. 3: defer to 2007 and add feeders; rejected for cost. Alt. 4: accelerate expansion of State TSS; rejected for cost. | -PowerPoint Presentation by Director of Projects -Memo (6/13/02): TSS 36 -Memo (6/14/02): EDPAP Projects: Substations, Fossil Separation Projects -Memo (10/25/02): Summary Discussion from 10/21/02 ECAP Meeting |
| 3 | Installation of TSS 126 Substation. | 7/31/2000 | 4/16/2002 | \$37.9 | New substation to increase reliability, avoid projected overloads, and serve increased local load. | Alt. 1: Do nothing; rejected for risk of outages. Alt. 2: TSS at alternative location; rejected for cost. Alt. 3: expand other substations; rejected for cost. | -PowerPoint (6/29/01): Project Authorization Overview Presentation -Project Charter (7/1/01): TSS 126 -Doc (7/10/01): Substation Projects Functional Review Group Questions -Memo (7/12/01): Corporate Functional Review Group Memo -Memo (7/16/01): Substation Recommendation -Quality Plan (9/26/01): TSS 126 |
| 4 | Installation of TSS 65 Substation. | 11/19/1998 | 3/17/2004 | \$29.2 | New substation to increase reliability, avoid projected overloads, and serve increased local load. | Alt. 1: Do nothing; rejected for risk of outages. Alt. 2: TSS at alternative location; rejected for cost. Alt. 3: defer to 2008 and add capacity at other substations; rejected for cost. | -PowerPoint: By Director of Projects -Memo (6/13/02): Substation Conversion from 69kV to 138kV -Memo (6/14/02): EDPAP Projects – Substations, Fossil Separation Projects -Memo (10/21/02): Substation Conversion from 69kV to 138kV -Memo (10/21/02): TSS 36 -Memo (10/25/02): Summary Discussion from 10/21/02 ECAP Meeting -E-Mail (1/27/03): Status of follow-up items from MC meeting |
| 5 | Installation of Work Management System. | 11/11/1999 | 1/1/2002 | \$22.9 (3) | Automation of work management processes, enhanced coordination and communications, enhanced customer service. | Alt.: Maintain current systems; rejected as not providing benefits of new system (\$6.7 - \$9.9 million at maturity). | -Project Charter: T&D PassPort Composite -PowerPoint (8/10/05): ComEd T&D Work Management System -Doc. (9/6/00): Energy Delivery PassPort Implementation |
| 6 | Installation of Remote Terminal Unit SCADA. | 11/30/1998 | 6/30/2003 | \$16.0 (3) | Improve system reliability (by reducing outage frequency and duration), enhance the quality of electric delivery (making better, more timely information available for decisions), and expanded operational flexibility. | Alt: install SCADA only on new and expanded substations; rejected for not enhancing reliability. | -Capital Project Evaluation - SCADA Remote Terminal Unit (RTU) Installations -Doc. (1/29/99): Turnkey SCADA Project/Project Plan |

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| 7 | Installation of Mobile Data System. | 10/7/1997 | 12/31/2001 | \$15.2 (3) | Automation of worker dispatch enhances customer service and reduces outage durations. | Alt.: Maintain current systems; rejected as not providing benefits of new system (4-year payback). | -PowerPoint (10/1997): Field Billing Process Technology Business Case -PowerPoint: Mobile Data -Doc (6/8/99): Evaluation of Responses to the Mobile Data RFP/Technical: Integration -Mobile Data Business Case Update (11/10/99) |
| 8 | Installation of Outage Management System. | 1/1/2002 | 12/15/2003 | \$14.9 (3) | Predict automatically locations of outages to enhance efficiency of dispatch, reducing length of outages. | Alt. 1: Maintain status quo. Alt. 2: Enhance existing system. Alt. 3: Build own OMS. All rejected for not providing benefits of new system, reliability, cost. | -Memo (11/28/01): ODS Replacement with Modern OMS -PowerPoint (11/30/01): ComEd Energy Operations Projects EED Executive Meeting 12/5/01 -Memo (12/3/01): BCRC Opinion Letter – Outage Management System -PowerPoint (12/5/01): Outage Management System -PowerPoint (1/2/02): ComEd Energy Operations |
| 9 | Replacement of Energy Management Control System with Control Area Management System. | 1/1/2002 | 7/23/2004 | \$14.1 (3) | Existing EMS was at the end of its useful life. Project improved reliability by reducing EMS system restarts and the number of loosely integrated systems; helps Company meet the demands of a deregulated market place and to transfer loads in and out of its control area. | Alt. 1: Maintain the status quo; rejected as not providing reliability benefits. Alt. 2: Install a full replacement Energy Management Control System; rejected for not providing flexibility to keep CAMS, SCADA, and OMS functionalities separate. | -Memo (10/3/01): Energy Management System Replacement Project -PowerPoint (11/30/01): ComEd Energy Operations Projects EED Executive Meeting 12/5/01 -PowerPoint (11/30/01): Energy Management System Replacement Project EED Executive Meeting 12/5/01 -PowerPoint (11/30/01): ComEd Energy Operations Projects EED Executive Meeting 12/5/01 |
| 10 | SCADA Replacement. | 1/1/2002 | 7/23/2004 | 12.8 (3) | Address obsolete software and hardware, expand capacity for monitoring numerous data points. | Alt. 1: Continue to make fixes on an ad hoc basis; Alt. 2: Upgrade existing equipment. Alt. 3: Partial replacement. All rejected as not providing reliability benefits of full replacement. | -Memo (11/28/01): SCADA Master Control Replacement -PowerPoint (11/28/01): Supervisory Control and Data Acquisition – SCADA Master Control System Replacement -PowerPoint (11/30/01): ComEd Energy Operations Projects EED Executive Meeting 12/5/01 -Memo (12/3/01): BCRC Opinion Letter – SCADA Master Control System Replacement -PowerPoint (10/28/02): SCADA Replacement Project Design Phase Overview |
| 11 | Capital Costs for recovery from July 5-8, 2003 Wind Storm. | 2/26/2003 | 8/15/2003 | \$10.2 | Necessary to restore nearly half a million customers' service. | ComEd did not have reasonable alternatives. See WP (F-4) 11 | -Chart: Number of Customers Affected By Duration, Number of Outages by Duration -Doc (7/9/03): Process Documents Developed During the Storm |
| 12 | Installation of Customer Information Management System Enhancements. | 9/10/1999 | 6/21/2002 | \$10.1 (3) | Enhancements to existing CIMS to decrease costs, reduce bad debt exposure, decrease days sales outstanding, and enhance customer service. | See WP (F-4) 12 | -PowerPoint (9/28/99): Achieving Operation Excellence Customer Service 2000 Budget -E-Mail (9/1/99): Customer Services Business Plan -PowerPoint (2/10/00): Meter to Cash: Steering Committee Review -Doc: Customer Service Business Plan |
| 13 | Installation of Various Information Technology Investments. | 10/16/2000 | 2/22/2003 | \$10.0 (3) | Remedy infrastructure obsolescence, improve IT reliability, improve system security, monitoring and disaster recovery, and minimization of technology disruption, expanded functionality, enabling the offering of greater services and service levels for customers. | See WP (F-4) 13 | -Project Business Cases for IT Upgrades -Business Case Presentations -CIO Initiative Reviews |

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| 14 | Installation of Chicago Fiber Optic Communication System. | 7/10/1997 | 12/31/2001 | \$9.1 (3) | Improve ability to clear faults more effectively and reliably, thus better protecting the infrastructure from damage that could lead to extended outages for customers or create a potentially unsafe condition. | See WP (F-4) 14 | <ul style="list-style-type: none"> -PowerPoint (1999): Fiber Optic Network Installation Program for ComEd -PowerPoint (2000): Fiber Optic Network Installation Program for ComEd -PowerPoint (2001): Fiber Optic Network Installation Program for ComEd -Doc: TSS 45 2002 Scope of Work |
| 15 | Installation of Protection and Equipment Monitoring at TSS 114 Substation. | 12/27/1999 | 4/14/2002 | \$8.8 | Improve reliability and safety for area served by TSS 114. | See WP (F-4) 15 | <ul style="list-style-type: none"> -Doc (12/22/99): ComEd Integrated Supervisory Control, Monitoring, Protection; SCADA; Control Design; and Installation for Transmission and Distribution Substations -PowerPoint (3/3/00): Protection & Equipment Monitoring Project |
| 16 | Replacement of Switchgear at TSS 41 Substation. | 3/15/2001 | 12/16/2001 | \$8.8 | Increased reliability of existing switchgear that had experienced a significant increase in equipment problems. | See WP (F-4) 16 | <ul style="list-style-type: none"> -PowerPoint (3/5/01): Substation Challenge Meeting -PowerPoint (3/17/00): TSS 41 Evaluation of Alternatives -Memo (3/22/01): Request to Single Source contract to Siemens/Westinghouse -E-Mail (7/2/01): 1P010010 Substation -Memo (7/11/01): TSS 41 |
| 17 | Leasing and Building Out of Lincoln Centre 3 for ComEd's Operations Center. | 10/5/2000 | 5/15/2001 (2) | \$8.7 (3) | Consolidate energy delivery operations from ten locations down to one. | See WP (F-4) 17 | <ul style="list-style-type: none"> -Doc: Executive Summary - New ComEd Energy Delivery Operations Center -Memo (9/25/00): Proposed Suburban Operations Center -PowerPoint: Purchase of Two and Three Lincoln Centre Office Buildings -PowerPoint (11/20/00): ComEd Energy Delivery Operations Center |
| 18 | Installation of TDC 470 Substation. | 2/24/2000 | 6/6/2002 | \$7.8 | New substation to serve increased local load. | See WP (F-4) 18 | <ul style="list-style-type: none"> -Doc (9/29/00): EPC Project Design Memorandum -Chart: TDC-470 -E-Mail (11/28/01): TDC Material Cost Savings (with attachments) -E-Mail (1/10/02): TDC 470 \$150K Grant |
| 19 | Implementation of Unbundled Meter and Billing Requirements. | 8/26/1999 | 12/30/2000 (2) | \$7.7 (3) | Compliance with the Commission's Orders regarding MSPs in a reasonable, cost-efficient way. | See WP (F-4) 19 | <ul style="list-style-type: none"> -PowerPoint (8/25/99): Utility Restructuring for 2000: Meter and Billing Unbundling -Doc (6/02): PowerPath - Meter Unbundling |
| 20 | Installation of Distribution Duct/Conduit for TSS 36 Substation. | 5/3/2002 | 6/15/2004 | \$7.5 | Relieve projected overloads, and permit retirement of Vernon Park TSS 44. | See WP (F-4) 20 | <ul style="list-style-type: none"> -PowerPoint Presentation by Director of Projects -Memo (6/13/02): TSS 36 -Memo (6/14/02): EDPAP Projects: Substations, Fossil Separation Projects -Memo (10/25/02): Summary Discussion from 10/21/02 ECAP Meeting |

Notes:

1. Engineering in service date
2. Although placed in service prior to June 2001, project included only to extent that not included in prior rate base additions.
3. Total cost of project, including costs not in ComEd's state jurisdictional rate base
4. While Part 285.6100 only calls for Schedule F-4 to identify alternatives for the ten largest additions to rate base, this information for all items on this schedule can be found in the testimony of David DeCampi, and, as indicated, the workpapers supporting this schedule.