Heating Plant Renovation & Operations

The Colorado School of Mines campus maintains a closed loop steam distribution system to provide heating, cooling and hot water for operations of all major facilities.

History:

- Mines heating plant located at 13th and Cheyenne Street was constructed in 1948 and operated using coal fired boilers as the primary source of steam until 1982.
- In 1982 a new line to the Coors plant became operational and Mines entered into a utility purchase agreement with Coors to provide steam to the campus. 24/7 boiler operation ceased. The heating plant transitioned to backup capacity only operating only two to three weeks per year.
- In 2013 the boilers that were purchased in the 1970's failed and a used boiler was purchased in their place. At the same time the line to Coors was deemed to be failing and in need of replacement.
- A decision was made to install new boilers instead of replacing pipe from the heating plant to the Coors line.

Project Scope:

- Renovation of the existing plant to replace the entire steam system within the existing building at 13th and Cheyenne Street.
- Demolition of interior equipment and finishes

Anticipated Renovation Schedule:

- Construction started March 2016
- March 2016 to summer 2017 interior demolition and remodel
- Winter 2017 install new boilers through the roof with a crane from 13th street
- Spring 2017 install new roof
- Spring 2017 startup and test steam boilers
- Summer 2017 30-day test
- Summer 2017 renovation complete

Noise Mitigation:

- An acoustic engineer is engaged to study the best ways to mitigate sound that will come from running the plant operations.
- Infill large windows on the North elevation, mitigation of noise and light.
- Generator will be in a sound attenuation enclosure, other than emergency power outages the generator will only be run 30 minutes a week to exercise and test the system as will all other campus generators. Timing for this weekly run will be scheduled to avoid any potential impact,
- The generator will also be behind a screen wall.
Future Operations:

- Plant will become Mines primary steam source (summer 2017) and as such will provide distributed steam for campus operations 24/7.
- Plant will operate 24/7, 365 days a year.
- Staffing consist of 5 fulltime operators working shifts and 7 plumbing staff M-F 7am – 4pm.

FAQ:

**Question:** Will there be street closures during the project?

**Answer:** Yes, there will occasionally be street closures during the delivery of large equipment along 13th or Cheyenne in front of the plant but these are expected to be mostly lane closures and not entire street closures. They are also expected to only last for a day or less at a time.

**Question:** How will the neighborhood be notified of street/lane closures and how much notice will there be?

**Answer:** Notification will be sent to anyone who subscribes to our email list and will be posted on the construction website. To access our email list, send your email address to cpc@mines.edu.

**Question:** How much noise will there be during construction?

**Answer:** Construction noise will be typical of any Mines construction project. Truck, heavy equipment, demolition, temporary generators and other similar equipment noise can be expected intermittently through the project. The duration of this noise will diminish as the project is completed. The most impact will come during the Spring and Summer 2016.

**Question:** Will there be a lot of dumpsters, debris, and equipment laying around the heating plant during construction?

**Answer:** Yes, this is a construction site so there will be equipment staged around the building at times. However, the contractor is required to keep a clean site and the main laydown yard is behind the heating plant to the south in the parking lot between the plant and Coolbaugh Hall.

**Question:** What are the hours of construction? Will there be loud noises before 7 am or after 5 pm?

**Answer:** No construction will be allowed outside the hours of 7 am - 5 pm.

**Question:** Why does this project have to be done at all? Why not continue to buy steam from Coors?
Answer: The line from Coors to the campus heating plant is at the end of its life and is failing. Additionally, the boilers that served the campus as backup have failed. The rest of the equipment in the plant that is used to provide steam for campus is also at the end of its useful life and must be replaced.

Question: Were other sites more on the interior of campus considered for the location of the heating plant rather than renovating the one on the corner of Cheyenne and 13th?

Answer: Yes, this was considered during the planning phase. Unfortunately, with the way the piping distribution system is set up on campus to deliver the steam other sites were simply not feasible.

Question: Will the lights always be on in the building once it operates full time?

Answer: We will be bricking in the north windows to remove any ability of light escaping as well as to mitigate noise.

Question: What will be emitted from the stack?

Answer: The new boilers are high efficiency natural gas fired boilers. The emission through the stack is similar to a home natural gas fired hot water heater. The throughput will be greater than a home system and Mines is required to maintain a permit through the Colorado Department of Public Health and Environment for the emissions from these boiler systems.
Elevations of existing building:
Picture of roof with stack - Stack is 5 feet high as measured from roof and 3.5 feet wide.

For any questions or further clarification, please contact Gary Bowersock at gbowerso@mines.edu