



Fairbanks North Star Borough PM_{2.5} 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

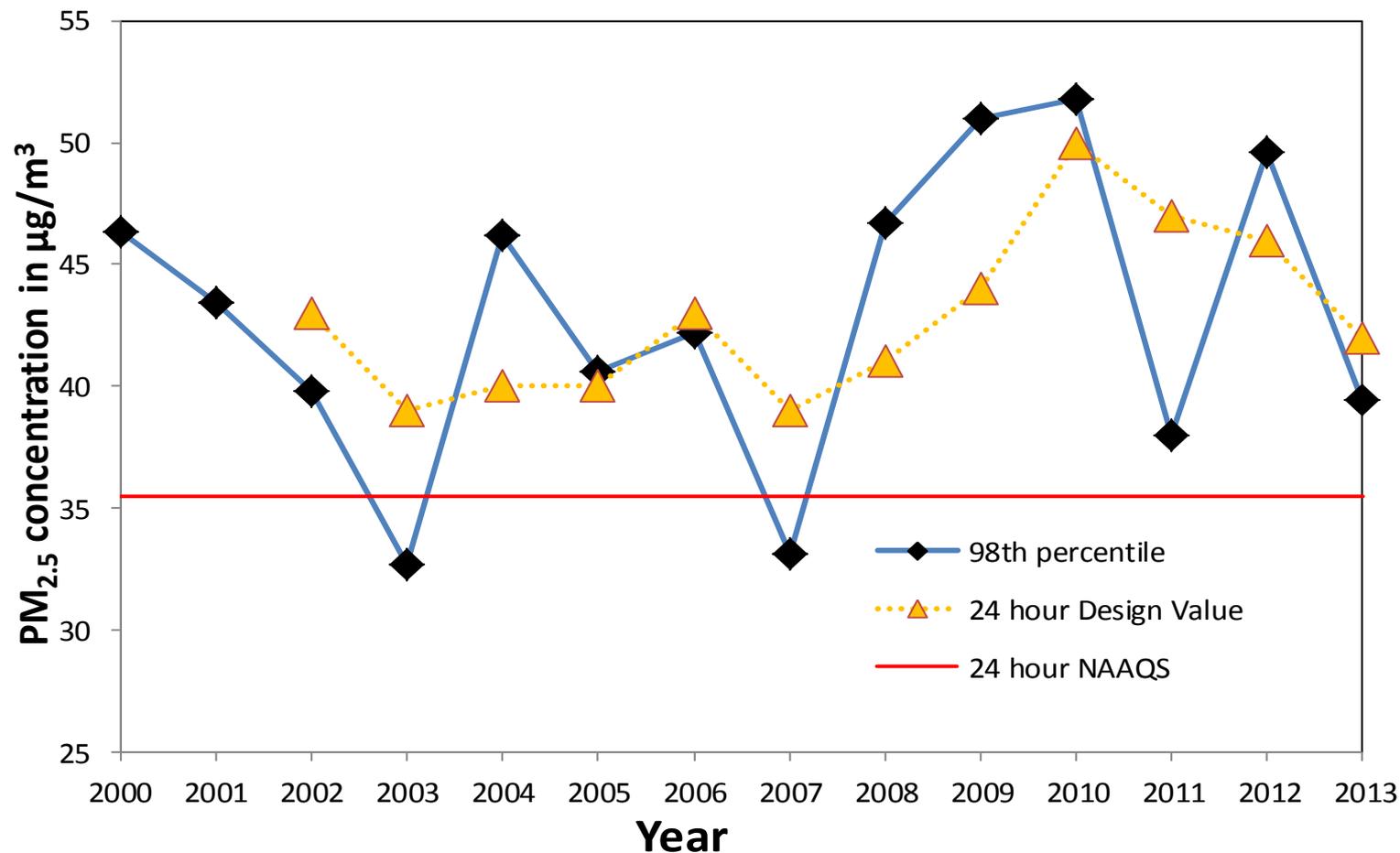


Requirements for a Complete Moderate Area SIP

- 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_{2.5} 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_{2.5}
 - First episode level would begin at 35 µg/m³
- 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 _{2.5} 24-hour Concentration (µg/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 _{2.5} Concentrations at the State Office Building (2015 and 2019)		
Control Measure	Concentrations (µg/m ³)	
	2015	2019
Present (2008) Design Value	44.7	44.7
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
Total Reduction	-4.6	-11.2
Final Design Value	40.1	33.5
24-Hour PM_{2.5} Standard	35	



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_{2.5} 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 9th 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