Alaska Department of Environmental Conservation
Division of Air Quality
Overview

Presentation to House Resources Committee

January 28, 2011

Objectives

- Provide Overview of Air Quality Division
  - Mission
  - Core Services
  - Programs
  - Initiatives and Challenges

Mission

- *To conserve, improve, and protect Alaska's natural resources and environment and control air pollution, in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well being.*

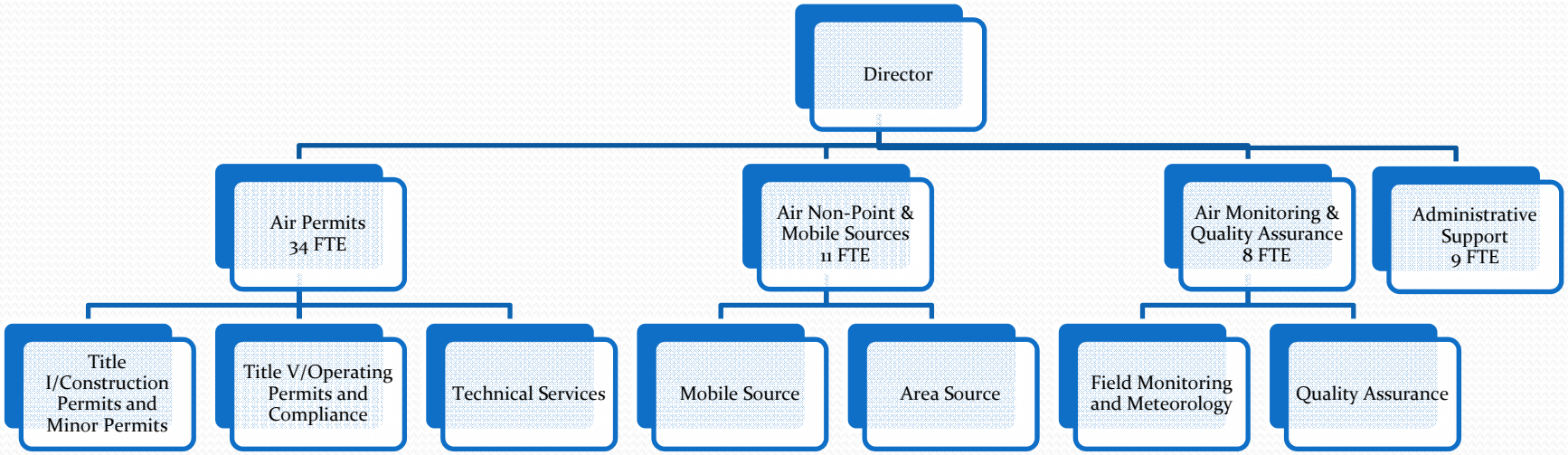
Core Services

- Issue air quality permits to facilities that release potentially harmful pollutants
- Provide compliance assistance and enforcement (inspections and operating report reviews)
- Community assistance to protect air quality
- Air quality assessments and monitoring
- Comment on federal air quality rulemakings with Alaska's perspective
- Develop, implement, and enforce plans to bring areas out of compliance with federal air quality standards back into compliance

Programs

- Division has three primary air quality programs and an administrative support program
  - Air Permits Program
  - Air Monitoring & Quality Assurance Program
  - Air Non-Point & Mobile Sources Program
  - Administrative Support Program

Air Quality Division Structure



Air Permits Program

- Ensure that air emissions from industrial operations in the state do not create unhealthy air
  - Authorize construction of new and modified facilities (Construction Permits and minor permits)
  - Establish compliance monitoring for existing facilities (Title V Operating Permits)
  - Conduct compliance assurance inspections and follow up on permit deviations
- Maintains an on-going process for improving consistency and timeliness of permitting
- Respond to general AQ complaints and concerns

Air Non-Point & Mobile Source Program

- Works with communities to maintain and achieve ambient air quality standards by addressing non-industrial air quality concerns and developing/implementing air quality plans
  - partners with communities to explore options and find solutions to local and regional air quality concerns
    - Fairbanks PM2.5 Planning,
    - Rural village dust pilot project,
    - Anchorage and Fairbanks carbon monoxide planning
  - focuses primarily on mobile and area sources of pollution within communities
    - motor vehicles, road dust, space heating, non-road equipment, etc.

Air Non-Point & Mobile Source Program (Cont.)

- conducts education and outreach on air quality issues to raise awareness and encourage behaviors that improve air quality
- ensures that community-based pollution control programs incorporated into Alaska's Air Quality Plan are implemented
  - provides oversight for the Anchorage/commuter vehicle emission inspection & maintenance program
  - provides technical and outreach assistance to the Juneau wood burning program

Air Monitoring and Quality Assurance Program

- Program operates and oversees air quality monitoring networks throughout Alaska. These networks assess compliance with the national ambient air quality standards.
- Provides quality assurance audits for state air monitoring network and assists with audits for local community monitoring efforts

Air Monitoring and Quality Assurance Program (Cont.)

- Conducts or oversees required field monitoring
  - Anchorage, Fairbanks, Juneau, Mat-Su Valley, Noatak
- Assists communities with special monitoring studies
  - Seward, Galena and others
- Issue air advisories to inform the public of hazardous air conditions, such as wildfire smoke or volcanic ash events.
- Reviews industry generated data and provides technical support to air permitting
- Provides meteorological oversight for air quality open burn approvals

Administrative Support Program

- Provides administrative support to the Division
  - Budget development
  - Grant management
  - Procurement and contracting assistance
  - Fee and billing assistance
  - Personnel and payroll assistance
  - Finalize divisional documents and other routine office duties

Division of Air Quality Initiatives and Challenges

Permit Streamlining and Process Improvement
Fairbanks Fine Particulate Matter Planning
Rural Dust
Revisions to EPA National Ambient Air Quality Standards
Revisions to EPA Rules
North Slope Air Quality Assessment

Initiatives and Challenges
Ongoing Permit Streamlining and Process Improvement

- Goal – Improve consistency and timeliness of permitting
  - Maintain high quality, legally defensible permits
  - Improve predictability by standardizing processes and permit requirements

Initiatives and Challenges
Ongoing Permit Streamlining and Process Improvement (cont.)

- Quality Management system
  - enhance consistency
  - reduce disruptions from staff turnover
- Operating Permits
  - Standard conditions to improve efficiency
  - Meetings with Stakeholders
- Construction Permits
  - Pre application assistance and project scheduling
  - Use of contractor assistance to handle workload fluctuations

Initiatives and Challenges – Fairbanks Fine Particulate Matter ($PM_{2.5}$)

Initiatives and Challenges – Fairbanks $PM_{2.5}$ (Cont.)

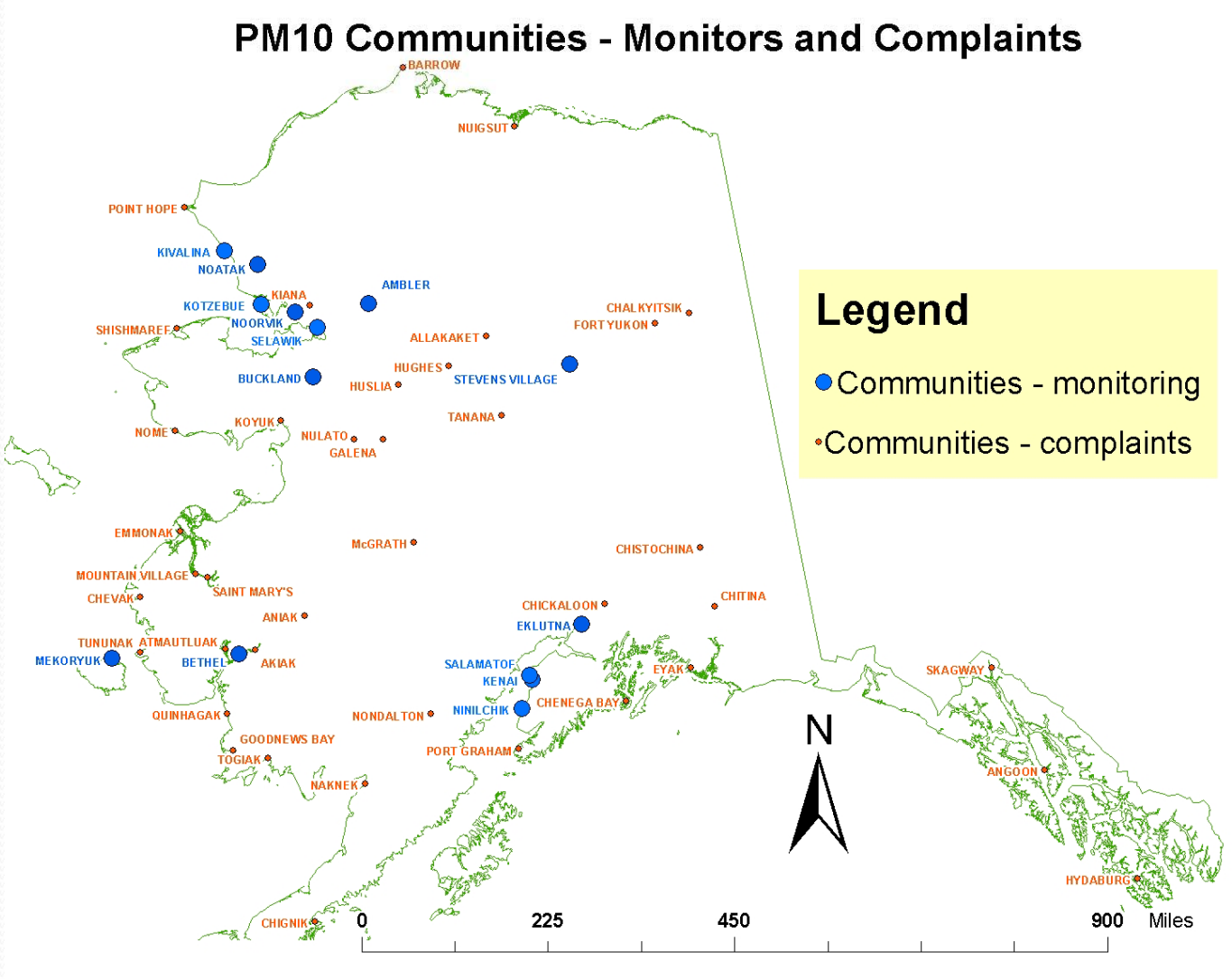
- Fairbanks/North Pole area is exceeding the 24-hour PM2.5 ambient air quality standard
- Air quality attainment plan is due to EPA in December 2012
- Clean Air Act has serious consequences if fail to plan or implement a plan
- Plan and control options are controversial in community
  - Non-attainment are is large in size
  - Multiple sources of PM2.5 exist
  - Home heating sources (wood and coal) are important contributors

Initiatives and Challenges – Fairbanks $PM_{2.5}$ (Cont.)

- On-going Division efforts include:
  - Coordinating planning efforts
  - Responding to local smoke complaints
  - Conducting public education
  - Assisting Borough on projects to characterize $PM_{2.5}$
  - Assisting with technical work for the air quality plan
  - Analyzing emissions, impacts, and controls for permitted sources (e.g. power plants)
  - Characterizing vehicle emissions at cold temperatures

Initiatives and Challenges – Dust in Rural Alaska

Airborne Dust in Alaska



Initiatives and Challenges – Rural Dust (Coarse Particulate Matter or PM10)

- Division continues to work with the Department of Transportation and other agencies to find solutions to dust impacts from rural roads and to assist villages in assessing and addressing local air pollution concerns
- Pilot project underway to look at effectiveness of watering/dust suppressants in eight communities with documented dust problems
  - Bethel, St Mary's, Kotzebue, Noatak, Ambler, Buckland, Noorvik, Kiana
- With the widespread impact of dust throughout the state, it is difficult to effectively respond to the needs of communities

Initiatives and Challenges – Revised National Ambient Air Quality Standards (NAAQS)

- Per Clean Air Act, standards to be reviewed every 5 years
- New 1-Hour Standards for Nitrogen Dioxide (NO2) and Sulfur Dioxide (SO2)
  - Will have implications for permit program implementation – modeling attainment for short term standards
- Expecting EPA to revise carbon monoxide (CO) and particulate matter (PM) standards during the coming year
  - If more stringent standards are proposed for PM10 and PM2.5, could result in additional problem areas
  - If more stringent standards for CO – Anchorage and Fairbanks air quality plans may need adjustment

Past and Possible Future $PM_{2.5}$ NAAQS (concentrations in $\mu g/m^3$)

Standards	Annual	24-Hour
1997 Standards	15	65
2006 Standards	15	35
Standards Under Consideration	11-13 / 11	35 / 30

Initiatives and Challenges – New EPA Air Quality Rules

- EPA has been issuing a lot of new and revised rules
  - Can be difficult to keep up with the reviews of EPA proposals
  - Typical focus for comments is on technical concerns and Alaska specific issues that arise
- Greenhouse Gas Permitting Rules
  - Federal rule tailors the permitting program for CO_2 to avoid permit requirements for many small facilities
  - Federal rule phases in and impacts facilities that typically have air quality permits already
  - State recently adopted the federal requirements
    - approval by EPA of the state regulations ensures there is no construction moratorium
    - state continues to make permit decisions, rather than EPA.

Initiatives and Challenges – New EPA Air Quality Rules (Cont.)

- Advanced Notice Regarding Potential for Regulation of Lead in Aviation Gasoline
  - State weighed in with Alaska specific concerns early in EPA process
  - Allows EPA to gather additional information and to take Alaska concerns into consideration
- Rules related to new ambient air quality standards
  - EPA coming out with rules and guidance for air permitting – 1 hour NO2 and SO2

Initiatives and Challenges – North Slope Air Quality Assessment

- Develop better understanding of cumulative air quality impacts on the North Slope and address data gaps to assist in future permit development
- Short term goals:
  - Assess and summarize existing monitoring, emission and meteorological data
  - Determine additional data needs with focus on core information for permits and cumulative impact assessment
  - Develop technical approach for modeling regional impacts
  - Develop long term strategy for monitoring and assessing impacts

Questions:

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