Unit #4 Main Steam Pipeline

- Originally, $300,000 was budgeted in FY 2016 to minimize pressure drops and eliminate unnecessary piping. Estimated benefit .25 mw.

- Presently, steam delivered to Unit #4 turbine drops 3.2 psig from outside the plant fence line to the turbine building.

- Numerical modeling/in-house calculations show that half the pressure drop and approximately 1 MW of generation can be recovered by directly routing the steam into the turbine building.

- If approved, additional funds of $650,000 would be required in FY 2017 to accomplish the re-route for total project cost of $950,000.
Unit 4 Main Steam Pipeline

Proposed Re-Route

Existing Unit #3 & #4 Pipelines
Financial Analysis – Assumptions

- Project Life - 15 years
- Project Cost - $950,000
- Benefit – 1 MW Gain Declining @ 2% per year
- 10 Day Outage required in FY 2017 to do pipeline tie-ins
  • Loss of 30 MW during this period
- 6 Week Outage Every 6 Years
- 97% Unit Availability
Financial Analysis- Economic Results

- IRR: 38.5%
- NPV @ 5%: $4,104,163
- Average Annual Benefit: $365,455
- Payback Period: 3 Years
Schedule

Phase 1 – Establish roadside tie-in
- April 2016 Unit #4 Outage
- Order Long Lead Materials
- Approximately $200,000

Phase 2 – Prefab new pipeline
- Spring/Summer 2016
- Approximately $400,000

Phase 3 – Complete tie-in
- Fall 2016 Shutdown 10 days
- Complete tie-ins
- Approximately $223,000
Unit #4 Main Steam Pipeline
Public Works Contract

- Public Notice on December 22 & 28, 2015
- Mandatory Bid Walk on January 12, 2016
  - Four contractors participated
- Bids Received on January 26, 2016
  - Southwest Contractors Bid - $1,398,980
  - Northern Industrial Construction - $822,908
- Additional contingency funds (15%) - $127,092
- Total project cost - $950,000
Recommendation

Recommend Commission approve the Unit 4 Main Steam Pipeline project and associated contract with Northern Industrial in the amount of $822,908 and authorize change orders up to an additional $127,092 for contingency. Total Project Cost - $950,000