



# 2019 Alaska-Yukon Wood Energy Conference

An Air Quality Analysis by Chad Schumacher, General Manager of Superior Pellet Fuels, LLC and Member of the Fairbanks Air Quality Stakeholders Group



# Superior Pellet Fuels, LLC

North Pole, Alaska

# Superior Pellet Fuels

- ◆ An Alaska based company created specifically to manufacture wood pellets utilizing locally available raw materials.
- ◆ Encourages additional development throughout the timber industry.
- ◆ Annual production capacity of 30,000 Tons Wood Pellets, 3,000 Tons Compressed Lumber
- ◆ Launched production in September 2010
- ◆ All production is consumed in Alaska.
- ◆ All raw materials are sourced from Alaska.



# Our Products

Premium Wood Pellets & Superior Pellet Logs



# What is the Air Quality Issue in Fairbanks North Star Borough

The Environmental Protection Agency (Federal EPA) reclassified the FNSB a Serious Nonattainment Area regarding PM<sub>2.5</sub> emissions in June, 2017. In 2006 the EPA lowered the concentration from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>.

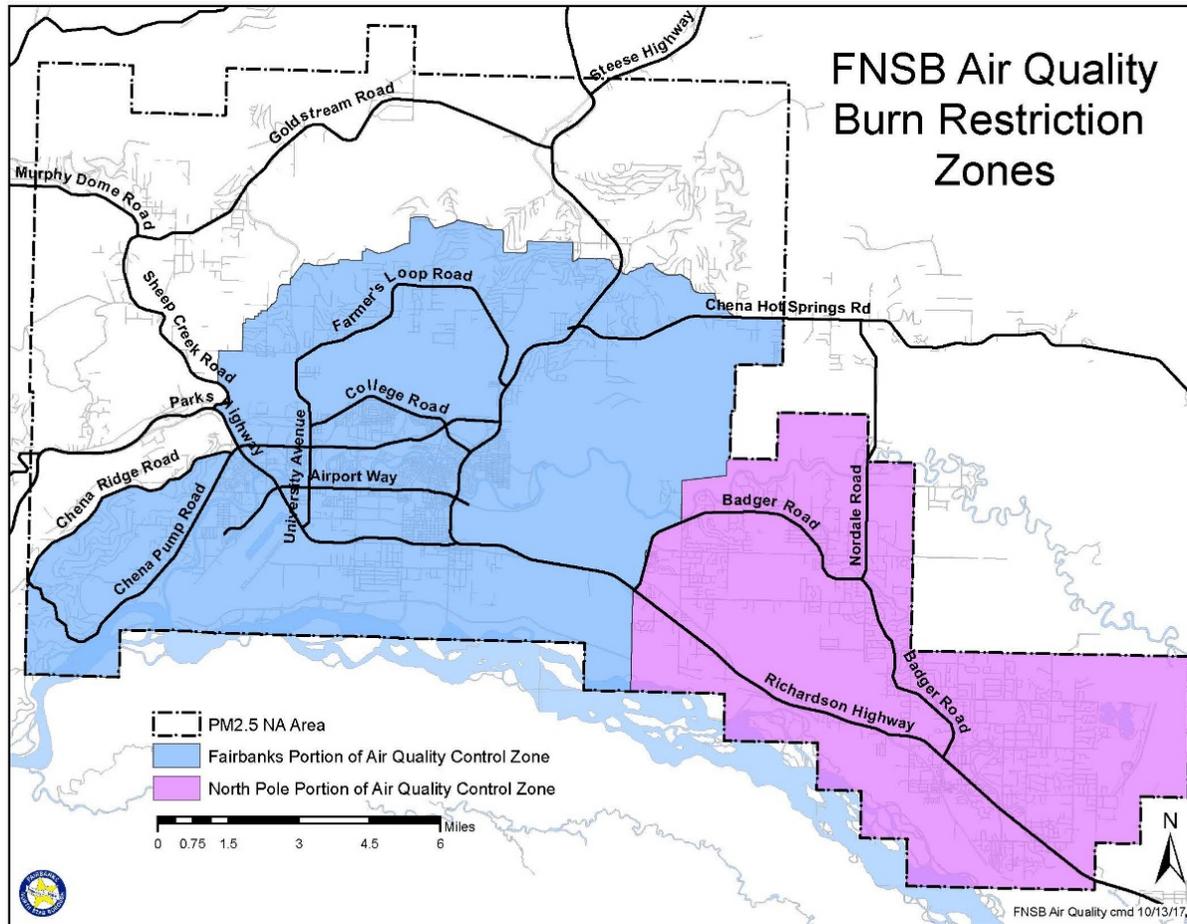
PM<sub>2.5</sub> is fine inhalable particles with diameters 2.5 micrometers or smaller. Essentially 30 times smaller than the diameter of human hair.

Sources of PM include Construction Sites, Unpaved Roads, Smokestacks, Fires, Power Plants, Industrial Operations, and Automobiles.

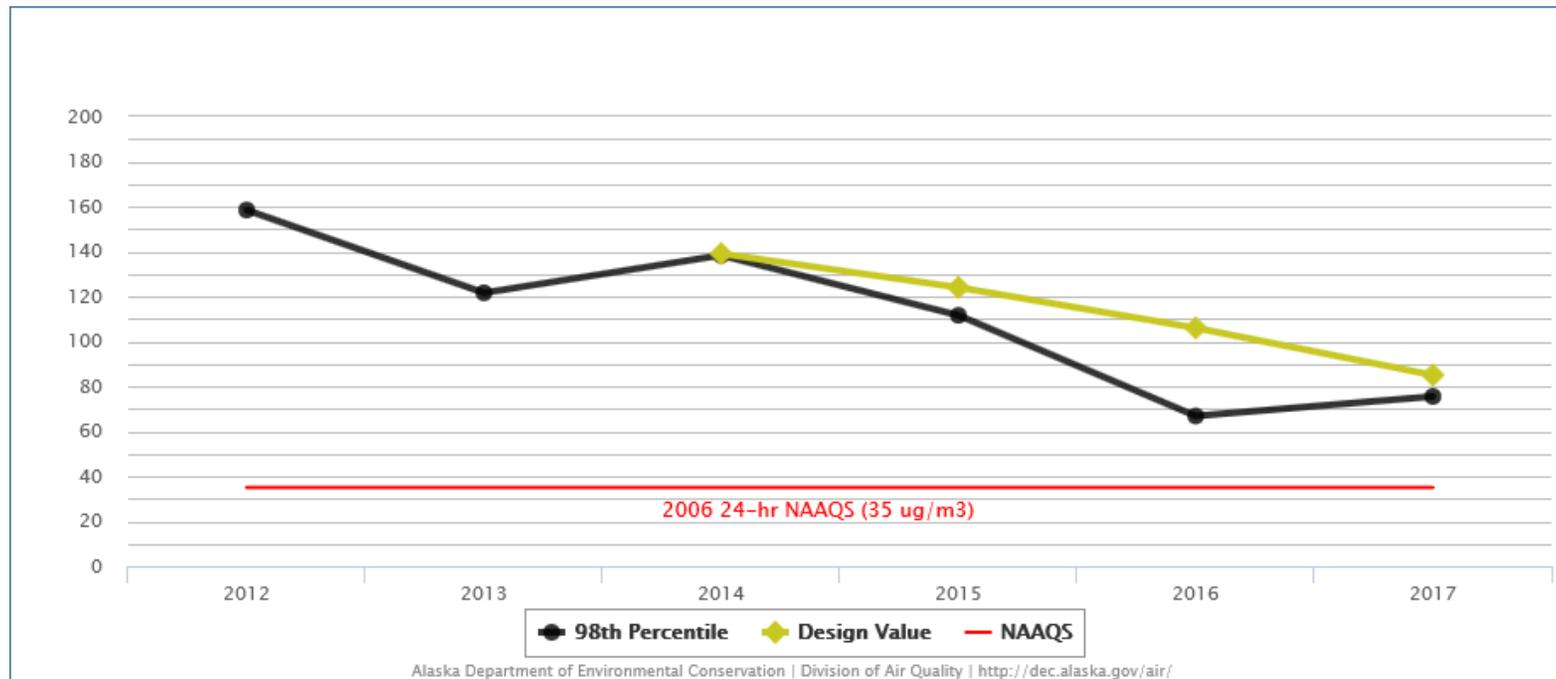
North Pole Fire Station #3 and Fairbanks State Office Building and Fairbanks Downtown NCORE are State and Local Air Monitoring Station Locations and EPA uses data from North Pole Fire Station #3 to determine the design value for the entire nonattainment area.



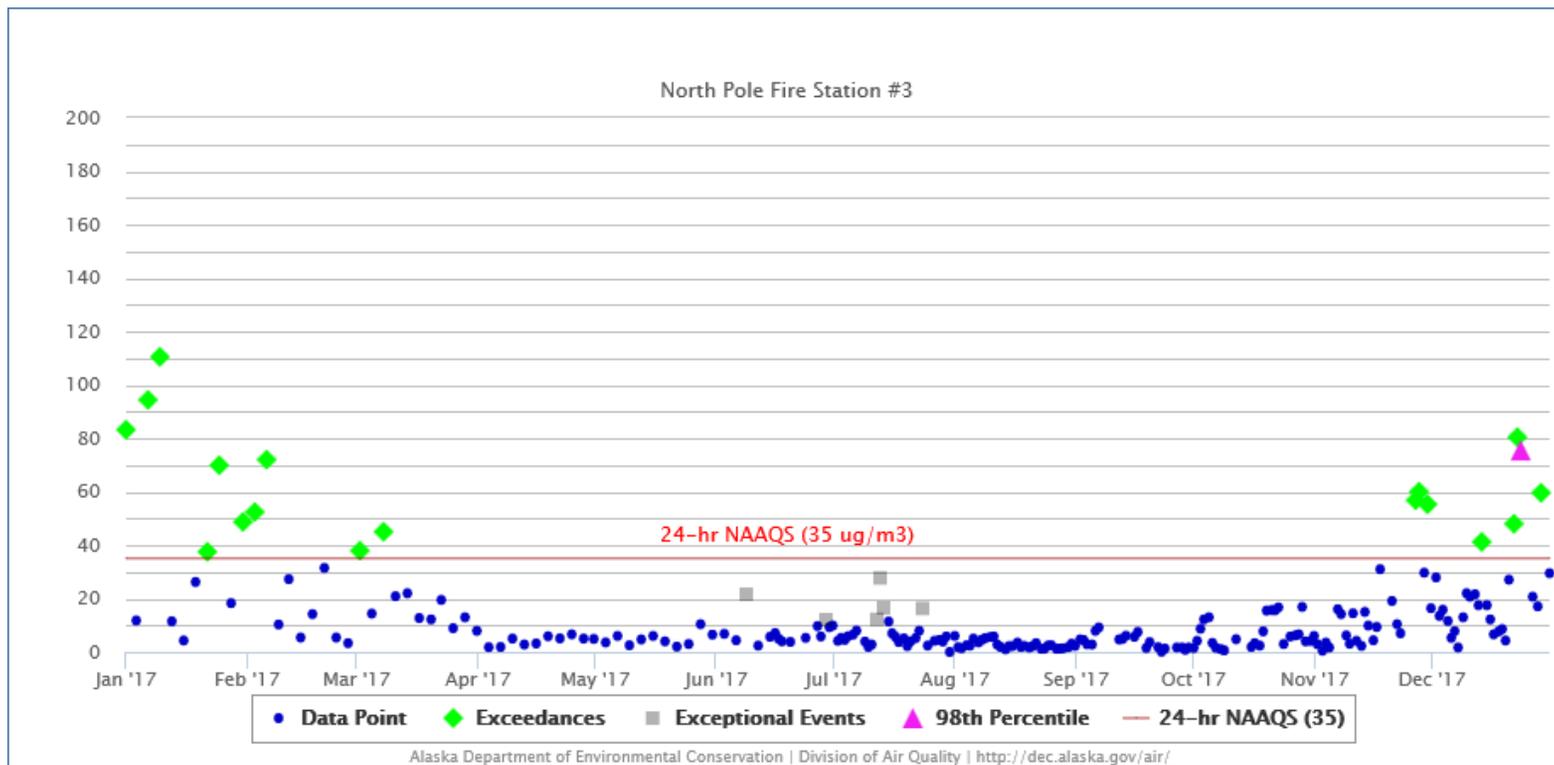
# Air Quality Boundaries



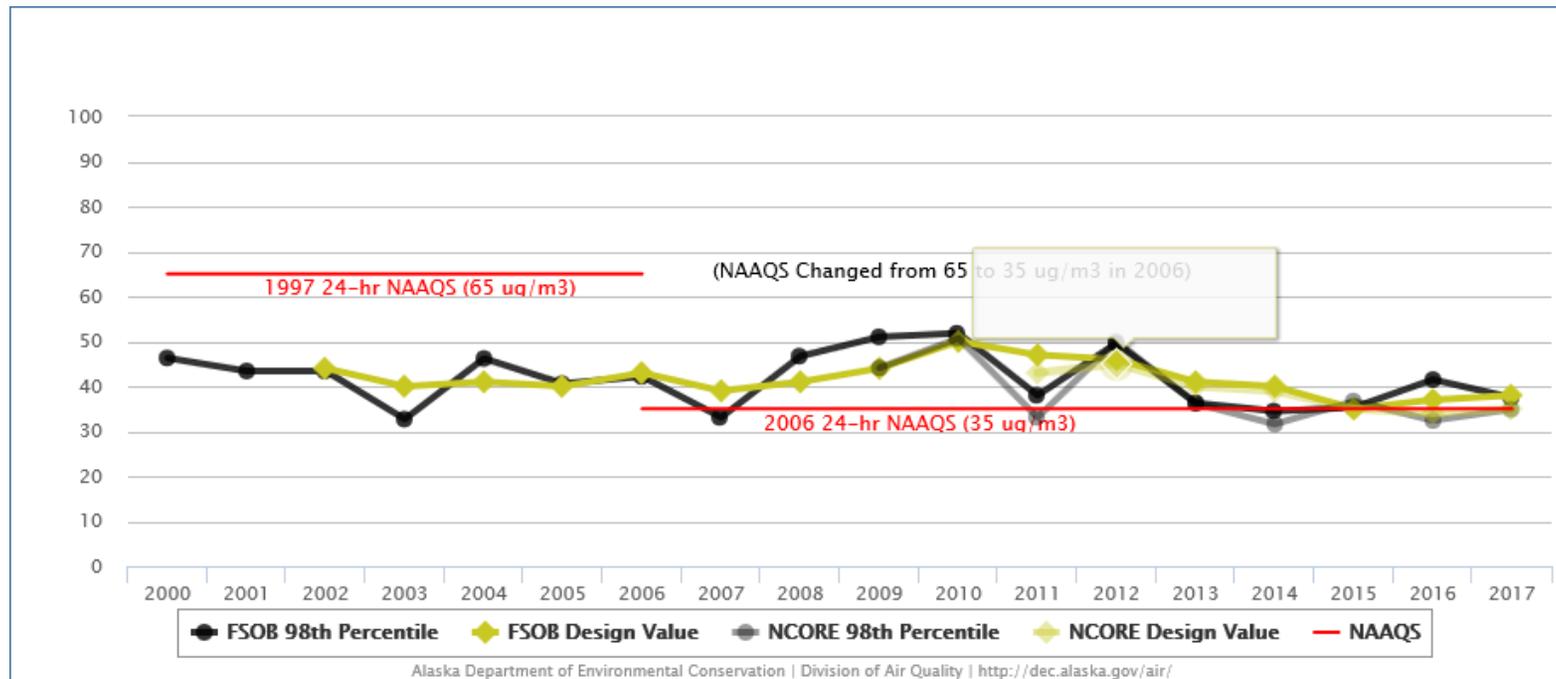
# North Pole Fire Station #3 PM<sub>2.5</sub> Averaged Concentrations



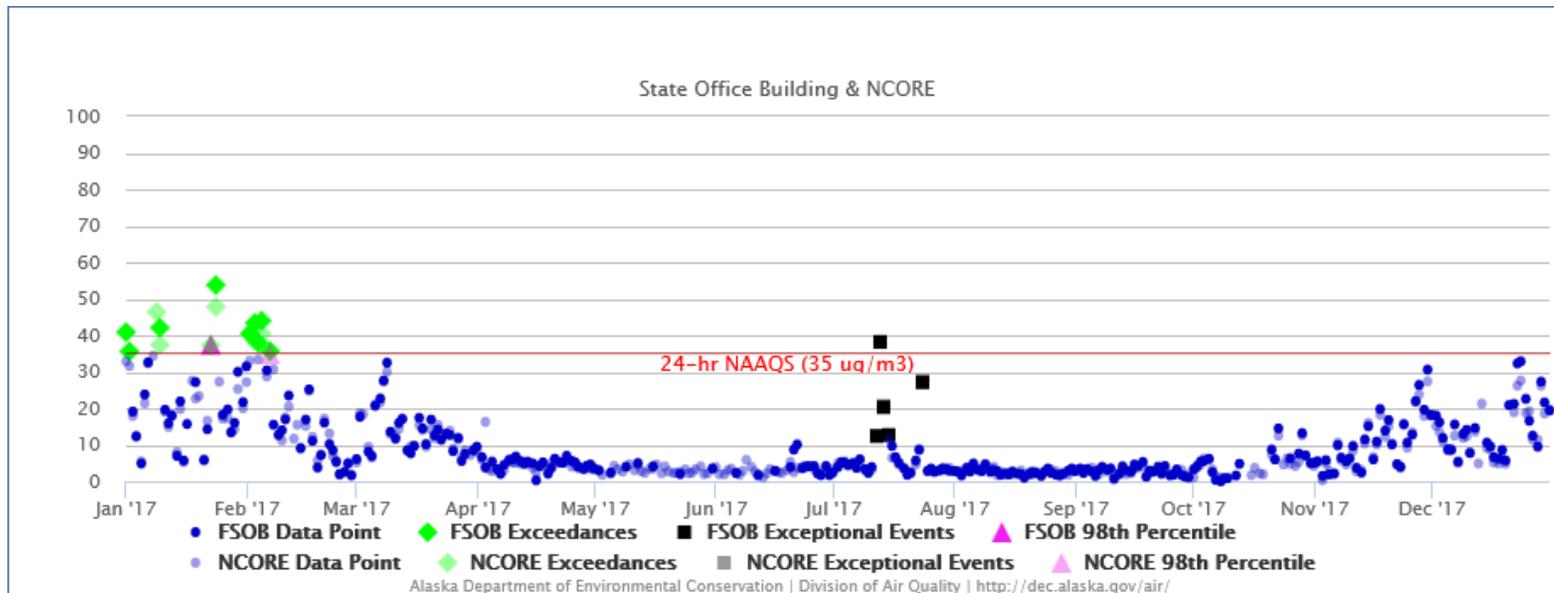
# North Pole Fire Station #3 2017 PM<sub>2.5</sub> Emissions Recorded



# Fairbanks State Office Bldg & NCORE PM2.5 Averaged Concentrations



# Fairbanks State Office Bldg & NCORE 2017 PM2.5 Emissions Recorded



# Fairbanks Air Quality Stakeholders Group

- ◆ Voluntary Group including 33 Seats representing various interests in Air Quality, Home Heating and the Economy.
  - ◆ Community, Military, Point Sources, Solid Fuel Suppliers, Industry, NGOs
- ◆ Objective was to identify, evaluate and recommend community-based solutions to bring the area into compliance with federal air quality standards for fine particulates (PM<sub>2.5</sub>).



# Scope and Process

- Develop recommendations for SIP to address air quality standards.
- All measures adopted elsewhere throughout the country must be identified and implemented regardless of relative impact on attainment.
- Only measures proven to be economically or technically infeasible could be omitted.



# Stakeholders Working Groups

- Wood Devices
- Wood Smoke Curtailment
- Point Sources
- Mobile Sources & Other Fuels
- Compliance and Enforcement
- Energy Efficiency
- Regulatory Monitoring
- Funding
- Education



# Stakeholder Suggestions for Community Based Solutions

- 53 Recommendations for Control and Attainment Measures
  
- Solid Fuel Burning Control Measures Beneficial to the Industry:
  - Build and Operate a Firewood Kiln for Wood Drying
  - Mandatory Removal of Uncertified Solid Fuel Burning Devices
  - Educate the Community with Responsible Wood Burning Practices
  - Evaluate Retrofit Control Devices such as Electrostatic Precipitators



# Where do we go from Here?

- How will future regulation effect air quality permit applications?
- What will happen with the solid fuel burning markets?
- How will the technological advancements with Densified Biomass Fuels and Electrostatic Precipitators influence policy?
- How will the EPA Ruling on the designation of Biomass as Carbon Neutral impact the community?



# References

Fairbanks and North Pole PM2.5 Data. Division of Air Quality Monitoring and Quality Assurance. April 2019.

<http://dec.Alaska.gov/air/air-monitoring/community-data>

Air Quality Stakeholders Group. Fairbanks North Star Borough. April 2019. <http://fnsb.us/transportation/Pages/stakeholders>

Bad Air Quality Plagues North Pole Picture. January 2015. Eric Engman. Fairbanks Daily Newsminer.

