

Lignite Energy Council 2017 Fall Meeting

**Great River Energy Plant Updates
2017 & Beyond**

Jeff Krumwiede

Coal Creek Station



2018 Major O&M Items

- ▶ Mill bunker cone replacement
- ▶ Railroad rail replacement on main line 9100
- ▶ Cyber asset protection, remote diagnostics
- ▶ Cooling tower hot water basin sealing
- ▶ 480V breaker rebuilds
- ▶ Pulverizer overhauls
- ▶ No major outage

2019-2021 Major O&M Items

- ▶ Feedwater heater testing (2019)
- ▶ Pretreatment microfiltration membranes (2019)
- ▶ Boiler feed pump rebuild & turning gear modifications (2019 & 2020)
- Replace Aux coolers 21 & 22 (2019)
- Turbine Major Unit 2 (2019)
- Reaction tank inferior refractory work (2019)

2019-2021 Major O&M Items

continued...

- ▶ Roof maintenance
- ▶ Scrubber grating repairs & lime slaker repairs
- ▶ Boiler circ water pump stator rewind/rotor repair
- ▶ Boiler explosive cleaning
- Boiler scaffolding rental
- RO membrane replacement
PA & FD fan VFD installation
- Air heater cold end basket replacement
- Ductwork and expansion joint repair

Construction Projects



- ▶ Air dryer 95 upgrade
- ▶ CEM electronic rooms fire protection
- ▶ DC96 temporary dust collection piping
- ▶ Drains pond system
- ▶ Fly Ash dome controls upgrade
- ▶ MCC and panelboard replacements
- ▶ Physical security perimeter fence replacement
- ▶ Reject loadout cleaning and safety
- ▶ Welding shop ventilation

Capital Equipment Expenditures

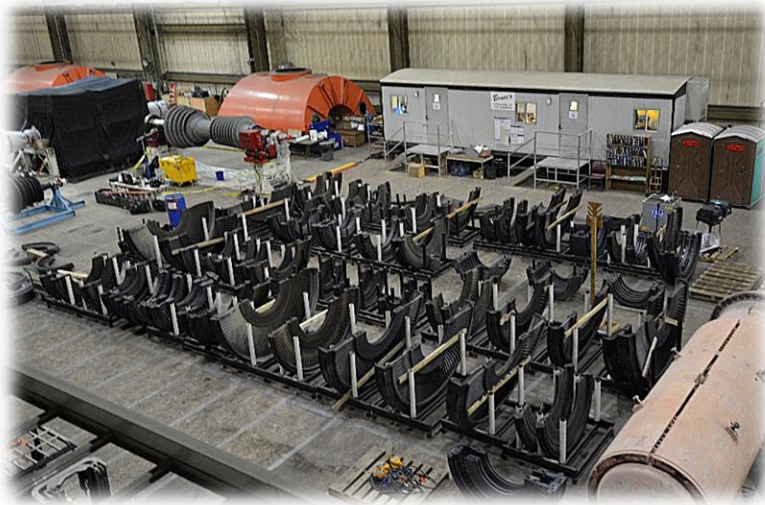
- ▶ Scissor lift
- ▶ Motion amplification camera & software
- ▶ Turbine deck scrubber
- ▶ (2) Welding machines
- ▶ Calibrator & software
- ▶ Forklift
- ▶ (2) Vehicles
- ▶ Shop oil system
- ▶ (2) Auto greasers
- ▶ GSP mobile computer
- ▶ Borescope



Coal Creek Station outage schedule

2018

- Unit 1: May 19 – May 25
- Unit 2: May 21 – May 27



2019

- Unit 1: May 11 - May 17
- Unit 2: March 16 – May 12

2020

- Unit 1: March 14 – May 8
- Unit 2: May 16 – May 25

2021

- Unit 1: May 1- May 7
- Unit 2: May 12 – May 21

Stanton Station



Stanton Station

- ▶ Stanton Station ended generation capability at 13:13 on February 25, 2017
- ▶ Contract for demolition to be issued soon



Spiritwood Station



Major O&M Items

- ▶ Consumables (lime, limestone, ammonia, carbon & sand)
- ▶ Ash disposal, trucking
- ▶ Water purchase & treatment
- ▶ Equipment rentals
- ▶ Boiler maintenance
- ▶ Bearing & valve inspections
- ▶ Temp employees
- ▶ Atomizer maintenance
- ▶ Training and employee development

Construction Projects

- ▶ Air heater ash piping to recycle ash silo
- ▶ Circulating water sulfuric acid feed
- ▶ Coal unloading & septic waste water discharge
- ▶ Flooring & coatings
- ▶ Heavy equipment cold storage building
- ▶ Limestone injection flow meters
- ▶ NDSP package boiler A installation
- ▶ WTP UV Sterilizer
- ▶ Platform additions



Capital Equipment Expenditures

- ▶ Hydro lazer - small
- ▶ Lincoln 350 welder
- ▶ UTVs side by side (2)
- ▶ Water treatment elevator
- ▶ Silica Analyzer
- ▶ Scaffolding
- ▶ Forklift
- ▶ Lawn mower
- ▶ Mezzanines
- ▶ Sky climber

Great River Energy Supply Chain Management



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Thank you, vendor partners, for helping Great River Energy have a successful year!