



Fairbanks North Star Borough Air Quality: Serious Implementation Plan (SIP)

Presentation To:
Fairbanks North Star Borough Assembly

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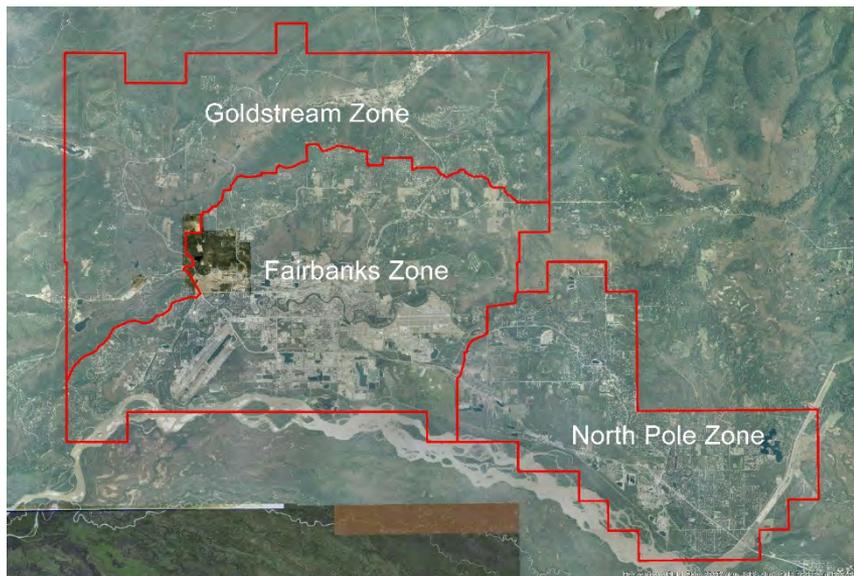
Overview

- Nonattainment Planning Status Overview
- Current Air Quality Trends
- When can the area attain?
- Key Goals and Elements of SIP
- Summary of Control Measures
- Serious SIP Public Review Timeline
- How to Comment
- The Future:
 - Next SIP
 - Advantages of a 5% Plan
 - Planning Timelines –What Comes Next?



Fairbanks North Star Borough PM_{2.5} Nonattainment

Where are we at?



- Serious nonattainment area
 - Public health concerns
 - Goal is to have healthy air to breathe
 - Federal planning requirements
 - Initial control plan is being implemented
 - Reclassification to Serious area means a new plan must be developed
 - Sanctions are imposed if state fails to act
 - Serious plan requires more controls to bring area into compliance



A Complete Serious Area SIP – What is it?

- A Serious area SIP must meet federal Clean Air Act requirements
 - Must adopt and implement Best Available Control Measures/Best Available Control Technologies
 - Must have contingency measures
 - Must have an episode plan
 - Must either demonstrate attainment by 12/31/2019 or demonstrate why it is impracticable to attain by the attainment date and request an extension
 - Must meet all technical requirements (emission estimates, modeling, milestones)



What Happens if We Don't Take Action?

Do Not Submit
A SIP on Time

- EPA will file a “Failure to Submit”
- Sanction clock started
- 18 months later sanctions in effect
- Federal Implementation Plan start soon after

Federal Plan

Submit SIP

Incomplete/Inadequate

- EPA identifies inadequacies
- Sanction clock started
- 18 months to update Serious SIP for deficiencies

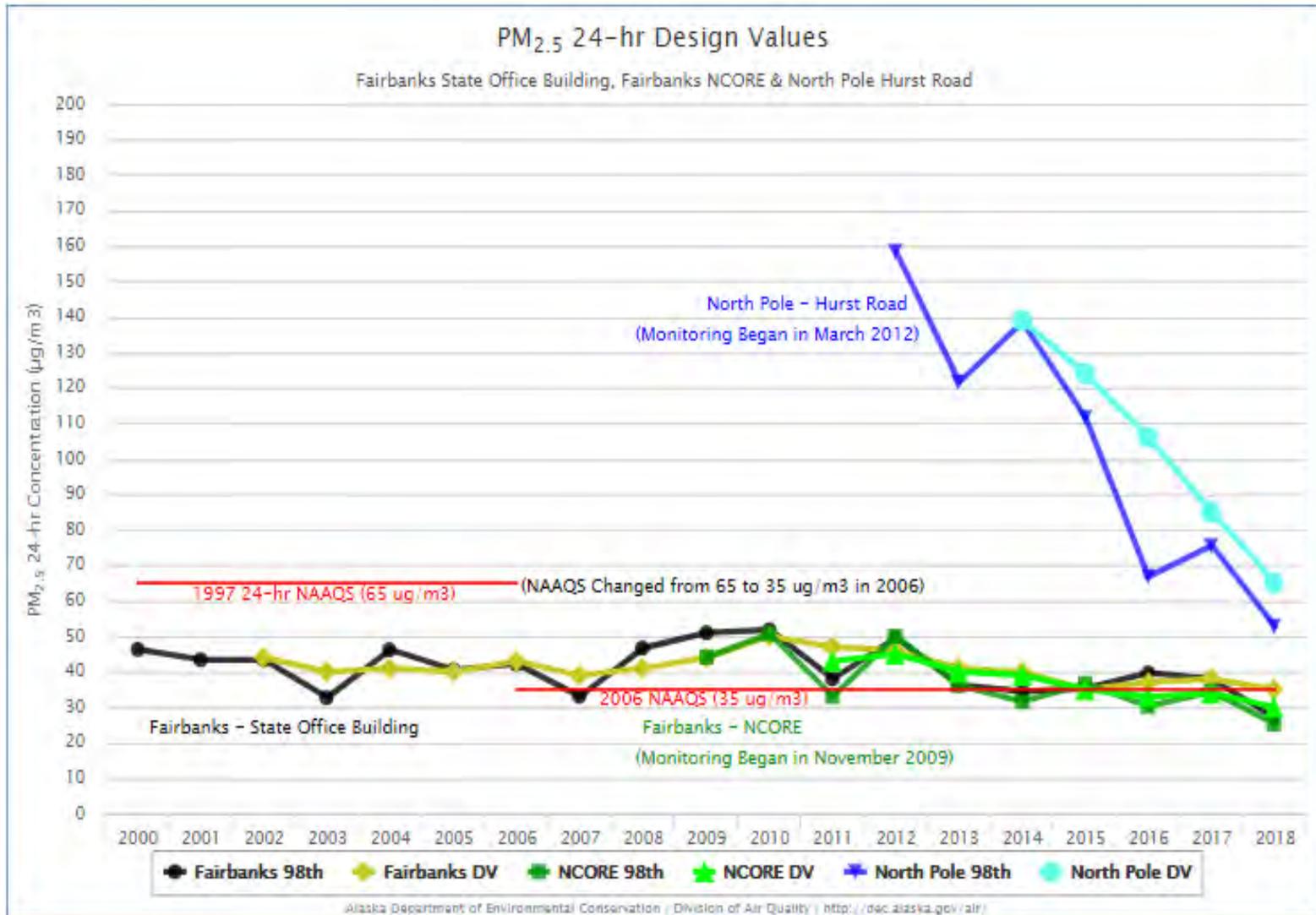
State Plan

Complete/Adequate

- EPA has 6 months to determine completeness
- EPA begins process to approve SIP
- Committed measures in SIP implemented



Progress is Being Made - Air Monitoring Trend





Current Air Quality

- Air monitoring trends show great improvement
- More pollution reduction needed to reach a Design Value of 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) across the entire area

Air Monitoring Site 3-Year Design Value	Year:	2012	2013	2014	2015	2016	2017	2018
State Office Building		46	41	40	35	37	38	35
Ncore		45	40	39	35	33	34	30
North Pole Hurst Rd				139	124	106	85	65



When can the area attain the PM_{2.5} standard?

- Serious Plan cannot demonstrate attainment in 2019
- Plan shows that the area will realistically be able to reach attainment in the timeframe between 2024 and 2029.





Key Goals and Elements of the Serious SIP

- Show how the area can reach attainment
- Continue to allow the use of solid fuel fired devices
- Limit the impact on large industrial sources as they are not the main contributors of the problem
- Meet the EPA completeness criteria for a SIP (avoid sanction)
- Meet the Best Available Control Measure (BACM) and Best Available Control Technology (BACT) Requirements
 - Are proposed controls technically and economically feasible?
- Position the SIP and control measures for transition to a 5% Plan, the next SIP update needed



Summary of Proposed Control Measures

- Proposed control measures build off existing/continuing controls and Stakeholder recommendations
 - Existing controls continue – some revisions proposed to meet BACM
 - Required to look at measures from across the nation
 - Timing of proposed controls varies to allow time to prepare and plan
 - Seeking comment on controls including timing, technical and economic impacts



Proposed Solid Fuel Heating Control Measures (nonattainment area)

- 2-Stage solid fuel burning curtailments remain in place
 - Propose to call at lower concentrations (thresholds reduced 5 ug/m³)
 - Hope that curtailments are primarily a bridge as other measures implemented and the need for curtailments will be reduced over time.
- Stage 1 and No Other Adequate Source of Heat (NOASH) Waivers to curtailment will still be available
 - Have proposed changes to eligibility requirements.
 - Length of the waivers will depend on age, type and emission rating of device.
- Device registration will be required for waivers, new device sales and real estate transactions that contain a solid fuel fired device.
- Only dry wood may be sold,
 - Proposed effective date October 2021 to allow time to prepare



Proposed Solid Fuel Heating Device Standards

- Adopting the EPA Stage 2 emission standards for wood fired heaters (2.0 g/hr)
- Only pellet-fueled hydronic heaters will be allowed to be sold.
- Only pellet-fueled or catalyst-equipped woodstoves will be allowed to be sold. Non-catalytic woodstoves may be sold if the manufacturer provides additional information and DEC approves.
- All new solid fuel fired devices must be professionally sized and installed.
- Solid fuel devices may still be used but EPA uncertified devices and devices older than 25 years old will need to be removed by earlier of December 2024 or as part of a real estate transaction (current requirement).
- Retrofit Electrostatic Precipitators (ESPs) are not mandated but they are acknowledged as a technology that needs more study.
 - Borough has issued a Request For Proposal (RFP) to begin testing to get the data needed.



Other Control Measure Proposals

- Only Diesel #1 may be sold in the nonattainment area for space heating
 - Proposed effective date is July 2020.
- Small commercial source requirements
 - Information request for businesses with charbroilers, incinerators, used oil burners
 - Proposal for emission control for coffee roasters
- Best Available Control Technologies (BACT) for large industrial sources
 - Individual BACT analysis and determinations for each source
 - Ft. Wainwright
 - Aurora Energy Chena Power Plant
 - GVEA North Pole
 - GVEA Zehnder
 - UAF



Proposed BACT Determination Highlights

Highlights of BACT Controls by Pollutant					
Pollutant	Aurora	Fort Wainwright	GVEA North Pole	GVEA Zehnder	UAF
Fine Particulate Matter (PM_{2.5}) - Direct	Existing No new control	Existing No new control	Existing No new control	Existing No new control	Existing No new control
Volatile Organic Compounds (VOC)s	Existing No new control	Existing No new control	Existing No new control	Existing No new control	Existing No new control
Nitrogen Oxides (NO_x)	No new control Precursor Determination	No new control Precursor Determination	No new control Precursor Determination	No new control Precursor Determination	No new control Precursor Determination
Ammonia (NH₃)	No controls available	No controls available	No controls available	No controls available	No controls available
Sulfur Dioxide (SO₂)	Economically infeasible Use low sulfur coal 0.2% S by weight by 2021	NEPA process to determine either SO ₂ control on existing facility or replace facility Use low sulfur coal 0.2% S by weight by 2021	<u>Short-term:</u> fuel switch to Diesel #1 during curtailments <u>Long-term:</u> ULSD or Natural Gas once decision on utilization of Healy 1 & Healy 2 finalized around 2022.	Owner requested limit to lower emissions below BACT threshold	Economically infeasible, fuel switch to ULSD in emergency generators Use low sulfur coal 0.2% S by weight by 2021



Serious SIP Available for Public Review & Comment

- May 14 - Start public comment period
- May 16 - Presentation to FNSB Assembly
 - 5:30 PM
- June 25 - Open House at Westmark Hotel
 - 6-8 PM
- June 26 – Hearings at FNSB Assembly Chambers
 - 12- 1:30 PM and 5-8 PM
- July 26 – End comment period



Next SIP – 5% Plan

- The Clean Air Act and EPA regulations give two options for a Serious SIP
 - Reach attainment by 2019
 - Request an extension that shows attainment by 2024.
- Area cannot reach attainment by 2019, and cannot realistically demonstrate attainment by 2024.
- Serious SIP requests an extension, but likely it will not be granted, therefore a 5% Plan will be due December 2020.



Advantages of 5% Plan

- Benefits of the regulations in Serious Plan will get credited in the 5% Plan
 - Example, fuel switch to Diesel #1 could provide almost 3 years of benefits
- Most Stringent Measures (MSM) are not required
 - Including MSM to Point Sources
- New modeling Design Value and base year
 - Will be able to use lower monitored values
- Likely will have a positive impact on approvability of Serious SIP if 5% Plan can be submitted to EPA prior to final EPA action on Serious SIP
- Will likely show attainment earlier than 2029, however this depends on final control measures adopted in Serious SIP



Planning Timelines – What Comes Next?

- After comment period, finish Serious SIP, adopt and submit to EPA. Estimate early winter 2019.
- Begin development of 5% Plan. Gather 2018 emission data for a new baseline. Develop new Design Value. Develop new modeled forecasts once regulations are adopted.
- Target release of 5% Plan for public comment around May 2020. Submittal to EPA before December 2020 due date.
- Initiate data collection over 2019-2020 winter as the first step to updating the model used in the SIPs. Current data is from 2008 and does not reflect the Hurst Road Monitor.
- Update the 5% Plan once the model is updated, which will take an est. 2 years once the data has been gathered. This update will also use latest monitored results and a new baseline.



How to Comment

- DEC wants your feedback
 - Comments are important to finalizing the plan
- Several ways to submit comments:
 - Electronically - online form
 - Email
 - Mail
 - Public Hearing
- Handout with details on how to comment is provided in the back of the room.



Questions?



Thank You!