

**Delaware
Air Quality
Management**

2008

Air Toxics Strategic Plan

Year-end Status
(January through December 2008)

Summary Report

Delaware
Air Quality Management
2008 Air Toxics Strategic Plan

The Air Toxics Strategic Plan (ATSP) is a five-year plan of activities to be undertaken by Air Quality Management and other DNREC agencies to reduce the risk of adverse health effects caused by the inhalation of air toxics. The 2008 ATSP, finalized on 2/27/08, has been organized within the following framework.

- **Implement and grow an ongoing program to address the risks from exposure to air toxics**
- **Build a greater understanding of ambient air toxics environment**
- **Identify the potential harm from exposure to air toxics**
- **Gather information related to air toxics sources**
- **Identify options for reducing air toxics in the environment**
- **Implement appropriate actions to reduce the harm from exposure to air toxics**
- **Evaluate the effectiveness of the actions taken to reduce harm from exposure to air toxics**
- **Enhance AQM Air Toxics Resources**

2008 Air Toxics Strategic Plan – Year-end Summary Status

• *Implement appropriate actions to reduce the harm from exposure to air toxics*

Key Accomplishments

- Awarded ~150 grants and reserves totaling \$3.2 million, through the Delaware Energy Office, for implementation of renewable and advanced energy technologies programs. (Ongoing activity)
- Completed 11 full compliance evaluations (FCEs) (or ~60% of source population) at major source air toxics facilities in the 2008-9 compliance monitoring plan. (Exp. completion – 9/09)
- Completed 2 FCEs (or ~40% of source population) at area source air toxics facilities scheduled for inspection in 2008-09. (Exp. completion – 9/09)
- Completed 37 compliance evaluations (or ~45% of source population) of perchloroethylene dry cleaning facilities in 2008. (Ongoing activity)
- Completed 59 consultations (or ~37% of the source population) at auto body shops in 2008 providing compliance assistance information on a recently promulgated federal regulation. (Ongoing activity)
- Completed perceptible leak tests on 30 gasoline delivery vessels (or ~5% of the permitted fleet) in 2008. (Ongoing Activity)
- Incorporated new air toxics requirements for the Federal Miscellaneous Organic NESHAP during renewal of Ciba's Title V operating permit.
- Completed diesel bus retrofit projects with Delaware Transit Corp. (DART) and the Brandywine and Red Clay School Districts.
- Completed an amendment of Delaware's perchloroethylene dry cleaning regulation (Section 5 of Reg. 1138). The newly adopted requirements are more public health protective than a similar national standard.
- Developed and provided the following implementation and compliance assistance information associated with the newly adopted perchloroethylene dry cleaning amendment (Section 5 of Reg. 1138).
 - Updated the dry cleaning facility permit templates consistent with the 2008 amendment.
 - Provided notification of compliance status forms and "application for permit revision" forms to all perchloroethylene dry cleaning facilities.
 - Updated AQM's Dry Cleaning Compliance Calendar consistent with the 2008 amendment.
- Completed an adoption of lead acid battery manufacturing plant standard (Section 11 of Reg. 1138). The newly adopted requirements are more public health protective than a similar national standard.
- Awarded pollution prevention program grants to 2 Delaware trucking companies for purchase and testing of auxiliary power units (APUs) as alternative to extended idling of on-road diesel vehicles.
- Completed write ups of recently awarded grants and of the successful implementations of APUs that were incorporated into the EPA Region 3 outreach display at the Claymont's Green Day event in June 2008.
- Completed the evaluation and issued the annual report on the effectiveness of Delaware's vehicle inspection and maintenance program. (Ongoing activity)
- Completed an inventory of Delaware sources potentially affected by one of the ~50 area source air toxics standards being newly promulgated by EPA under the federal Urban Air Toxics program. (Ongoing activity)
- Completed training and certification of the initial class of "Energy Auditors" for the Home Performance with Energy Star Program. (Ongoing activity)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Implement appropriate actions to reduce the harm from exposure to air toxics – Continued

Significant Current Activities

- Requested delegation of Delaware’s revised perchloroethylene dry cleaning regulation (Section 5 of Reg. 1138) in lieu of the Federal standard at 40 CFR Part 63 Subpart M. (On hold – Pending EPA action)
- Implementing the grant received to install diesel retrofits on non-road diesel equipment at the Port of Wilmington. (Est. completion – 6/30/09)
- Implementing the grant received for installation of a truck stop electrification project at the Smyrna Rest Stop. (Est. completion – 2010)
- Continuing regular participation in Claymont Coalition meetings and in EPA Region 3’s Claymont Industrial Partnership Initiatives meetings, included involvement in Claymont’s Green Day event. (Ongoing activity)
- Continuing to assist small business by promoting programs and improving communications with the Department. During 2008, facilitated through telephone and personal visits the following.
 - Completing certifications of marinas in the Clean Marina program.
 - Improving understanding of the 2008 revisions of the dry cleaning regulation with both the individual facilities and the Pennsylvania Delaware Cleaners Association and with the Department on regulation’s impact on small business entities.
 - Pointing out the advantages of APUs for trucking companies.
 - Recommending alternative paths forward when adopting the federal Paint Stripping and Miscellaneous Coating standard.
- Developing a new section in Reg. 1138 to add requirements applicable to hospital ethylene oxide sterilizers that are based on existing federal requirements. (Est. completion – 2/11/09)
- Amending an existing section of Reg. 1141 to reduce the permissible amounts of organic compounds and volatile HAPs contained in consumer products made or sold in Delaware. (Est. completion – 5/30/09)
- Developing a new section in Reg. 1141 to limit the amounts of organic compounds and volatile HAPs contained in adhesives and sealants made or sold in Delaware. (Est. completion – 5/30/09)
- Continuing to provide compliance assistance to gasoline delivery fleet owners in meeting annual testing and permitting requirements. (Ongoing activity)
- Continuing to track EPA’s revised National Ambient Air Quality Standard for lead and to assess monitoring issues within Delaware. (Ongoing activity)
- Developing the paths forward for regulation development, for implementation, and for compliance assistance associated with Delaware’s adoption of the federal “Paint Stripping and Miscellaneous Surface Coating standard” that will affect over 200 Delaware sources. (Est. path forward completion – 3/31/09; Est. rule adoption – 2010)
- Commencing initial start up of the Delaware Sustainable Energy Utility. (Ongoing activity)
- Undertaking negotiations for a program to identify and install energy saving projects for two State facilities. (Ongoing activity)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Implement appropriate actions to reduce the harm from exposure to air toxics – Continued

Significant Current Activities - continued

- Continuing to provide public outreach programs on pollution prevention. Provide information at the Delaware State Fair in 2008. (Ongoing activity)
- Continuing to provide educational programs or public outreaches addressing conserving energy. Provided energy-related information at the following in 2008. (Ongoing activity)
 - At the Delaware Home Show on 3/8-9
 - At the Great Green Expo on 3/29
 - At multiple Earth Day outreaches on 4/22
 - At the Electric Cooperative's Annual Meeting on 8/5
 - At Coast Day on 10/5
 - At the Delaware Home Show on 10/19-20
- Continuing to provide educational programs or public outreaches addressing school-related anti-idling requirements. Provided school bus anti-idling information at the following in 2008. (Ongoing activity)
 - At Bellevue State Park associated with New Castle Counties Safe Kids Day on 4/19
 - At AstraZeneca associated with Earth Day on 4/22
 - At Heritage Elementary School associated with diesel retrofit grant announcement on 5/28
 - At Claymont Community Center associated with Claymont's Green Day on 6/14
- Implemented an educational and outreach program associated with the revised open burning requirements. Provided open burning information at the following in 2008. (Ongoing activity)
 - Continuing to provide information on open-burning restrictions through traditional and new media, such as dedicated website and public service announcements on WHYI (Channel 12). (Ongoing activity)
 - Upgrading the "notice" and available information on Departmental web sites. (Ongoing activity)
 - Providing training of the Environmental Protection Officers on the revised regulatory requirements.
 - Providing educational information at the following public outreaches.
 - Delaware State Fair in July
 - 2008 Coast Day event on 10/5
- Commenced providing educational programs associated with the AQM's "Community Air Toxics" study at the Coast Day event on 10/5. (Ongoing activity)

Pending

- Implementation of DATAS Phase II communication and outreach plan and related activities are on hold pending completion of the DATAS Phase II project. (Exp. completion – 2009)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• *Implement an ongoing program to address the risks from exposure to air toxics*

Key Accomplishments

- Participated on a National Association of Clean Air Agencies (NACAA) subcommittee to develop permit guidance for undertaking case-by-case maximum achievable control technology (MACT) determinations for industrial, commercial and institutional boilers under 112(j) of the Clean Air Act. This final guidance was issued on June 15, 2008.
- Participated with other EPA Region 3 State and local agencies to develop agency-appropriate delegation frameworks for area source standards being adopted under the federal Urban Air Toxics program. The Delaware delegation framework was formalized on October 14, 2008 and incorporated into the 2009 Air Quality Management (AQM) Air Toxics Strategic Plan.
- Revised Delaware's air toxic regulation (Reg. 1138) to conform to the Delaware Register of Regulations style manual. The Delaware Registrar indicates that following the style manual improves the clarity and readability of the regulatory language for the public and regulated communities.
- All long-term vacancies in the Area Source Compliance Group were filled and progress in reducing the backlog of activities had begun.
- Provided an air toxics module for both major and area source standards during the AQM "Delaware Air Permitting Seminar" to assist the regulated community on a variety of permitting issues.
- Finalized the 2008 AQM Air Toxics Strategic Plan on February 27, 2008. The 2008 plan identified planned activities to be undertaken between 2008 and 2012 to reduce the adverse effects of air toxics in Delaware.
- Issued the 2007 AQM Air Toxics Strategic Plan Year-End Status Report on March 5, 2008. This report summarized the key accomplishments during 2007 and identified the significant ongoing activities going into 2008.
- Issued the 2008 AQM Air Toxics Strategic Plan Mid-Year Status Report on September 9, 2008. This report summarized the key accomplishments between January and June 2008 and identified significant ongoing activities.
- Finalized the 2009 AQM Air Toxics Strategic Plan on December 31, 2008. The 2009 plan identified planned activities to be undertaken between 2009 and 2013 to reduce the adverse effects of air toxics in Delaware.

Significant Current Activities

- Actively participating on NACAA and Mid-Atlantic Regional Air Management Association (MARAMA) air toxics committees. (Ongoing activity)
- Actively participating as stakeholder on EPA Region 3's Claymont Industrial Partnership Initiative. This activity promotes the identification of voluntary measures to reduce air toxics from both stationary and mobile sources in the Claymont area. (Ongoing activity)
- Working with various Delaware, federal, and regional partners, developed and participated in the inaugural Delaware Clean Marina Exposition. This activity promotes the adoption of voluntary management practices to prevent pollution at marinas, and will recur on an annual basis. (Ongoing activity)
- Actively participating in local, regional, and national committees, including the following, to identify energy issues, develop strategies/solutions, and implement Delaware's Energy Program. (Ongoing activity)
 - Clean State Program (Alternative Fuels)
 - National Association of State Energy Officials (NASEO)
 - Delaware Tech Leadership in Energy and Environmental Design (LEED) Board of Directors

2008 Air Toxics Strategic Plan – Year-end Summary Status

• *Build greater understanding of ambient air toxics environment*

Key Accomplishments

- Completed installation of the Upper Air Profiler that will provide meteorological data for up to 1 kilometer above the ground level to the National Oceanic and Atmospheric Administration (NOAA) This data will enhance our ability to model air toxics and other pollutants.
- Monitoring of air toxics continued at the Wilmington [carbonyls and volatile HAPs] and Delaware City [volatile HAPs] monitoring stations. Monitoring of metal HAPs at the Wilmington monitoring station was resumed in September 2008 after being suspended for five months due to difficulties experienced at the EPA's analytical contractor. These air toxics monitoring data are being used to enhance our knowledge of air toxics in Delaware's environment. (Ongoing activity)

Significant Current Activities

- Initiated a "Community Air Toxics Study" monitoring project that utilizes a gas chromatographic/mass spectrometer to measure concentrations of multiple hazardous air pollutants (HAPs) at various sites, including schools, in Wilmington. The fall 2008 sampling program was completed. This data will provide insights on the spatial variation of HAP concentrations compared to the existing HAP monitoring results at Wilmington monitoring station. (Exp. completion – 2Q/10)
- Continuing to provide support for the University of Delaware's special project on near real time organic aerosol speciation at Wilmington monitoring station. This data will provide greater insights on the temporal variation of selected HAP concentrations compared to the existing HAP monitoring results at Wilmington monitoring station. (Ongoing activity)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Identify potential harm from exposure to air toxics

Key Accomplishments

- Completed the regional-scale modeling of air toxics concentrations for the DATAS Phase II program in August 2008 and provide result to the Division of Public Health for assessment of potential cancer and non-cancer risk. This information will be used in estimating the potential cancer and non-cancerous risks based on emissions inventory information.
- The Division of Public Health completed their risk assessments and provided their risk results in December 2008.
- **New activity.** Provided an assessment of the proposed study designs for a multimedia total exposure study, which is under consideration by DNREC, DHSS and the Cancer Consortium. This study would characterize human exposure, serve as a baseline for future modeling, and validate developed models that predict human exposure.

Significant Current Activities

- Commenced incorporating the Division of Public Health risk results into a geographic information system (GIS) to better analyze and visualize the impacts of air toxics in Delaware. (Est. completion – 3/31/09)
- Commenced reconciliation of the recently completed DATAS Phase II modeling results with the 2003 monitoring results. (Exp. completion – 3/31/09)
- Continuing collaboration with EPA's Office of Research and Development on modeling of Sub-Grid Scale Variability (SGV) characterizations and its application to human exposure assessments. (Ongoing activity)
- Continuing to use Duke University's E-DATAS monitoring results in modeling of Sub-Grid Scale Variability (SGV) characterizations and its application to human exposure assessments. (Ongoing activity)

Pending

- Evaluation of the impact of the DATAS Phase II risk assessment results on various AQM programs were delayed pending completion of the DATAS Phase II project. (Exp. completion – 2009)
- Review and analysis of the 2002 National Air Toxics Assessment results has been delayed pending its release by EPA. (Exp. completion – 2009)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Gather information related to air toxics sources

Key Accomplishments

- Completed the 2005 HAP emissions inventories for point sources and on-road mobile sources.
- Monitoring of air toxics continued at the Wilmington [carbonyls and volatile HAPs] and Delaware City [volatile HAPs] monitoring stations. Monitoring of metal HAPs at the Wilmington monitoring station was resumed in September 2008 after being suspended for five months due to difficulties experienced at the EPA's analytical contractor. These air toxics monitoring data are being used to identify and track air toxics status and trends. (Ongoing activity)

Significant Current Activities

- Commenced to review and assessment of existing emission inventories associated with the lead emissions. (Exp. completion – 2009)

Pending

- Development of the source apportionment information for air toxics emissions has been delayed pending completion of the DATAS Phase II project. (Exp. completion – 2009)
- Development of the 2005 HAP emissions inventories for non-point area sources and non-road mobile sources has been ON HOLD, due to limited available resources. (Exp. completion – 2009)

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Identify options for reducing air toxics in the environment

Key Accomplishments

- Worked closely with the Mid Atlantic Diesel Collaborative to develop projects for Diesel Emissions Reduction Act (DERA) grants.
- Prepared a DERA grant application for a truck stop electrification project to be installed at the Smyrna Rest Stop. The project will reduce diesel emissions by minimizing the truck idling. (Subsequently received grant)
- Prepared a DERA grant applications for diesel retrofits at the Port of Wilmington. The project will reduce diesel particulate emissions from mobile equipment used at the port. (Subsequently received grant)
- Working with EPA and other State and local agencies in EPA Region 3, developed a Delaware appropriate path forward for the adoption and implementation of area source air toxics standards adopted under the federal Urban Air Toxics program. Incorporated the area source air toxics program into the 2009 Air Toxics Strategic Plan.

Significant Current Activities

- Participating with Metropolitan Planning Organizations and Delaware Department of Transportation (DelDOT) to prioritize Congestion Mitigation and Air Quality Improvement (CMAQ) program projects for New Castle County. (Exp. completion – 3/09)
- Participating with WILMAPCO and DelDOT on developing 8-hour conformity determinations. (Ongoing activity)
- Continuing to support smart growth oversight by providing the air quality impacts associated with proposed commercial and residential development. (Ongoing activity)
- **New activity.** Commenced activities to update the Delaware's 5-year State Energy Plan. (Exp. completion – 2009)

Pending

- A number of air toxics activities ranging from outreach to identification of mobile source “hot spots” are on hold pending completion of the DATAS Phase II project. (Exp. completion – 2009)
- Twenty EPA area source standards proposed in 2008 were not reviewed and commented upon, on as resources were directed to higher priority activities.

2008 Air Toxics Strategic Plan – Year-end Summary Status

• Evaluate the effectiveness of the actions taken to reduce harm from exposure to air toxics

Key Accomplishments

- Completed the 2005 HAP emissions inventories for point sources and on-road mobile sources.
- Monitoring of air toxics continued at the Wilmington [carbonyls and volatile HAPs] and Delaware City [volatile HAPs] monitoring stations. Monitoring of metal HAPs at the Wilmington monitoring station was resumed in September 2008 after being suspended for five months due to difficulties experienced at the EPA's analytical contractor. These air toxics monitoring data are being used to track air toxics trends. (Ongoing activity)

Significant Current Activities

- Commenced to review and assessment of emission inventories associated with the lead. (Exp. completion – 2009)
- Completed minor reorganization and adjusted some protocols in the Engineering and Compliance Branch to better address the area source air toxics program. (Ongoing activity)

Pending

- Development of the source apportionment information for air toxics emissions has been delayed pending completion of the final DATAS Phase II project. (Exp. completion – 2009)
- Development of the 2005 HAP emissions inventories for non-point area sources and non-road mobile sources has been ON HOLD, due to limited available resources. (Exp. completion – 2009)

• Air toxics resources development

Key Accomplishments

- Participated in the following air toxics-related training or workshops during 2008.
 - Nine (9) permitting engineers and managers attended the MARAMA-ICAC “Advances in Air Pollution Control Technology Workshop” in July 2008.
 - One (1) manager attended the MARAMA-EPA Region 3 Air Toxics Workshop in September 2008.
 - Ten (10) permitting engineers and managers attended the MARAMA “Health Effects Workshop” in November 2008.
- Provided training for the Environmental Protection Officers on the revised open burning requirements.
- Continued collaboration with EPA's Office of Research and Development on modeling of Sub-Grid Scale Variability (SGV) characterizations and its application to human exposure assessments. (Ongoing activity)