State of Alaska
FY2009 Governor's Operating Budget

Department of Environmental Conservation
Air Quality
Results Delivery Unit Budget Summary

Air Quality Results Delivery Unit

Contribution to Department's Mission

Protect air quality.

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.

End Result	Strategies to Achieve End Result
A: Air quality is protected. Target #1: No days violating air quality health based standards. Measure #1: # of days violating the air quality health based standards (from human sources of pollution). Target #2: No days violating air quality health based standards. Measure #2: # of days violating the air quality health based standards (from natural sources of pollution).	**A1: Establish standards for air quality that are protective of public health and the environment.** Target #1: Complete preliminary assessment of health impacts of diesel fuel emissions in rural communities by the end of FY2007. Measure #1: % of preliminary assessment of health impacts of diesel fuel emissions in rural communities completed by the end of FY2007. Target #2: Complete regional haze SIP by the end of FY2008. Measure #2: % of SIP for regional haze complete by the end FY2008. **A2: Improve and streamline air permit practices.** Target #1: All categories of permits will have standardized applications and internal review procedures by the end of FY2008. Measure #1: % of permits categories that have standardized application and internal review procedures. Target #2: 95% of construction and minor permits issued within 130 days of receiving a completed application. Measure #2: % of construction and minor permits issued within 130 days of receiving a completed application. **A3: Minimize pollution from gasoline vehicles.** Target #1: For communities that have Inspection and Maintenance (I/M) programs, no more than 5% of vehicles are found to be out of compliance with tailpipe requirements. Measure #1: % of vehicles found to be out of compliance. **A4: Minimize pollution from stationary sources.** Target #1: 100% of facilities requiring air permits are in

	compliance. Measure #1: % of facilities found in compliance, or on an enforceable compliance schedule, or subject to formal enforcement action by the department.

Major Activities to Advance Strategies

- Establish and operate air monitors.
- Develop strategies to address particulate matter pollution problems.
- Implement a Quality Management System for permit and compliance services.
- Conduct compliance inspections and in-office compliance reviews.
- Assist the Commissioner and the executive sub-cabinet in developing a climate change strategy.
- Improve on-line permitting services and compliance reporting for external users.

FY2009 Resources Allocated to Achieve Results

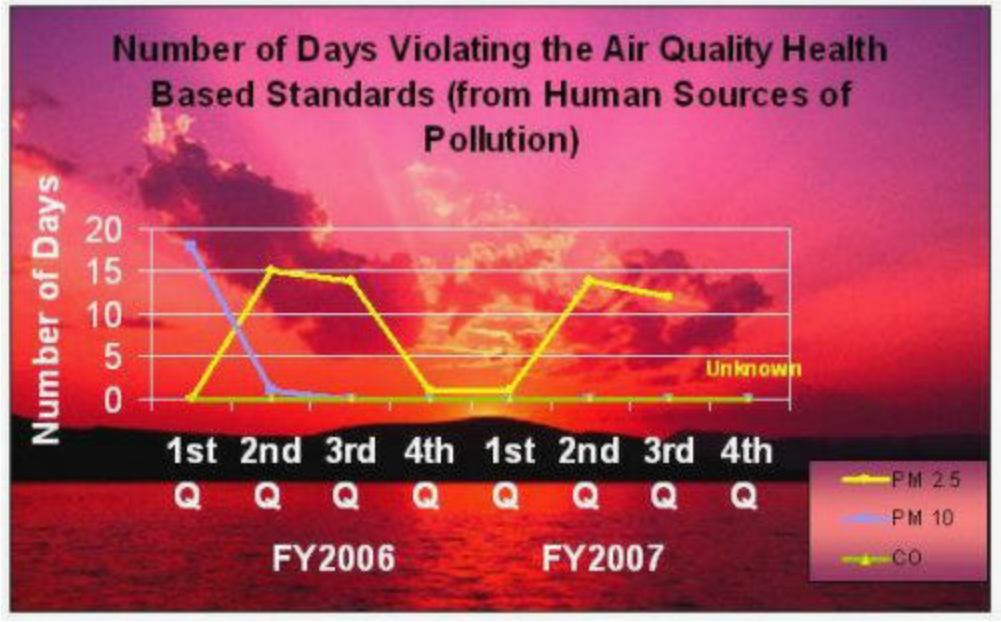
FY2009 Results Delivery Unit Budget: $9,302,600

Personnel:	
Full time	62
Part time	0
Total	62

Performance Measure Detail

A: Result - Air quality is protected.

Target #1: No days violating air quality health based standards.
Measure #1: # of days violating the air quality health based standards (from human sources of pollution).



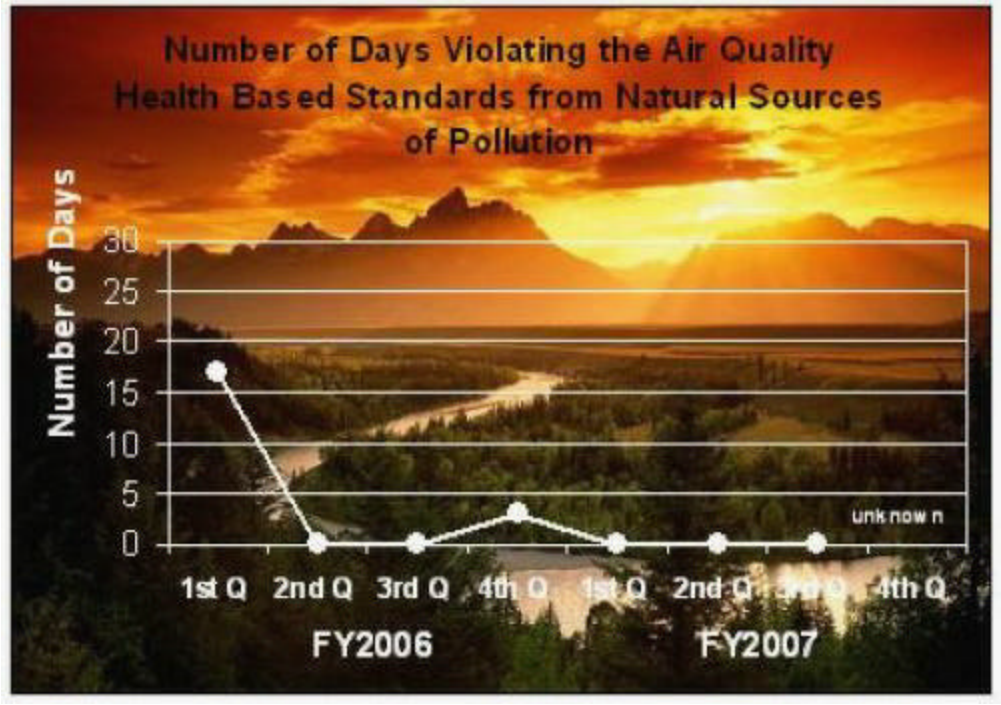
Analysis of results and challenges: DEC has been collecting ambient air data at selected locations around the state for over 25 years. Air monitoring is performed to ensure compliance with the National Ambient Air Quality Standards designed to protect public health. The majority of the State's monitoring takes place in larger communities or where complaints have been received. The graph shown above demonstrates that there were no

violations of the carbon monoxide (CO) standard during FY2006 and the first three quarters of FY2007 from human caused activity within the State's customary monitoring network. Violations of the coarse particulate matter standard (PM-10) and the new fine particulate matter standard (PM2.5) were recorded during the first quarter of FY2006 (PM-10) and the second and third quarter of FY2006 and FY2007 (PM2.5). Fourth quarter data for FY2007 is not yet available.

With the recent review of the National Ambient Air Quality Standards, the PM2.5 standard was made more stringent in light of recent medical research: the new allowed safe exposure level is 55% of the previous standard. Using data from 2004 – 2006, Fairbanks will be designated a non attainment area for fine particulate matter. Other communities like Juneau and communities in the Matanuska-Susitna Valley potentially face violating the new tighter standard.

In addition to the State monitoring network, the Air Quality division is engaged in an air monitoring project to measure airborne levels of dust (PM-10) pollution as part of a Department of Transportation (DOT) research project evaluating the effectiveness of paving roads in Kotzebue. High airborne dust levels from vehicle traffic on unpaved roads violate the health based standard in Kotzebue and other rural communities. Although monitoring data exists only in few communities, conditions around the state suggest that the violations of the PM-10 standard are a common occurrence in the summer in rural Alaskan villages. The Department will be working with the affected communities and DOT to develop an effective control strategy for dust in the Region.

Target #2: No days violating air quality health based standards.
Measure #2: # of days violating the air quality health based standards (from natural sources of pollution).



Analysis of results and challenges: Alaska has many sources of natural pollution; wind blown dust, dust from volcanic eruptions and smoke from forest fires. Although natural in source, these forms of pollution can severely impact public health and impact the public's enjoyment of Alaska.

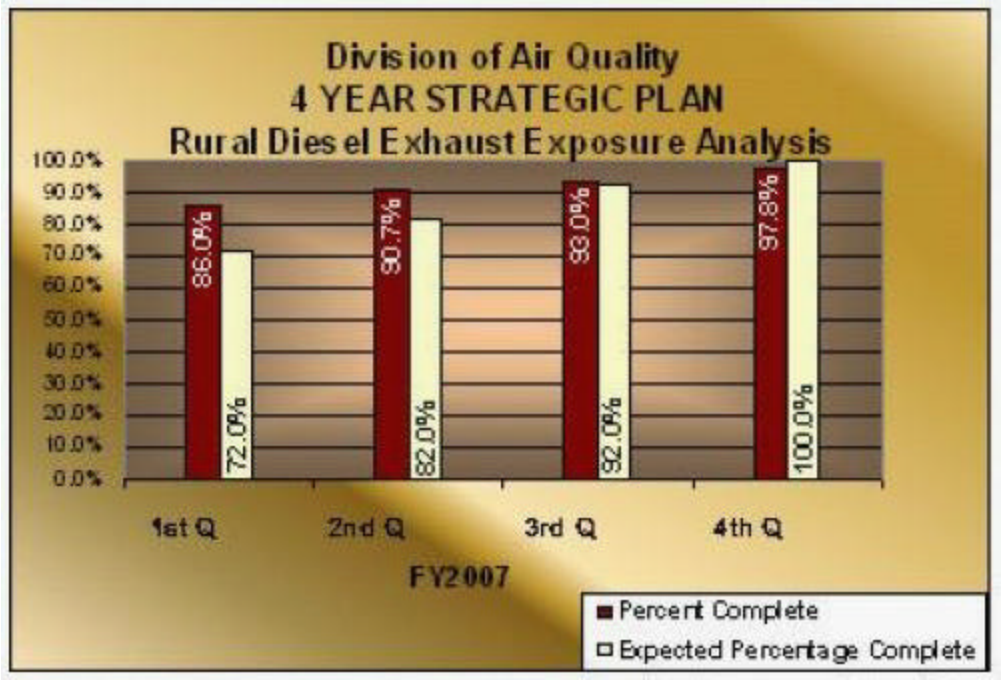
The US EPA has provisions in the Clean Air Act which do not hold a state liable for violations of the air quality standard when it is caused by natural sources. The state is however required to issue air advisories, warning the public of potential dangers and recommending protective action.

Every summer wild land fires impact public health. After applying the new more stringent ambient air quality standards to prior year data (FY06), it was found that during the first and fourth quarter, numerous violations of the fine particle standards (PM2.5) were recorded due to natural sources. There were no violations for the first three quarters of FY2007. Fourth quarter data is not yet available.

A1: Strategy - Establish standards for air quality that are protective of public health and the environment.

Target #1: Complete preliminary assessment of health impacts of diesel fuel emissions in rural communities by the end of FY2007.

Measure #1: % of preliminary assessment of health impacts of diesel fuel emissions in rural communities completed by the end of FY2007.



Analysis of results and challenges: The diesel health assessment project is designed to quantify health risks due to diesel exhaust pollutants. New federal rules will reduce diesel exhaust pollution from mobile equipment, like trucks and buses. Diesel fuel use in rural Alaska is dominated by power generation and home heating equipment – not mobile sources. Federal rules do not address these rural Alaska sources of diesel exhaust and did not consider the unique source and population exposure profile of rural Alaska. Federal rules proposed in 2006 will require lower emission from newly purchased diesel electric generating units. Credible scientific information is needed to determine whether diesel related health impacts are occurring in rural areas and whether the costs associated with converting communities to cleaner diesel fuel are justified.

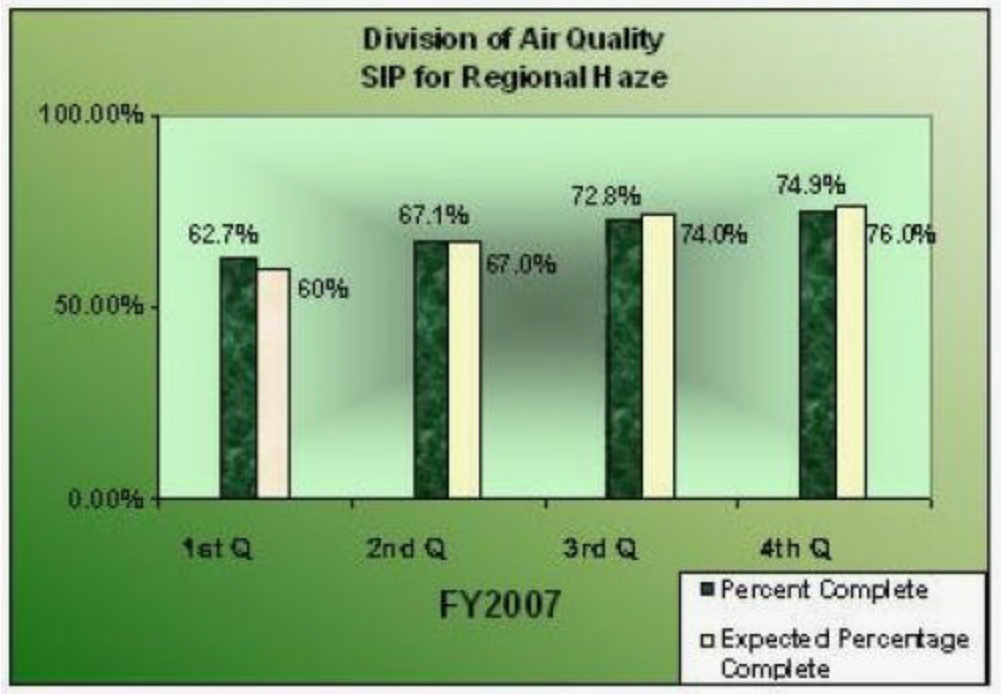
This is a multi-year project. During FY2005, department staff worked with the University of Alaska, Institute of Circumpolar Health and the Alaska Native Health Board to find a willing community in which to conduct a pilot study on the impacts of diesel in rural areas. Staff acquired resolutions supporting the study from each candidate community. Ambient monitoring equipment was procured and a contract was established with the University of Alaska for the health assessment work.

During FY2006, agreements were made between Department of Environmental Conservation (DEC) and local community governments for placement and operation of air monitors for the pilot study. DEC identified monitoring sites, installed monitors, trained locals to run the monitors, and oversaw monitoring during the late winter and early spring. The University of Alaska, Institute of Circumpolar Health obtained approvals to perform pulmonary health measurements, recruited and trained health assessors, recruited subjects, installed indoor air monitors, and performed health assessments.

During FY2007 DEC staff and the University of Alaska researchers began analyzing and evaluating the air monitoring and health data collected during the field portion of the study. During the second half of FY2007 DEC and University of Alaska researchers completed their data analyses, prepared a draft study report, and presented the results to the community.

During the first quarter of FY2008, DEC will provide the draft report to the EPA staff for review and comment. A final report will then be prepared and the pilot project will be complete.

Target #2: Complete regional haze SIP by the end of FY2008.
Measure #2: % of SIP for regional haze complete by the end FY2008.



Analysis of results and challenges: A Regional Haze State Implementation Plan (SIP) is required by the Clean Air Act to address visibility concerns in Denali National Park and three wildlife refuges in Alaska. The plan is due to EPA by December 17, 2007.

This is a multi-year project. During fiscal years 2004, 2005, and 2006, the department focused on the development of the technical information needed for the plan with help from external organizations. Federal agencies operate the primary visibility monitoring network. Alaska is a member of the Western Regional Air Partnership (WRAP), a regional planning organization that consists of states, tribes, and federal agencies. WRAP assists Alaska with developing technical information and policy tools needed for the SIP including: developing an inventory of emissions, visibility forecast models for future years and analysis of air monitoring samples. In addition to developing technical data, the department worked with land managing agencies to develop a Smoke Management Plan that will become a part of the regional haze SIP. The new Smoke Management Plan should allow for a balanced approach to managing controlled burns for resource development while also protecting visibility in Denali Park and other Alaska Class I visibility protection areas.

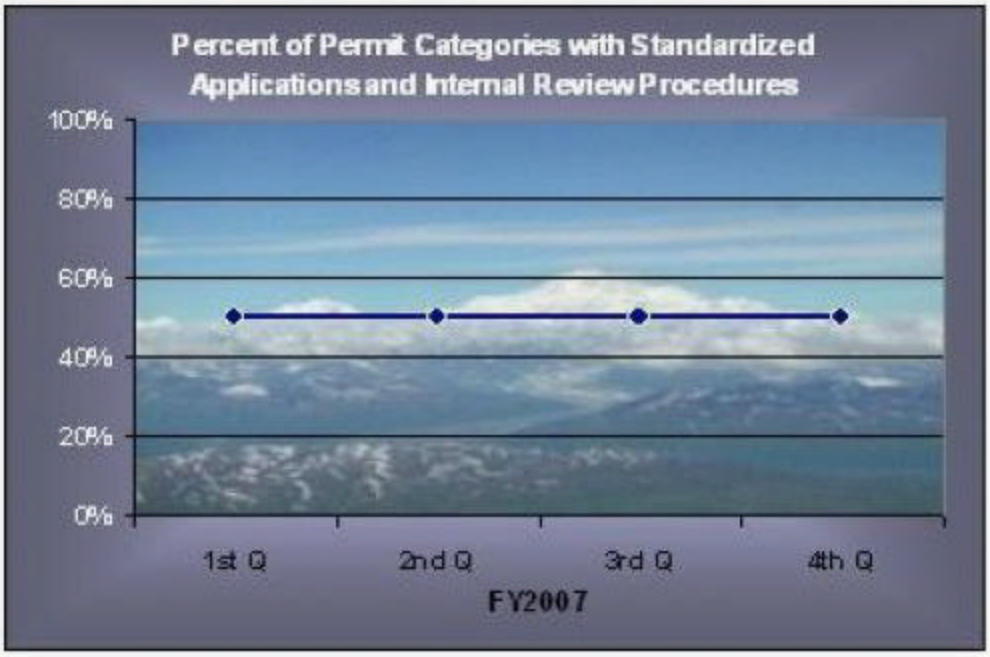
During FY2007 the department continued to work on finalizing the technical information for the SIP and the Smoke Management Plan. The department has been developing technical tools to assist in the implementation of the Smoke Management Plan. The department began work on addressing the EPA requirements for Best Available Retrofit Technology (BART) controls on specific, older industrial sources. EPA regulations require that BART must be addressed in the regional haze SIP. A BART regulation package was prepared and shared at public workshops. The regulations will be finalized during the next fiscal year, formally initiating the BART determination process needed for the SIP. The current timeline to complete BART analyses and determinations will delay the completion - missing the federal deadline by 12 to 18 months.

During FY2008, the department will complete work on the technical basis for the SIP and, if controls are warranted, evaluate control options. To do this, the Department will collect, analyze, and evaluate visibility impacts from air pollution in these areas, and identify controls to reduce those visibility impacts. The project is broken into major steps such as the collection of technical information, analysis of control strategies, drafting of the SIP document, regulation development and the public adoption process. The Department is measuring progress toward completing the regional haze SIP by tracking major project steps.

A2: Strategy - Improve and streamline air permit practices.

Target #1: All categories of permits will have standardized applications and internal review procedures by the end of FY2008.

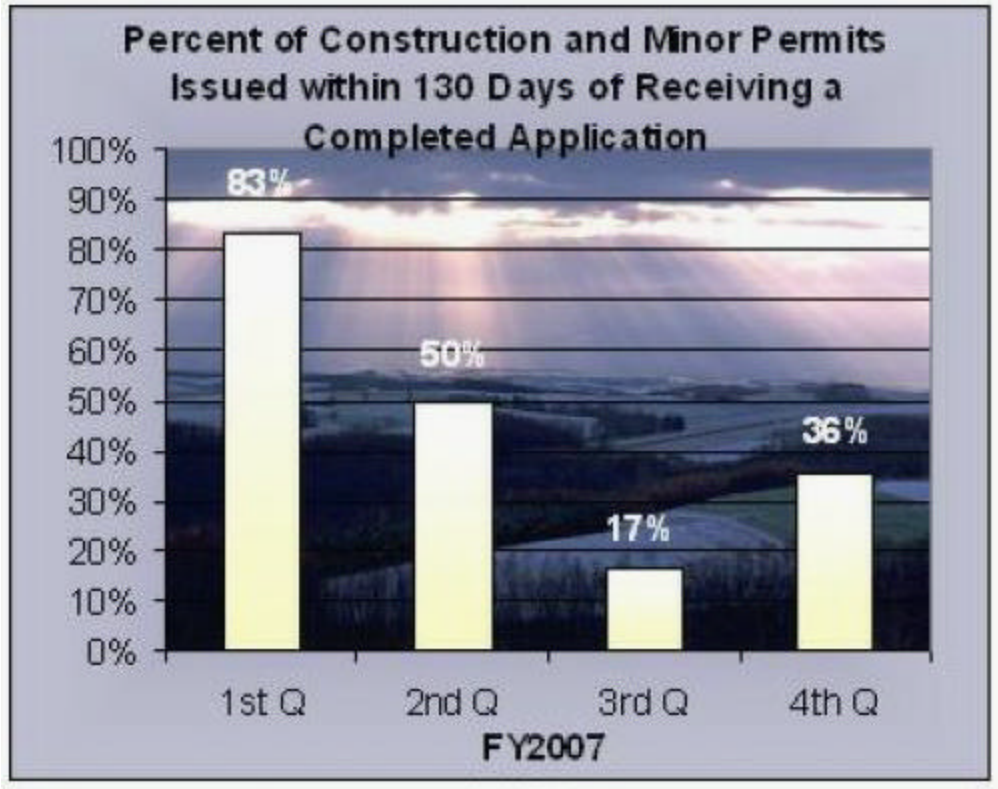
Measure #1: % of permits categories that have standardized application and internal review procedures.



Analysis of results and challenges: Standardized applications and internal review procedures allow the Department to act consistently and efficiently on permit applications. Our permitting program has four major categories of permits: Construction permits, general permits, facility specific operating permits, and minor source permits. General permits are either general operating permits or general minor permits.

Standard review procedures for all permit categories continue to be updated. The current four major categories do not accurately reflect the intricacy of the permits or review process. A standardized review process requires a determination of specific requirements for the array of permit applications. In FY2007, the Air Permits Program began a Quality Management System (QMS) based on ISO 9000 standards. QMS and technical staff are identifying the complex requirements for permits and the review process. Permit flow charts are complete and standardized work instructions are in development. We expect complete development of standardized applications and internal review procedures by the end of FY2008.

Target #2: 95% of construction and minor permits issued within 130 days of receiving a completed application.
Measure #2: % of construction and minor permits issued within 130 days of receiving a completed application.



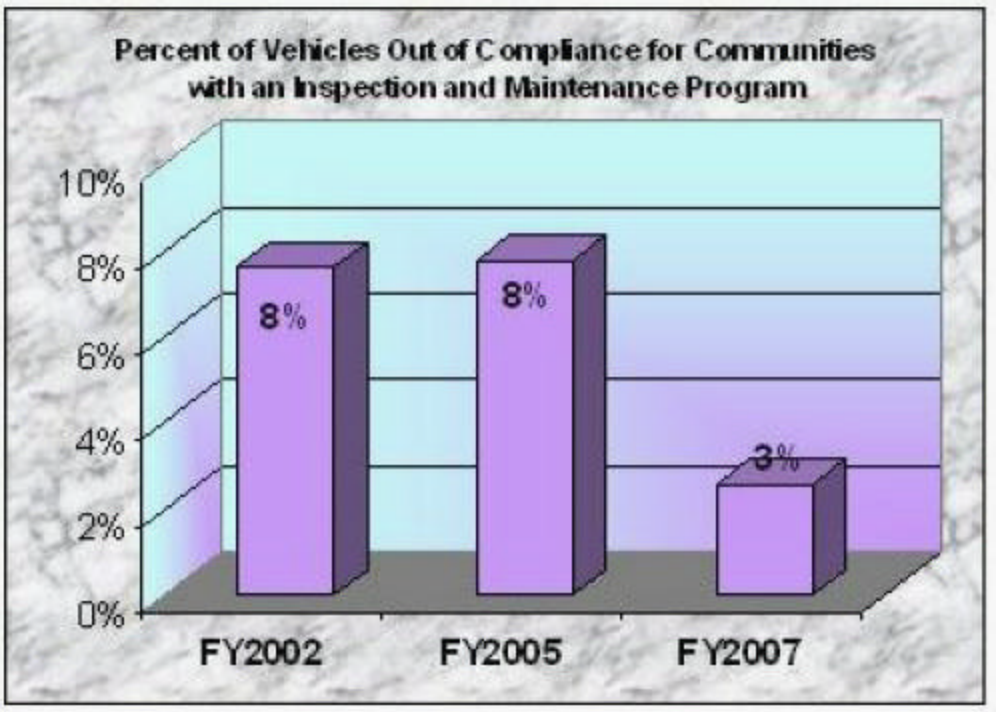
Analysis of results and challenges: Results for this measure are calculated by dividing the number of permits issued within the quarter in 130 days or less by the total number of permits issued during the quarter. The clock starts when a complete application is received and any applicable fees have been paid. If additional information is needed, the clock stops until the information is provided.

The percentage of permits issued within 130 days was down during the second, third and fourth quarters of FY2007 because of staff turnover and recruitment difficulties. One position was hired during the second quarter, but it takes nine months to a year for new staff to be fully proficient. In addition, three of the eight positions are vacant as of the end of the fourth quarter. The program expects to hire one of the vacant positions in the first quarter of FY2008, and will recruit for two vacant positions in the second quarter of FY2008.

A3: Strategy - Minimize pollution from gasoline vehicles.

Target #1: For communities that have Inspection and Maintenance (I/M) programs, no more than 5% of vehicles are found to be out of compliance with tailpipe requirements.

Measure #1: % of vehicles found to be out of compliance.



Analysis of results and challenges: Anchorage and Fairbanks exceeded health based standards for carbon monoxide in 1972. This required the start of a vehicle inspection program in 1985. Vehicles registered in both communities must pass an emission inspection to be registered or have their registration renewed by DMV. In addition, vehicle owners who live outside of Anchorage or Fairbanks but commute to work and school inside these locales are required to have an inspection.

To determine compliance with the vehicle inspection program, the department performs a survey of in-use vehicles every other year in Anchorage and Fairbanks, recording the license plate and windshield sticker information. In order to be statistically valid, approximately 10,000 non-duplicative vehicle license plate recordings are needed in Anchorage and approximately 6,000 in Fairbanks. In-use vehicle records from the survey are electronically compared to the I/M inspection database, which can identify whether the vehicle has a current inspection.

The time and location for each survey is selected very carefully. Surveys are not conducted during evenings or weekends. Emphasis is placed on areas used by the local resident, businesses, and school parking lots. Information is collected in winter when carbon monoxide problems exist. Those vehicles that do not need an inspection are excluded. The time necessary to collect the number of vehicle observations is very labor intensive. Due to these limitations of time and expense, data is collected once every two years. FY2007 data currently displayed was for surveys conducted in January to March, 2007. Data collection is next scheduled for January to March of FY2009.

A4: Strategy - Minimize pollution from stationary sources.

Target #1: 100% of facilities requiring air permits are in compliance.
Measure #1: % of facilities found in compliance, or on an enforceable compliance schedule, or subject to formal enforcement action by the department.

Analysis of results and challenges: These figures represent the number of permitted stationary sources that have unaddressed compliance issues and the total number of permitted sources. Air program inspectors record data regarding source compliance issues found through public complaints, permittee self-reporting, and during the inspectors' scheduled compliance evaluations. The program evaluates compliance status of each major permitted source no less than once every two years and the compliance status of each synthetic minor permitted source no less than once every five years.

In FY2005, the percentage of permitted sources found in compliance was 92 percent. Compliance rates dropped to the mid 80 percent range in FY2007 and we attribute this downward trend to recordkeeping and data tracking improvements.

Key RDU Challenges

Rural Alaska communities are facing a major decision about diesel fuel use. They must decide whether to incur the cost of building a separate fuel tank infrastructure for handling the new cleaner diesel fuel federally mandated for trucks, buses, construction equipment and newly purchased diesel engines used for power generation or to convert their entire community to the cleaner but more expensive fuel for all uses. Either case will incur significant costs for the community, individuals and the state. In July 2006, Alaska succeeded in gaining an opportunity to further explore the Alaska specific costs and health benefits of using the cleaner ultra low sulfur diesel fuel in stationary diesel engines located in hundreds of rural communities. The EPA's newly adopted standards for new diesel stationary engines provided an exclusive opportunity for Alaska to revisit this EPA standard due to the unique and potential cost hardship to rural Alaskans. A pilot phase air health study was accomplished in one rural village in 2006. In FY2007 and FY2008, the Division of Air Quality is working closely with the Alaska Village Electric Cooperative, the University of Alaska Institute of Social and Economic Research, and others to complete a health and economic assessment to determine the impacts of the new standards and develop a plan for Alaska for the EPA consideration.

EPA revised the airborne particulate matter health standard in December, 2006. The new fine particle standard, PM2.5, was set at a lower, more stringent value based on new medical evidence. Air monitoring data is showing that Fairbanks is not meeting this more stringent health-based standard. In addition, EPA has retained the coarse particle standard, PM-10, at the same exposure limit. Air monitoring in rural communities has shown that several communities (Bethel,

St. Mary's, Kotzebue and nearby villages) are not meeting the coarse particle health standard due largely to vehicle generated dust from unpaved roads and trails. A multi-year effort will be necessary between state, local, and tribal governments to develop a suite of dust control strategies that offer workable solutions to the pollution problem.

Significant Changes in Results to be Delivered in FY2009

Air permit reform, begun in 2003 under HB160, has been completed. We expect to maintain our progress by conducting quality management system audits and adjusting processes accordingly. Also a review and adjustment of permit administration and emission user fee rates are scheduled for FY2009.

In cooperation with the Department of Transportation and Public Facilities (DOTPF), through a capital budget request, DEC will:

- Develop a pilot demonstration program to assess the effectiveness of various dust control options and selectively implement dust control measures in one to three rural communities.
- Evaluate the impacts of transportation sources on fine particle air pollution in the Fairbanks area.

Major RDU Accomplishments in 2007

- In 2007, the air permits program issued one major air construction permit, twenty-five minor permits, and three administrative amendments for new industrial stationary sources and modifications to existing sources.
- Air permits staff investigated sixty-two citizen air pollution complaints. Staff prepared forty-eight onsite and thirty-four off-site full compliance evaluations of permitted stationary sources to help operators comply with air permits. Staff resolved forty-five compliance problems without the need for formal enforcement action. The air permits program prepared sixteen notices-of-violation. The program also issued two settlement agreements and one compliance order by consent.
- In 2007, the air permit program completed a financial analysis report to adopt user fee rates necessary to sustain the permitting program. Another analysis of the permit administration and emission user fee rates is scheduled for FY2009. Regulations incorporating the adopted user fee rates became effective December 14, 2006.
- Proposed Best Available Retrofit Technology (BART) regulations went out to public review in May 2007. The BART control technology analysis and determination process will be on-going through FY2008.
- EPA's final approval of Alaska's Air Quality State Implementation Plan for DEC's air permits program was published in the Federal Register on August 14, 2007. Update of program regulations to adhere to Federal standards will be on-going through FY2008.
- The division, along with other stakeholders, convinced EPA to correct the State’s mercury emission allowance for coal-fired boilers from 10 to 18 pounds per year, providing an allocation for the continued operation of Golden Valley Electric’s Healy Power Plant #1.
- The division, in conjunction with other local and state agencies, began to address coarse particulate matter (dust) issues in rural Alaska and fine particulate matter concerns in Fairbanks.
- The Department implemented regulations providing a four year, rather than two year, exemption for new vehicles to begin their biennial tailpipe emissions inspection. The regulations apply to vehicles in Anchorage and Fairbanks. The improved technology of new vehicles enabled us to reduce the burden upon vehicle owners while maintaining clean air.

Contact Information

Contact: Tom Chapple, Director
Phone: (907) 269-7634
Fax: (907) 269-3098
E-mail: Tom.Chapple@alaska.gov

Air Quality
RDU Financial Summary by Component

All dollars shown in thousands

	FY2007 Actuals				FY2008 Management Plan				FY2009 Governor			
	General Funds	Federal Funds	Other Funds	Total Funds	General Funds	Federal Funds	Other Funds	Total Funds	General Funds	Federal Funds	Other Funds	Total Funds
Formula Expenditures												
None.												
Non-Formula Expenditures												
Air Quality Director	241.5	0.0	0.0	241.5	241.1	0.0	0.0	241.1	243.0	0.0	0.0	243.0
Air Quality	1,275.5	859.4	3,437.4	5,572.3	1,336.9	1,685.1	5,790.0	8,812.0	1,387.1	1,717.2	5,955.3	9,059.6
Totals	**1,517.0**	**859.4**	**3,437.4**	**5,813.8**	**1,578.0**	**1,685.1**	**5,790.0**	**9,053.1**	**1,630.1**	**1,717.2**	**5,955.3**	**9,302.6**

Air Quality
Summary of RDU Budget Changes by Component
From FY2008 Management Plan to FY2009 Governor

All dollars shown in thousands

	General Funds	Federal Funds	Other Funds	Total Funds
FY2008 Management Plan	**1,578.0**	**1,685.1**	**5,790.0**	**9,053.1**
Adjustments which will continue current level of service:				
-Air Quality Director	1.9	0.0	0.0	1.9
-Air Quality	50.2	32.1	165.3	247.6
FY2009 Governor	**1,630.1**	**1,717.2**	**5,955.3**	**9,302.6**