

## 1.0 Schedule – Plan and Basis

### 1.1 Introduction

This document provides notes regarding the “Level 1 Schedule” for the LG&E/KU, Mill Creek Units 1 through 4 Air Quality Control Study Project. The Level 1 schedule illustrates the times required to obtain permits; to prepare the EPC (engineer, procure and construct) contract; and for the EPC contractor to engineer, procure, and construct the equipment for each unit. The scope included for each unit is as follows:

- Unit 1 – New SCR, new PJFF with elevated support superstructure, new ID fans, PAC injection, sorbent injection, and neural network. Demolition of existing ESPs to make room for new SCR is required and included.
- Unit 2 – New SCR, new PJFF with elevated support superstructure, new ID fans, PAC injection, sorbent injection, and neural network. Demolition of existing ESPs to make room for new SCR is required and included.
- Unit 3 – Refurbishment of the existing Unit 4 scrubber and tie-in to Unit 3 existing ID fans, new PJFF with elevated support superstructure, new booster fans, PAC injection, sorbent injection, and neural network. Demolition of existing Unit 3 scrubber to make room for the new AQC equipment is required and included.
- Unit 4 – New WFGD, new chimney, new PJFF (elevated support superstructure on Arrangement B only), new booster fans, PAC injection, sorbent injection, and neural network.

### 1.2 In Service Date

The schedule is based on the assumption that new regulations would require the environmental equipment for all four units to be in service by the end of 2017. However, to the extent that the schedules for the regulatory requirements change, the schedule for placing the AQC equipment in service would change accordingly.

### 1.3 Schedule Assumptions & Comments

- The schedule has been based on the Mill Creek Air Quality Control Project being performed under a lump sum EPC (engineering, procurement, construction) method.
- The project schedule has been developed based on Black & Veatch’s historical schedule data and adjusted for known site and market conditions.

- Due to limited space in the new construction areas, each unit will need to be constructed in a particular sequence.
  - Unit 4 WFGD and PJFF will need to be constructed first so that the existing Unit 4 scrubber can be taken off line and refurbished. Once the refurbishment is complete, the Unit 3 ductwork can be tied-in. The existing Unit 3 scrubber can then be demolished so that the Unit 3 PJFF can be built in its place. The sequence of construction would be relatively the same for Arrangement A or B.
  - It is recommended that Unit 1 be constructed ahead of Unit 2 to avoid crane and construction access issues, as well as maintain even craft levels. Unit 1 and Unit 2 PJFFs have to be built before the existing ESPs can be demolished and new by-pass ductwork can be installed. The ESP demo and new duct tie-in activity will require an 8 week plant shut down to be completed. The SCRs cannot be erected until the existing ESPs are demolished.
- Six of the unit outage period dates provided by LG&E/KU were moved to support the construction sequence previously described and so that the AQC equipment will be in service by the end of 2017. The Unit 4 spring 2016 outage was moved to the spring of 2015 for tie-in of the new WFGD system. The Unit 2 fall 2015 outage was extended an additional month to allow adequate time for ESP demo and new ductwork tie-in. The Unit 3 spring 2015 outage was moved to spring 2016 for tie-in of the refurbished Unit 4 scrubber for Unit 3. The Unit 1 fall 2016 was moved to the spring 2016 for tie-in of the SCR. The Unit 2 fall 2017 outage was moved to spring 2017 for tie-in of the SCR. The Unit 3 spring 2017 outage was moved to fall 2017 for tie-in of the PJFF. None of the outage periods that were moved overlap with other previously defined outage periods.
- The Unit 4 chimney shell erection will be a continuous construction activity and is planned for August through December of 2013. No other work is planned to be performed within the safety exclusion zone area while the chimney shell is being erected.
- It is assumed that no major asbestos or lead paint remediation will be required.