Main Campus Utilities Update
Building Coordinators Meeting
UCC - October 17, 2018
UI announces it will be coal-free by 2025
UI Power Plant will increase its use of biomass and other renewable energy sources to meet its goal
Boiler #10
UI Miscanthus Fields

Slide credit: Erin Hazen
• Winter 18-19 outlook
  • Cooler than normal October
  • Normal or even a slightly warmer than normal November and December
  • Colder than normal January and February.

Graph from Kinect Energy
New Boiler Internal Piping
Chilled Water Capacity Expansion
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Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (SDWA) is the federal law that protects public drinking water supplies throughout the nation. Under the SDWA, EPA sets standards for drinking water quality and with its partners implements various technical and financial programs to ensure drinking water safety.

The Law

- An overview
- The statute

Regulatory Programs

- Public water supply safety
- Underground injection control

Other Programs

Additional Information

How EPA Regulates and Supports Drinking Water Protection

- Regulation development of drinking water contaminants
- The National Drinking Water Advisory Council (NDWAC)
Substation Animal Protection
• End of presentation
UI Utilities Agenda

• Boiler #10 off coal!
• Winter weather
• New boiler construction
• Chilled Water system expansion
• RO system start-up
• Electrical substation animal protection
• Coal free 2025, and heating the equivalent of 35,000 homes
• Burning coal since 1974, just passed 1 year coal free.
• Makes use of existing equipment – car analogy?
• Pellets
  • Contain miscanthus, local Iowa content
  • Stable pricing, not market
  • Long term contract
  • Contain non-recyclable plastic materials
  • Do not want to compete w recycling market
• Weather outlook
  • US natural gas production set records throughout 2018
  • Use also set records. US now exporting natural gas
  • Gas storage is at the lowest volume in 15 years

• Gas price is currently stable, but is set up rise if cold weather hits or a production related issue occurs.

• We are able to fuel switch as part of our strategy. Pellets or natural gas
• New Boiler #12 uses natural gas, complements the existing natural gas and solid fuel boilers.
• Will keep steam capacity ahead of demand for the foreseeable future.
• We are still working on the best course of action for rental boilers, ECB to be removed, WCB fate to be determined.
• Next steam capacity expansion is planned for 2024.
• Chilled water demand is increasing faster than capacity......
• Cooling towers are equal to the outdoor unit for a central air system, X 1500-2000
• Capacity increase is equal to one large building on a hot day
• Gives the system some breathing room while we plan the next step at the north plant.
• Water system improvements
  • All water treatment is governed by the safe drinking water act
  • UI has seen an increase in source water nitrates over the years
  • Best method for removal is Reverse Osmosis
  • System start-up to be complete in December
Electrical Distribution staff completed installation of animal protection covers at the Oakdale 69kV substation on 9/29/2018. This involved ITF isolating themselves onto their diesel generator, isolating the remaining Oakdale campus load onto the Oakdale Power Plant gas engines, and de-energizing the 10MVA 69/13.8kV transformer and 13.8kV bus work to safely install the covers. This is intended to reduce the chances of animal-contact outages like those that have occurred twice in the last 14 months due to raccoons. The material had been acquired earlier this year, however, it could not be installed until this fall when the campus load had reduced enough to be safely carried on the Oakdale Power Plant generation. The “Greenjacket” covers were also installed by UI and MidAmerican Energy on exposed equipment at the two UI/MidAmerican Energy joint-owned substations serving the main campus earlier this year.
UI's coal-free goal impresses Reynolds

Governor sees economic possibilities in biomass project
East Campus Boiler Location