
Point Sources Work Group – July 20, 2018

In Attendance:

Voting Members

Eric Dick
Kathy Stringham
John Burns
Arthur Sutton
Kristina Smith
John Kelly
Karl Hough
Naomi Morton Knight
Frances Isgrigg
Tim Jones

Non-Voting Members

Dan Brown, EPA

Facilitation Team

Brian Rogers

Work Group Discussion

Point Source Challenges

- Is there a way for there to be an extension to the state SIP without triggering MSM? Or is that contrary to the regulations?
- All point sources have spent significant money on BACT analysis; work to date indicates that ADEC estimates are low

GVEA North Pole and Zehnder generation

- Looking for better way to use money than on sulfur removal from North Pole and Zehnder generation
- According to consent decree, must decide by 2021 whether to spend \$50-90 MM to upgrade, or to shut down by 2024. If GVEA can continue generating at Healy 1, that would reduce use of North Pole and Zehnder generation to life threatening emergency events only and could spend some money on offset programs. GVEA's ultimate objective is to take North Pole and Zehnder offline except in emergencies. Modification of consent decree would require approval of DOJ and EPA. Savings could, for example, buy out all the hydronic boilers in North Pole

Fort Wainwright/Doyon Utilities Combined Heat and Power

- Biggest challenge is the age of the facility; a new plant will be needed within 10 years
- A futures study is underway; EIS will be completed in 1-2 years (contract should be out in fall 2018). Air quality is a major factor; this plant is the oldest for DOD. All futures are being considered – coal, oil, natural gas, separate boilers for each group of buildings.
- If EPA mandates changes within 5 years, there is not a good solution. Perhaps Fort Wainwright could request an extension, and through consent decree provide savings for wood stove conversion prior to building the generation/heating capacity determined in the futures study.
- Combined heat and power eliminates ground level emissions
- Addressing the air quality issue is critical, as it impacts the ability of the post to take on new missions. The risk is that Fort Wainwright will have to scale back operations, making it less valuable to DOD

- Fort Wainwright needs an emergency backup plant, which triggers an emissions analysis

UAF Combined Heat and Power

- The new plant is highly efficient and will lower emissions, including reductions to both SO₂ and PM_{2.5}. UAF won't have to use the oil-fired backup boilers as often, also reducing SO₂ emissions (the oil-fired boilers will be used only during maintenance). There are additional monitoring requirements with fines if exceeded. First firing is currently scheduled for mid-September.
- BACT would be difficult to install due to limited space on the site. Wet flue SO₂ controls do not work with a circulating fluidized bed boiler (the new CHP). The new plant has a small dry sorbent injection, but it doesn't get the reductions EPA would require
- The plant produces excess electricity in the winter that could potentially be used by GVEA. In the summer, there is potential excess heat
- UAF would consider participation in an offset program, but it would require approval by the Chancellor and President, and UAF would need to see a benefit through avoided cost.

Aurora Combined Heat and Power

- Combined heat and power has a positive impact on emissions. District heat system should be expanded
- The cost of emission controls would be significant. Controls for SO₂ at the Aurora plant would increase costs for GVEA
- As an offset program, there would need to be a measurement of SO₂ reductions from boilers replaced by district heating system

Thoughts about offset programs

- It makes more sense to spend money on WSCOP rather than point sources
- There needs to be effective enforcement if offset programs are going to work
- Need high participation in curtailments when there are inversion events
- Adding a fee for stoves (all heating devices) based on assessment with waiver for registered stoves would provide database for decision-making
- Enforcement: requiring ULSD is enforceable, but may create a transportation issue (as trucks get less power on demand from ULSD)

Information needed

1. SO₂: We need a study to determine where the SO₂ comes from
2. SO₂: What happens to emissions above the inversion layer (e.g. coming from stacks)
3. GVEA: tons per year actual and certificated emissions at North Pole and Zehnder
4. GVEA: impact on effect of Fort Knox and Pogo loads, anticipated Clear (LRDR) load
5. GVEA: can generation be moved outside the non-attainment area? What would it cost?
6. UAF: Provide information on emissions reductions from new plant
7. Aurora: How much expansions is possible within the current permit levels
8. Offset: need to know catalytic conversion cost numbers
9. We need better information on wood and diesel emissions

Additional discussion items

- New projects in the non-attainment area must offset emissions
- If we convert everything to natural gas, there will be reduced visibility due to steam
- Can the borough get tougher on burn bans?