



# Fairbanks North Star Borough PM<sub>2.5</sub> Control Plan

Presentation to:  
Fairbanks North Star Borough Assembly

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## Purpose of presentation

Overview of Air Quality Plan

State Regulations

Ability to Attain by 2015 and 2019

Considerations for Future

Public Review Process

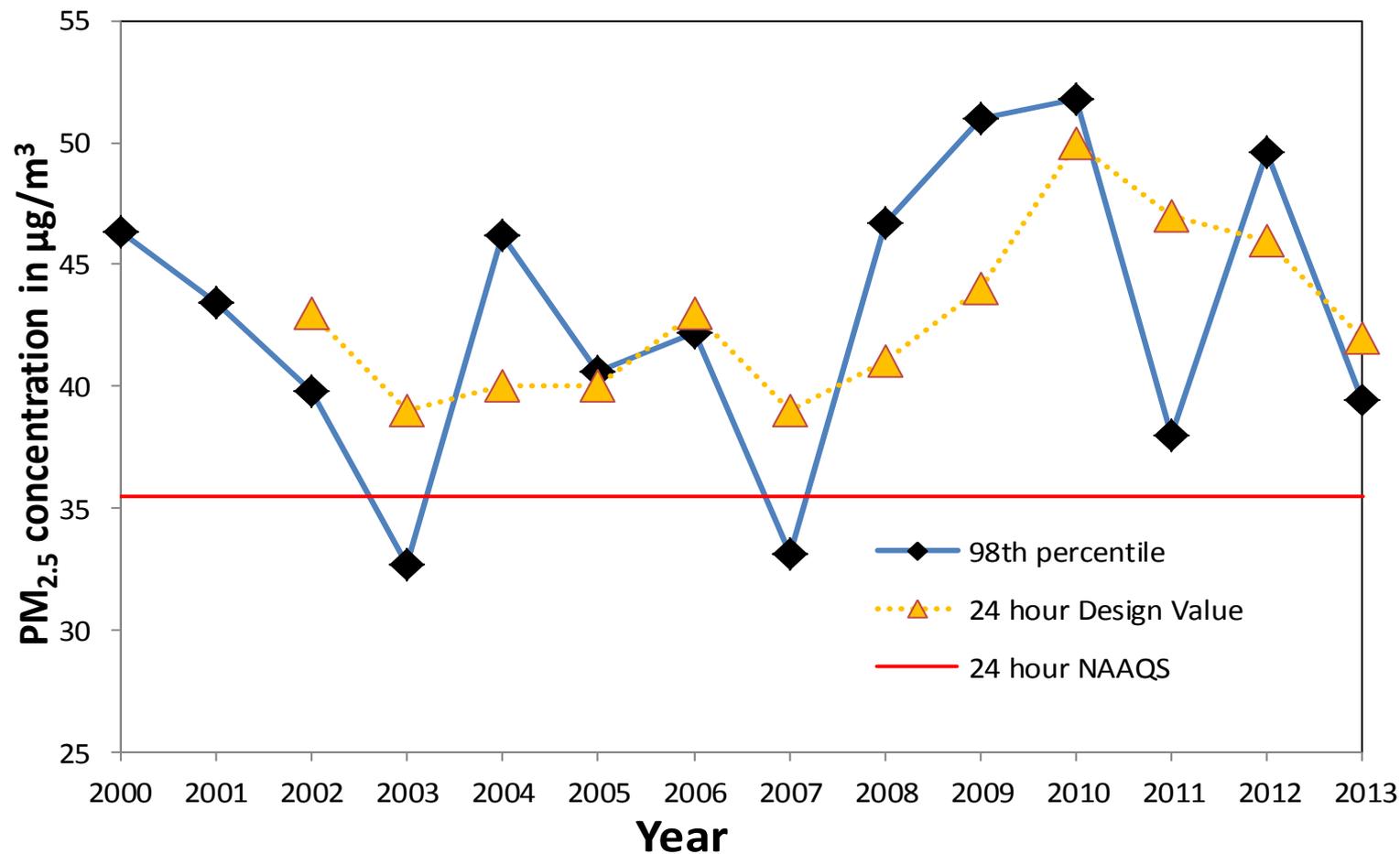


## Requirements for a Complete Moderate Area SIP

- A moderate area designation must meet all Federal Clean Air Act requirements
  - Must have enforceable measures not just voluntary compliance
  - Must have contingency measures
  - Must have an episode plan
  - Must either demonstrate attainment by 12/31/2015 or demonstrate why it is **impracticable** to attain by the attainment date
  - Must show that all reasonable measures both at stationary sources and within community are being used
  - Must meet all technical requirements (modeling)
  - Must be submitted by 12/31/2014



# State Office Building Historical Design Value and 98th% Percentile, 24-hr PM<sub>2.5</sub> Concentrations





## Key Components of the Air Quality Plan

- Promote the installation of cleaner burning wood heaters
  - Local change out program
  - State emission standards for new devices
- Use best burning practices and seasoned, dry wood
  - Balance economically heating homes and healthy air
  - Save money
  - Make it easy for consumer to burn cleanly & efficiently
  - Proposed state requirement to burn dry wood in winter
- Expand the availability of natural gas in the area
  - Progress is being made



## Other SIP Measures

- Public Education
- Winter season outdoor open burning requirements
- Plugging in vehicles in cold temperatures
- Mass transit and vanpooling
- Anti-idling projects to reduce diesel emissions from public fleets
- AHFC energy programs
- State permit program
- Federal emission control programs



## Contingency Measures

- Required element of a SIP – implemented if fail to attain by 2015
- Some programs and measures are planned to continue or come into effect after 2015 generating additional benefits
  - Change out program
  - Expanded natural gas availability and use
  - Expanding motor vehicle plug-in infrastructure
  - Continuation of AHFC energy programs
- State proposed regulatory contingency measures
  - Wood seller registration – moisture content disclosure to enhance dry wood
  - Remove or replace older, inefficient wood heaters that don't meet state and EPA emission standards when a property is sold
- Other contingencies that could be considered
  - Program to encourage use of “energy logs”
  - Expansion of DOT/DEC diesel anti-idling pilot program



## Episode Plan

- Proposed episode levels for PM<sub>2.5</sub>
  - First episode level would begin at 35  $\mu\text{g}/\text{m}^3$
- As concentrations increase, smoke emissions would be required to decrease
  - If burn cleanly and efficiently should be able to meet visible emission (opacity) limits

Ambient PM <sub>2.5</sub> 24-hour Concentration ( $\mu\text{g}/\text{m}^3$ )	Proposed Opacity Limits
Air Advisory Called	50%
>35	40%
>56	30%
>150	20%



# Projected Benefits of Control Measures

Impact of Fairbanks SIP Control Measures on PM <sub>2.5</sub> Concentrations at the State Office Building (2015 and 2019)		
Control Measure	Concentrations (µg/m <sup>3</sup> )	
	2015	2019
<b>Present (2008) Design Value</b>	<b>44.7</b>	<b>44.7</b>
Voluntary Measures	-0.54	-0.54
Natural Turnover	-1.00	-0.80
ARA Outdoor Hydronic Heater Retrofits	-0.04	-0.03
Wood Stove Change Out	-3.06	-5.50
State Standards	-	-0.30
Dry Wood	-	-0.60
Natural Gas Expansion	-	-3.40
<b>Total Reduction</b>	<b>-4.6</b>	<b>-11.2</b>
<b>Final Design Value</b>	<b>40.1</b>	<b>33.5</b>
<b>24-Hour PM<sub>2.5</sub> Standard</b>	<b>35</b>	



## 2013 Proposed Regulations – Where are they now?

- DEC adopted:
  - wood fired heating device standards for new wood stoves – **no requirement to change out existing stoves**
  - Minor revision to existing episode regulations to clarify roles of local air programs
- DEC did not adopt:
  - PM<sub>2.5</sub> air quality episode levels as proposed
  - Burn ban language as proposed
- DEC has re-proposed several sections for additional review
- Response to comments may be found on DEC website



## Proposed Regulations - Highlights

- Winter outdoor open burning restriction is revised to add some flexibility
- Visible emission requirements expanded to include all solid fuel-fired heaters (wood and coal)
- Clarify types of fuel that can be used and not used in wood and coal heaters
- Added two contingency measures, only implemented if the area fails to meet air quality standards by December 31, 2015
  - Commercial wood seller registration – moisture content disclosure
  - Changes to grandfathering of some wood-fired heating devices when homes are sold



## Visible Emissions (Opacity) and Dry Wood

- Proposed regulations allow continued use of coal and wood heaters – but they must meet visible emission limits
  - Visible emissions (opacity) to identify those individuals needing additional assistance
- Requirement to use dry wood – starting October 1, 2015
  - Alternative to dry wood is mix of wet wood with ‘energy logs,’ provided operations meet visible emissions requirements



## Why the Plan Doesn't Attain by 2015

- Federal Rules allow submittal of an 'impracticable' SIP – but must provide reasons why community cannot meet 2015
- Time is needed for some measures to have full effect
  - Change outs and new stove emission standards
  - Dry wood – residents need time to season wood over summer
  - Natural gas expansion
- Challenging meteorological conditions (inversion strength, length, extremely cold temperatures)
- Locally unacceptable control measures (burn bans)
  - Economic, safety and social concerns



## What More Can Be Done?

- There is a path to attainment in 2019
  - Additional controls will be need to ensure attainment throughout the entire nonattainment area
- Proposed plan is a first step
  - Plan is a living document – can be added to or amended over time
- Can we improve AQ more quickly?
  - Further enhance dry wood and best burning practices through additional efforts?
- More important than the plan are actions being taken to reduce pollution as quickly as possible
- Success will be dependent on community's acceptance and implementation of final plan



## Public Review Process

- Proposed regulations and air quality plan released for public comment November 17, 2014
- Public Comment period closes December 19, 2014
- Several different ways to comment
  - Written comments - online, email, fax, or mail
  - Oral comments can be made at public hearings (Dec 3 and 17)
- Written questions received by December 9<sup>th</sup> will be aggregated and responses posted online prior to end of comment period
- Seeking resolution of support for SIP by FNSB Assembly
- DEC will review and consider the comments received, make adjustments if necessary, then adopt and transmit the plan to EPA



# Thank You!

For more information: [dec.alaska.gov/air](http://dec.alaska.gov/air)