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Xcel Energy
Docket No.: EL12-046
Response To: SD Public Utilities Commission Data Request No. 1-3
Requestor: Brittany Mehlhaff & Patrick Steffensen
Date Received: November 13, 2013

Question:

Regarding all projects, please further explain the change in in-service dates from those anticipated in the settlement, per project. Most projects have been delayed, resulting in increased costs. Explain NSP's process for staying on track with estimated completion dates in order to avoid unnecessary cost overruns.

Response:

Increases in cost are primarily due to increased scope of work rather than in-service schedule changes. We manage our projects to complete the work in as short a time period as practical. When emergent work that must be addressed arises or project scope changes become necessary, in-service dates may be delayed. We set project schedules with the expectation of placing the project in-service at that time but will modify that schedule as warranted due to the need to complete additional work or to ensure the projects are completed safely.

NON-NUCLEAR PROJECTS
Although our generating fleet has historically performed within industry norms, since Fall 2011 we have been implementing our Energy Supply (Generation) Operating Model to better centralize management of our fleet, better implement best practices, improve our quality assurance and human performance practices, and seek cost efficiencies through better sourcing management. Through these programs, we are continually seeking the improvement of our plant operations to cost-effectively achieve strong performance.

Some of the key Generation Operating Model initiatives include:
• Human Performance Program, which seeks to reduce human error;

- Quality Assurance (QA)/ Quality Control (QC) Program, which seeks to reduce unplanned outage rates and improve unit reliability through stronger QA/QC requirements, greater contractor oversight, and better identification and reporting of non-conformance;
- Work Planning and Scheduling Process, which standardized planning and scheduling across the Xcel Energy fleet in order to ensure the right materials and resources are available at the right time to improve productivity and efficiency; and
- Overhaul Management, which standardized management of overhaul processes and resources.

The use of the above Operating Model principles helps to improve our ability to estimate, track and manage work progress to complete projects safely and in as timely a manner as possible.

Sherco Unit 3 HFU 2013 Costs

The Sherco Unit 3 generator has been under re-construction and restoration since the November 19, 2011 event. An investigation by external engineering experts determined the root cause was due to extensive stress corrosion cracking at the attachment points of certain turbine blades. The failure was a function of the original design and not related to how the plant had been operated or maintained. The result was a massive imbalance on the rotor, causing catastrophic damage to the steam turbine generator train and other plant equipment. About the time of the rate case settlement, significant additional damage was discovered during the repair efforts. The extent of the damage became fully known as we gained access to hidden layers of equipment and structures that could not be observed during the initial damage assessment. The additional damage realized, combined with the complexity and specialized nature of the repairs, caused revision of the return to service date from March 2013 to September 2013.

In addition, equipment repair involved both off-site and on-site component work. Many of the techniques required to repair various components were unique and were developed during this restoration project.

Our October 1, 2013 Infrastructure Rider Compliance filing reflected a September 2013 Sherco Unit 3 in-service date. After restoration was complete, the unit first synchronized to the electric grid on September 4, 2013 (for accounting purposes the plant equipment was placed "in-service" on September 5, 2013) and operated normally until September 7th when the unit was taken off-line to address post-restoration items identified as necessary. The unit again synchronized to the grid October 10, 2013, and following additional testing and a run-in period, was released for MISO dispatch on October 28, 2013.

Sherco Unit 3 Cooling Tower Upgrade
This project was completed in its entirety in March 2013. However, it could not operate independently of the Sherco Unit 3 generator, which has been under restoration since the November 19, 2011 event described above. Accordingly, the Cooling Tower Upgrade investment was placed in service as of September 5, 2013, the same date as the generator. Because the work was able to be completed during off-peak construction time there were cost savings over what was expected for typical time constraints of work done during a planned plant outage.

NUCLEAR PROJECTS

Schedules for nuclear projects are set, assuming that all work will go as planned. However, projects at nuclear power plants are complex and subject to regulatory oversight when emergent issues arise. It is not unexpected that issues identified during project implementation are encountered and cause the scope of the project to increase and the timeframe for implementation to be longer than originally anticipated. Moreover, nuclear regulation modifications, such as those driven by the Fukushima accident, can take additional time to address, particularly when projects are already in progress. Thus, the delay does not increase costs. Rather, the expanded scope will increase costs and result in delay of final implementation.

With the large number of capital projects proposed to be implemented to support continued operation of our plants through their extended license periods, in December 2011, we hired Karen Fili as Vice President-Nuclear Projects to lead the capital projects organization within the nuclear business unit. Ms. Fili is a highly-experienced project specialist with extensive experience implementing major capital projects for other nuclear utilities. The Company concluded that we would benefit from her experience with successfully implementing rigorous project management controls. Ms. Fili took a number of steps, including: (1) realigning the projects group structure; (2) emphasizing budgeting and forecasting for individual plant modifications; and (3) establishing firm milestones for projects done during plant outages. In addition, she instituted a set of processes to improve reporting and tracking. We expect these processes to help keep project implementation on track as much as feasible given scope additions.

Monticello LCM/EPU
The Monticello LCM/EPU in-service date was delayed from May 2013 to July 2013. The implementation of the Monticello LCM/EPU modifications required the plant to be shut down while the modifications were installed. Therefore the in-service date was set to coincide with startup from the refueling outage during which the work was accomplished. The outage took longer than originally anticipated, and the plant did

not return to service until July 2013. As a result, the Monticello EPU in-service date was delayed. The implementation work took longer due to the challenges of working in a nuclear power plant that has been operating for 43 years. These challenges include working in radiation areas that require special controls to prevent workers from becoming contaminated and fitting new equipment into already tight areas where other equipment has already been added over the years.

Monticello Fire Model

Please also see our response to DR 1-005 for additional information about this project. The Monticello Fire Model was originally planned to be completed in 2013 but is currently being implemented in two phases and the phase one in-service date was delayed from October 2013 to December 2013. The minor difference in the in-service date was due to completion of close-out work.

Prairie Island Spent Fuel Storage Casks

The Prairie Island Spent Fuel Storage Cask project's in-service date was delayed from May 2013 to June 2013. Loading and placing the casks in-service involves multiple steps and interfaces with plant operations. The one month delay was the result of: (a) unanticipated repairs to the Auxiliary Building and Fuel Handling Cranes, (b) clarity issues within the Spent Fuel Pool that required cleanup to perform fuel inspections in support of and during cask loading, and (c) a diesel outage that required resources planned to support cask loading. Since all casks are in-serviced at the completion of the loading campaign, the in-service date did not occur until the final cask (#35) was loaded and placed on to the ISFSI pad in June 2013.

Prairie Island Foxboro H-Line Protection

This project was completed and placed in-service during November 2012, one month sooner and at lower cost than anticipated.

Prairie Island Replacement Steam Generators

The Prairie Island Replacement Steam Generators project was delayed from November 2013 to December 2013 to allow additional time for the final outage work plan. The November 2013 in-service date was based on an early version of the outage planning schedule before all risks, requirements, and work activities had been identified and scheduled.

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