Nebraska Department of Environmental Quality

January 2009

Air Waves

A bulletin produced by Nebraska Department of Environmental Quality's Air Quality Division

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New and Improved Air Permit Application Forms

The NDEQ Air Quality Division is proud to announce new permit application forms. This year Sara Speser and Daniel LeMaistre led the effort to update the forms, with contributions being made by the entire Air Quality Permitting Section. There are three main reasons the Air Quality Division updates the forms so frequently: it gives an opportunity to add new forms; we can incorporate changes based on comments and suggestions provided by staff, applicants, and consultants; and we can correct any errors or inconsistencies that may have been identified since the last review.

This year the focus was to reorganize the forms to create a single set of forms that can be used for both the construction and operating permit applications. Using this concept, there will now be three types of forms available for use: facility information; process information; and control equipment information. These forms can be used in a construction or operating permit application. The purpose for this is to facilitate the permit application process. Prior to this change a source would need to fill out the same information on separate construction and operating permit application forms. Now, the source can complete these forms for a construction permit and then re-submit the same forms (after adding any necessary information) for their operating permit.

Due to the different requirements of the construction and operating permit programs, not all forms could be merged. The information specific to the type of permit application is included in Forms 1.0 - 4.0. Each application must include the pertinent sections of Forms 1.0 - 4.0. Additional forms (which have been combined as discussed above) will have to be completed depending on the source and its operations.

It can take a considerable amount of time and resources from both the NDEQ and the requesting facility to get an air quality permit issued. One of the ways the Air Quality Division attempts to expedite the process is by using facility information forms (Form 5.0). These forms organize information that is common to all facilities of a specific type (e.g. ethanol plants). By organizing this information into a single form, the amount of paperwork that needs to be completed is substantially reduced. This year, two new facility information forms have been introduced -- biodiesel production and fiberglass manufacturing. A third form, metal fabrication, will be added in 2009.

In addition to facility information forms, the NDEQ has a set of forms for specific processes, equipment, and emission points (Form 6.0). Examples of the specific process forms are storage tanks, cooling towers, haul roads, and uncontrolled emission points. No new process forms have been added this year, although some minor modifications have been made to

New Permit Applications cont.

improve clarity and ease of use.

The third combined form (Form 7.0) applies to control devices. In the past these forms have been separated into two groups; control devices utilizing combustion and those that do not utilize combustion. There are many types of non-combustion control devices that operate on different scientific principles. Because of this, a single set of forms to describe them was inadequate. The NDEQ divided the non-combustion control equipment form into scrubbers (Section 7.2) and baghouses/cyclones (Section 7.4). There will continue to be two combustion control equipment forms; Regenerative Thermal Oxidizers (Section 7.1) and Flares (Section 7.3).

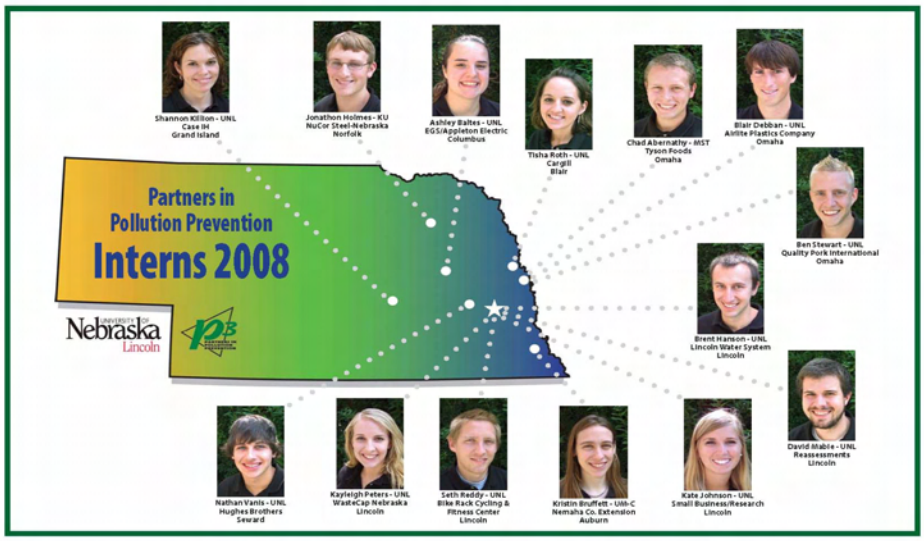
In addition, we have decided to make the NSPS applicability determination worksheets that used to be part of the forms into separate documents. These are still valuable tools and will be available as guidance documents on the NDEQ website in the future.

If you have any questions or would like assistance completing an air permit application, contact the Air Quality Permit Hotline at (877) 834-0474.

UNL Prevents Pollution With Interns

The University of Nebraska-Lincoln's (UNL) Partners in Pollution Prevention (P3) program has had a positive impact on area college students and Nebraska businesses since 1997. This educational outreach and technical assistance program is operated by the University of Nebraska Extension and College of Engineering and funded by grants from the Nebraska Department of Environmental Quality's Waste Reduction and Recycling Incentive Fund and the US EPA's Pollution Prevention program, as well as matching funds from the University of Nebraska and many industrial partners. Student interns provide pollution prevention (P2) technical assistance to Nebraska businesses by conducting comprehensive, multimedia waste assessments and waste reduction projects, and providing each client with a written report detailing waste minimization suggestions. The P3 program has made a difference to the bottom line for many Nebraska businesses. Some 400 different business clients based in 65 different Nebraska communities were assisted from 1997 through 2008. In that time, the P3 program helped Nebraska businesses save a potential $16.5 million dollars through waste reduction and divert over 188 million pounds of solid waste from landfills. In addition, recommendations made by interns helped potentially reduce hazardous waste production by over 2 million pounds, electricity use by over 73 million kWh and water use by over 1 billion gallons. Based on follow-up reassessments with nearly half of past clients, 40% of the recommendations made by students were actually implemented and over three fourths of all clients assisted implemented at least one suggestion. Today, the program continues to help Nebraska businesses reduce waste and strive for sustainability.

If you are interested in finding out more about having a student intern with the P3 Program work with your company to reduce waste and save money, please contact Stacey Hawkey, CIH P3 Program Coordinator; at 402-472-2838 or Shawkey2@unl.edu.



2008 Air Division Workshops Successful

The NDEQ Air Quality Division hosted four Air Update workshops in Lincoln, Norfolk, Kearney, and Scottsbluff between August 12th and August 20th. The workshops provided industries and consultants updates of state and federal air quality regulations. Air permitting and compliance issues were also discussed. The workshops lasted approximately 6½ hours, which included an hour lunch.

Morning snacks, lunch, and door prizes for workshop attendees were provided through donations from sponsors. The companies who sponsored the events were Terracon, NPPD, NMPP/MEAN, Great Plains Safety and Health Organization, Nebraska Air Quality Specialties, Air Resource Specialists, Olsson Associates, WLA Consulting, Frito-Lay, Nebraska Ethanol Board, Geotechnical Services, HDR, Trinity Consultants, Pinnacle Engineering, Koch Nitrogen, Nutra-Flo, Spinakker Process Instruments, Walling Company, Tyson, and Nucor. Following is a summary of the workshop evaluations:

Location	Attendance	Pretest Score	Post Test Score
Norfolk	35	57.69%	83.10%
Lincoln	79	68.72%	85.48%
Kearney	48	62.97%	81.32%
Scottsbluff	18	57.06%	80.56%
Total	**180**	**61.61%**	**82.61%**

On a scale of 1-5, 5 being the best:

Location	Workshop	Facilities	Food	Presenters
Norfolk	3.91	4.57	4.04	3.96
Lincoln	4.00	3.98	3.76	3.88
Kearney	3.86	4.41	3.59	3.89
Scottsbluff	4.17	4.06	4.39	4.35
Total	**3.99**	**4.25**	**3.95**	**4.02**

Length of time attendee has worked with air regulations:

Location	1 year or less	>1 and 5 years	>5 and 10 years	>10 years
Norfolk	39%	14%	29%	18%
Lincoln	17%	36%	21%	26%
Kearney	8%	53%	11%	28%
Scottsbluff	22%	39%	22%	17%
Total	**22%**	**36%**	**21%**	**22%**

* **97%** of all participants left with a better understanding of the Air Quality Program.
* **98%** would attend another Air Update Workshop in the future.
* **90%** felt the information was appropriate (not too advanced or too basic).
* **96%** felt the length of the workshops was appropriate (not too long or short).

If you would like to receive future Air Division Workshop announcements, contact Melissa Ellis at (402) 471-6624 or melissa.ellis@nebraska.gov

AirWaves Bulletin to Air Quarterly

You can look forward to seeing the AirWaves Bulletin more often as we switch from a semi-annual distribution to a quarterly distribution. The change in frequency is due to the ongoing need for more up-to-date information. As our semi-annual bulletin has reached 17-20 pages, we've realized that there is no shortage of information to provide the readers. The scheduled date for the next AirWaves will be April 2009.

Notify for New Emissions Unit

Dear Air Quality Lady:

We installed a new, gasoline-fired engine that did not require an air quality construction permit because its potential emissions are below the construction permit threshold. Do I have to revise our current air quality operating permit to include the new engine?

Signed – Gassed Up and Ready to Go

Dear Gassed Up and Ready to Go:

This is a great question and one we get often. Since you didn't need a construction permit, Chapter 15, 007 requires that Class I and Class II sources with operating permits send NDEQ written notification 30 days prior to making the change. Make sure you also attach a copy of the written notification to your current operating permit. Once your operating permit is up for renewal, be sure to include the new unit with your current emission points.

If you received a construction permit for a new unit, you would have to send in an operating permit application within 12 months of startup of the unit. If you are an existing source, be sure you take a look at the operating permit to make sure that you aren't violating any requirements due to the startup of the new unit. There may be cases where you will have to revise your operating permit prior to operating your new unit to avoid violations.

Even if you don't need a permit, remember there may be federal regulations that apply to your new unit. In this case, you should be sure to check the applicability requirements under the New Source Performance Standards for Spark Ignition Engines at 40 CFR Part 60 Subpart JJJJ. The date the unit was manufactured will most likely be the determining factor of whether or not you are subject to Subpart JJJJ. If you would like help with the NSPS rules, contact Stephenie Moyer at (402) 471-0019.

If you have any questions, don't hesitate to call the Air Quality Permit Hotline at (877) 834-0474 or the Air Quality Division at (402) 471-2189.

Signed- The Air Quality Lady

Have a burning question? Send it to the Air Quality Lady at Melissa.ellis@nebraska.gov.

NDEQ Unveils Online Air Toxics Notebook

On November 24, 2008 the Air Toxics Notebook was added to the NDEQ's website. The Air Toxics Notebook was developed as a reference tool for the air toxics standards which have been issued by EPA. The Notebook provides an overview and resources for the air toxics standards that may affect Nebraska sources. The resources in the Notebook are intended to help the regulated community and public understand the air toxics regulations.

What are Air Toxics Regulations?

The Clean Air Act Amendments of 1990 required a two-phase approach to regulating hazardous air pollutant emissions under the National Emission Standards for Hazardous Air Pollutant (NESHAP) rules. The first phase consists of developing technology-based standards that require sources to meet specific emission limits, based on emissions levels already being achieved by many similar sources in the country.

The technology-based standards are referred to as Maximum Achievable Control Technology (MACT) or Generally Available Control Technology (GACT) standards. These standards are found in Title 40 of the Code of Federal Regulations (CFR), Part 63, and affect both large and small facilities. The notebook does not contain information related to the NESHAPs found in 40 CFR Part 61, which were promulgated prior to the 1990 Clean Air Act Amendments.

What does the Notebook Contain?

The Air Toxics Notebook contains information, guidance and weblinks for the MACT Standards. The information in the Notebook includes applicability information, regulatory citations, amendment dates, sources in NDEQ's jurisdiction (excludes Lancaster County and the city of Omaha), related rules, guidance documents, forms, and other helpful information. The Notebook also has weblinks to the rules and to websites with guidance on the rules.

How Can I access the Notebook?

The Air Toxics Notebook can be accessed on the DEQ website at http://www.deq.state.ne.us/ under Focus on Air, on the Air Toxics Program page.

Be sure to check out the revised Air Toxics Program on the NDEQ website! Besides the Air Toxics Notebook, there are other great tools, websites, and resources to help you navigate the regulations.

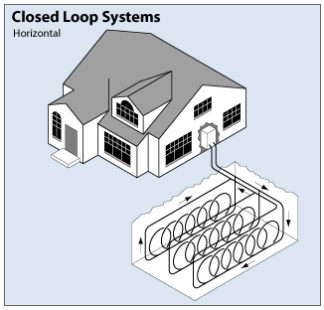
Geothermal Heat Pumps Save Money and Energy

Geothermal heat pumps (GHP) are similar to traditional heat pumps but utilize the earth's temperature instead of the outside air to heat and cool the inside of a building. The earth's temperature a few feet below the surface is constant, usually ranging from 45°F to 55°F. The geothermal or ground-source heat pump takes advantage of this by exchanging heat with the earth through a ground heat exchanger.

Types of Systems

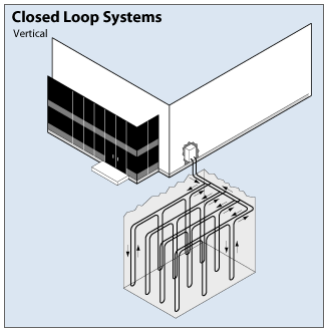
There are four basic types of ground loop systems. Three of these—horizontal, vertical, and pond/lake—are closed-loop systems. The fourth type of system is the open-loop option. All of these can be used for residential and commercial building applications.

Horizontal[1]



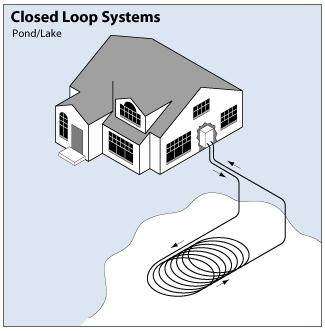
This type of installation is generally most cost-effective for residential installations, particularly for new construction where sufficient land is available. It requires trenches at least four feet deep. The most common layouts either use two pipes, one buried at six feet, and the other at four feet, or two pipes placed side-by-side at five feet in the ground in a two-foot wide trench.

Vertical[1]



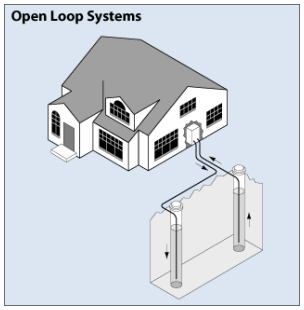
Large commercial buildings and schools often use vertical systems because the land required for horizontal loops would be prohibitive. For a vertical system, holes (approximately four inches in diameter) are drilled about 20 feet apart and 100–400 feet deep. Into these holes go two pipes that are connected at the bottom with a U-bend to form a loop. The vertical loops are connected with horizontal pipe (i.e., manifold), placed in trenches, and connected to the heat pump in the building.

Pond/Lake[1]



If the site has an adequate water body, this may be the lowest cost option. A supply line pipe is run underground from the building to the water and coiled into circles at least eight feet under the surface to prevent freezing. The coils should only be placed in a water source that meets minimum volume, depth, and quality criteria.

Open Loop System[1]



This type of system uses well or surface body water as the heat exchange fluid that circulates directly through the GHP system. Once it has circulated through the system, the water returns to the ground through the well, a recharge well, or surface discharge. This option is obviously practical only where there is an adequate supply of relatively clean water, and all local codes and regulations regarding groundwater discharge are met.

The Benefits

GHPs use 25%–50% less electricity than conventional heating or cooling systems. According to the EPA, geothermal heat pumps can reduce energy consumption—and corresponding emissions—up to 44% compared to air-source heat pumps and up to 72% compared to electric resistance heating with standard air-conditioning equipment. GHPs also improve humidity control by maintaining about 50% relative indoor humidity, making GHPs very effective in humid areas.

Geothermal heat pump systems can be installed in new construction or retrofitted for existing buildings. GHP systems have relatively few moving parts and are durable and highly reliable. The underground piping often carries warranties of 25–50 years, and the heat pumps often last 20 years or more. The units are not housed outside, but are inside and are easily accessible, which in-

Geothermal cont.

creases the convenience and reduces the chance of vandalism.

Because they have no outside condensing units like air conditioners, there's no concern about noise outside the home. A two-speed GHP system is so quiet inside a house that users do not know it is operating: there are no tell-tale blasts of cold or hot air.

Geothermal heat pumps save money in operating and maintenance costs. The initial purchase price of a residential GHP system is often higher than that of a comparable gas-fired furnace and central air-conditioning system, but it is more efficient, saving money every month. GHPs are also equipped with a "desuperheater" that heats your household water, which also reduces your energy demand. In the summer, the heat that is taken from the house is used to heat the water for free. In the winter, water heating costs are reduced by about half.

Another popular way to use geothermal technology is with in-floor radiant heating, in which hot water circulates through pipes under the floor to heat the room. Some companies offer tongue and groove subfloors that include the radiant floor piping in them for retrofit applications.

Due to the GHP system's high energy efficiency, typical annual energy savings range from 30% to 60%. The expected pay-back period for a residential GHP is 5-7 years, or sometimes less depending on available financing and incentives.

It may also be possible to include the purchase of a GHP system in an "energy-efficient mortgage" that would cover this and other energy-saving improvements to the home. Banks and mortgage companies can provide more information on these loans.

There may be a number of special financing options and incentives available to help offset the cost of adding a GHP to your home. These provisions are available from federal, state, and local governments; power providers; and banks or mortgage companies that offer energy-efficient mortgage loans for energy-saving home improvements.

To find out more about financing and incentives that are available to you, visit the Database of State Incentives for Renewable Energy (DSIRE) Web site at http://www.dsireusa.org/. The site is frequently updated with the latest incentives. You should also check with your electric utility and ask if they offer any rebates, financing, or special electric rate programs.

A new tax credit is now available for home and commercial building owners who install geothermal heating and cooling systems through the Energy Improvement and Extension Act of 2008 (H.R. 1424). H.R. 1424 offers a one-time tax credit of 30% of the total investment (maximum of $2,000 for a single residence) for all residential ground loop or ground water geothermal heat pump installations. A credit of 10% of the total investment is also available (no maximum) for a commercial system installation.

To qualify, the systems must meet or exceed EnergyStar requirements and be installed after December 31, 2007. Owners can file for the credit by completing the Renewable Energy Credits subsection on their tax return forms for 2008. For taxpayers that are subject to the Alternative Minimum Tax, they can claim the credit on their taxes for the following year. The tax credit is available from October 3, 2008 through December 31, 2016. For more information, visit http://thomas.loc.gov or contact your local tax professional.

Case Studies

There are various studies available documenting the benefits of GHP. The two case studies provided represent situations in or near Lincoln, Nebraska.

New, Residential Construction

This example features a home built in 2007. It is an all-brick ranch with 1,500 square feet on the main floor and an additional 1,500 square feet in the daylight basement (unfinished). Two adults reside in the home that is operated solely on electricity. Energy efficient Energy Star® windows and compact fluorescent lights have been installed throughout the house. The roof is insulated to an R50 factor. The thermostat is maintained between 66°F and 68°F during the winter months and 78°F in the summer time.

This home utilizes a closed loop system with vertical wells. Three vertical wells were dug for the 3-ton GHP. A desuperheater was also installed to supplement the hot water heater. The cost of the system was

Geothermal cont.

$19,000, which included the GHP unit, air handling system, duct work, well drilling, and labor costs. The cost of a high efficiency air-source heat pump system for this house, including labor and duct work, would have been approximately $14,000.

Norris Public Power District provided a $300 rebate on the system, along with a monthly hot water load management credit of $2.00 -$4.00, depending on the time of year. Norris customers can have a load management device placed on their water heater or their water heater & cooling system at no cost to the customer. Monitoring equipment located throughout Norris Public Power District's service area will detect when demand exceeds a pre-set limit and will signal a group of load management devices to turn off power to water heaters. The use of load management devices lowers Norris Public Power District's monthly peaks, which in turn allows Norris Public Power District to keep electric rates as low as possible. There were no noticeable differences to the available hot water when the load control was used.

The average cost of the electric bill from October 19, 2007 – October 31, 2007 was $55 per month, with the highest months of December 2007 and January 2008 costing approximately $70.

Lincoln Public Schools

With cooperation between Lincoln Electric System and Lincoln Public Schools, four elementary schools installed GHP systems in Lincoln in 1995. Vertical-bore, ground-coupled GHP systems were installed at four new elementary schools. The schools have identical floor plans, each with 69,000 square feet of area dedicated to classrooms, offices, meeting rooms, a cafeteria, and a gymnasium. Approximately 500 students attend each school. The performance of these installations is documented by electric and gas utility data energy management system data.

Studies by the Department of Energy found that the heating and cooling costs are about $144,000 a year less (for 1996–1997) than they would have been if those schools had installed more traditional heating and cooling systems. On average, the GHP schools use 26% less source energy per square foot per year than the non-GHP new schools. These energy savings will reach about $3.8 million over just 20 years, allowing for other capital improvements to be realized.

Compared to natural gas HVAC systems (air-cooled, variable air volume systems) that were installed in two other schools at the same time, the schools had a total energy cost savings of 57%. There were also 42% and 20% reductions in electrical demand and electrical energy consumption, respectively.

Not only will there be substantial energy savings over the next 20 years, but the GHPs also help reduce peak energy demand. Due to the cost savings realized from the four new schools in Lincoln, approximately 50% of the public schools in Lincoln have since been retrofitted with GHP heating and cooling systems. As funding becomes available the Lincoln Public Schools will retrofit the remaining HVAC systems. Additionally, three new schools are currently under construction and all three of them are designed to include a GHP heating and cooling system.

For more information on geothermal heat pumps, contact your local utility office or the Nebraska Energy Office (http://www.neo.ne.gov/). The Department of Energy's Energy Efficiency and Renewable Energy website also has helpful information at http://www.eere.energy.gov/.

Maxey Elementary School, one of four identical schools in Lincoln Nebraska, served by geothermal heat pumps.[3]

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[1]Department of Energy "Consumer's Guide To Energy Efficiency and Renewable Energy," http://apps1.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12640, November 17, 2008.

[2]WaterFurnace website, http://www.waterfurnace.com/tax_credits.aspx, November 17, 2008.

[3]"Geothermal Heat Pumps in K-12 Schools – A Case Study in Lincoln, Nebraska Schools." Oak Ridge National Laboratories – Managed by UT-BATELLE for the Department of Energy (2000). www.ornl.gov/femp/pdfs/ghpsinschools.pdf.

Mercury Monitoring in North Platte

In May 2008, the NDEQ Air Quality Division received a two-year grant for $41,000 from the Nebraska Environmental Trust to establish a wet-deposition mercury monitoring site near Lake Maloney in North Platte. That monitor became operational in October 2008. NDEQ has partnered with the University of Nebraska-Lincoln (UNL) to collect mercury samples from the North Platte site and a site established near Mead Nebraska. Mercury collection from the Mead site started in July of 2007.

Both mercury monitoring projects are part of a national network called the Mercury Deposition Network (MDN). The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation, and the seasonal and annual flux of total mercury in wet deposition. The MDN will use the data to develop information on spatial and seasonal trends in mercury deposition to surface waters, forested watersheds, and other sensitive receptors.

Weekly precipitation samples are collected by UNL and results of the sampling can be viewed on the MDN website at http://nadp.sws.uiuc.edu/mdn. There is a six-month delay from the time the sample is collected to when the data is posted on the site.

Facts about Mercury

Mercury is a naturally occurring substance, but can enter the environment from human activities. These activities include air emissions and improper disposal of mercury-containing products.

Mercury is emitted into the atmosphere from fossil fuel combustion. After being emitted, airborne mercury can travel hundreds or thousands of miles before falling back to Earth through rain, snow and dry deposition. It can end up in our rivers and lakes, and can accumulate in the fish that we consume.

Mercury can also enter the environment from mercury-containing products that are discarded or broken. Although traveling a different pathway, the main concern regarding this form of mercury waste pollution is the same as with mercury air pollution – eventually, the mercury can find its way into our rivers and lakes, and into the fish we eat.

When mercury from human activity gets into our rivers and lakes, it can transform into methyl mercury, and can accumulate in fish tissue. Consumption of fish that contains mercury is considered the primary path of human exposure. Methyl mercury is highly toxic to mammals, including people, and causes a number of adverse effects. Health studies and information showing neurotoxicity, particularly in developing organisms, are most abundant. The brain is the most sensitive organ for which suitable data are available to quantify a dose-response relationship.

Mercury in Nebraska

NDEQ annually conducts sampling of fish tissue from streams and lakes across the state to assess toxic pollutant trends, identify potential problem areas, and to issues fish consumption advisories. Mercury is one of the pollutants that is sampled by NDEQ. This information is posted at the Nebraska Game and Parks web site, at http://www.ngpc.state.ne.us/fishing/guides/fishguide/fishguide.asp.

NDEQ to Propose Rules for Gasoline Dispensing Facilities and Gasoline Distribution Bulk Terminals

The Nebraska Department of Environmental Quality (NDEQ) will propose rules for gasoline dispensing facilities and gasoline distribution bulk terminals at the next Environmental Quality Council (EQC) meeting, which will be held on March 12, 2009. The Environmental Protection Agency (EPA) promulgated national emission standards for hazardous air pollutants (NESHAP) for gasoline dispensing facilities and gasoline distribution bulk terminals on January 10, 2008, located in 40 Code of Federal Regulations (CFR) Part 63, Subparts CCCCCC (gasoline dispensing facilities) and Subpart BBBBBB (gasoline distribution bulk terminals).

Subparts BBBBBB and CCCCCC apply only to facilities that are area sources of hazardous air pollutants (HAP). An area source of HAP has the potential to emit <10 tons per year (tpy) of a single HAP or <25 tpy of a combination of HAP. Subpart CCCCCC affects gasoline dispensing facilities which are defined as any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle. Subpart BBBBBB affects bulk gasoline terminals, pipeline breakout stations, pipeline pumping stations, and bulk gasoline plants that are area sources of hazardous air pollutants (HAP).

Overview of the Title 129 Rules NDEQ will propose:

The NDEQ plans to propose additional state rules to assist certain facilities in complying with Subparts BBBBBB and CCCCCC. The state rules, adopted into Title 129, would allow sources subject to these subparts to limit their actual monthly throughput (for Subpart BBBBBB) or their maximum design throughput (for Subpart CCCCCC) in order to comply with the applicable requirements of the subpart. The proposed rules, if approved by the EQC, Attorney General, and the Governor, would appear in Chapter 28 of Title 129 Air Quality Regulations.

Summary of the Proposed Gasoline Dispensing Rule

The additional proposed state rules would allow gasoline dispensing facilities, subject to 40 CFR 63 Subpart CCCCCC that have a monthly gasoline throughput greater than or equal to 100,000 gallons, to limit their actual monthly gasoline throughput to greater than or equal to 10,000 gallons but less than 100,000 gallons.

Facilities that take this limit would be required to do all the following:

√ Submit a Notification of Intent form to NDEQ.

√ Comply with the requirements in 40 CFR 63 Subpart CCCCCC for gasoline dispensing facilities with a monthly gasoline throughput greater than or equal to 10,000 gallons of gasoline, but less than 100,000 gallons of gasoline.

Please refer to the following links for the final rule and summary of 40 CFR 63 Subpart CCCCCC:

√ The Final Rule:
http://www.epa.gov/ttn/atw/area/fr10ja08.pdf

√ Rule Amendment:
http://www.epa.gov/ttn/atw/area/fr07mr08.pdf

√ EPA Summary of the Rule:
http://www.epa.gov/ttn/atw/area/gdfb.pdf.

Summary of the Proposed Gasoline Distribution Rule

The additional proposed state rules would allow gasoline distribution facilities, subject to 40 CFR 63 Subpart BBBBBB that have a maximum design gasoline throughput greater than or equal to 20,000 gallons per day, to limit their actual daily gasoline throughput to less than 20,000 gallons per day.

Facilities that take this limit would be required to do all the following:

√ Submit a Notification of Intent form to NDEQ.

√ Comply with the requirements in 40 CFR 63 Subpart BBBBBB for gasoline distribution facilities with a maximum design capacity of less than 20,000 gallons per day.

Please refer to the following links for the final rule and summary of 40 CFR 63 Subpart BBBBBB:

√ The Final Rule:
http://www.epa.gov/ttn/atw/area/fr10ja08.pdf

√ Rule Amendment:
http://www.epa.gov/ttn/atw/area/fr07mr08.pdf

√ EPA Summary of the Rule:
http://www.epa.gov/ttn/atw/area/bulkgasb.pdf

If you have any questions, contact the Air Quality Division at (402) 471-2189.

Mark Your Calendars!

JANUARY 2009

19th NDEQ office closed

FEBRUARY 2009

16th NDEQ office closed

MARCH 2009

- 12th Environmental Quality Council Meeting Video Conference
- 31st 2006 Emissions Inventory due
- 31st Certification of Compliance Reports due
- 31st Deviations Reports due

APRIL 2009

14th-15th	Nebraska Safety Council Conference & Exhibition. For registration information, go to http://www.nesafetycouncil.org/.	Lincoln, NE
22nd	Earth Day	
24th	Arbor Day – NDEQ Office Closed	
26th	Air Quality Awareness Week (through May 2nd)	
28th–30th	Method 9 Opacity Certification Training (Smoke School). For registration information, go to www.eta-is-opacity.com/schedule.htm	Lincoln, NE

Hot Off The Presses! New and Improved Air Quality Guidance Documents

The Air Quality Division is continuing its efforts to keep you informed and educated about air quality regulations. Here is a listing of new and revised guidance documents. Most of the documents are currently available on NDEQ's web site at www.deq.state.ne.us under Air Quality Publications. All of the documents will be available on the web site in the near future or you can obtain them by calling (402) 471-6624.

- ***Revised* – Permit Application Tips Guidance Document** – This document provides great examples for those who plan to submit an air quality permit application. Submitting a complete and accurate application facilitates and expedites the permit process.
- ***Revised* – Air Quality Permit Applications** - All of the air quality permit applications have been revised and are available in Word format and Adobe Acrobat. The applications were revised to make the construction and operating permit application forms more consistent. See article in this edition for more information. If you have any questions or comments on the new forms, please contact the Air Quality Permit Hotline at 877-834-0474.
- ***Revised* – Air Quality Stack Testing Guidelines** – The purpose of this document is to provide guidance for companies and individuals conducting air-quality performance tests for compliance determination in the State of Nebraska. It is intended to serve as a reference guide. It will assist in planning and preparing for testing, conducting the test, and preparing a complete and accurate report. This document will help ensure consistent quality and documentation for stack tests conducted in Nebraska.

Guidance Documents cont.

- ***Revised* – Miscellaneous Organic NESHAP and Ethanol Production -** This memorandum provides a brief overview of this Miscellaneous Organic NESHAP rule as it relates to ethanol plants, specifically batch-fermentation ethanol plants. Although the rule only applies to major sources, those sources with limitations making them minor under the NESHAP program are urged to read this summary as there are important considerations for them as well.
- ***New* – NESHAP Notification Forms –** Many notification forms have been added to the website, particularly for area sources subject to the new National Emission Standards for Hazardous Air Pollutants. The forms are available in Word and Adobe formats.
- ***New* – 2009 Air Quality Compliance Calendar -** The compliance calendar was developed to assist businesses with their air quality recordkeeping and reporting requirements. The calendar provides reminders and compliance tips to businesses to help them maintain compliance with the air quality regulations. We encourage businesses to use this calendar daily to assist them with their air quality regulatory requirements.
- ***New* – 2007 Air Quality Report –** This is document summarizes the ambient air quality monitoring data collected during 2007 and provides an overview of the monitoring network.

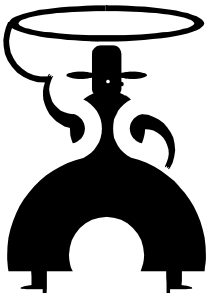
If there are guidance documents you would like developed or if you think we could improve existing documents, contact Melissa Ellis at (402) 471-6624.

Regulatory Roundup

Extensive changes to Title 129, adopted by the Nebraska Environmental Quality Council in July 2008, were approved by the Governor and became effective August 18, 2008. Most of the changes removed rules that had been vacated by court action, including the Clean Air Mercury Rule; Commercial, Institutional Solid Waste Incinerator (CISWI) Definitions Rule; and the Boiler National Emission Standard for Hazardous Air Pollutants (NESHAP) and two other NESHAP standards.

The August 18, 2008 revisions also included the adoption of the new 24-hour standard for $PM_{2.5}$, updated New Source Performance Standards (NSPS), and several new NESHAP standards. For further information on these changes, please see the July 2008 edition of AirWaves.

In March 2009, the Air Quality Division will propose several changes to Chapter 28 of Title 129, "Hazardous Air Pollutants: Emissions Standards". The Department plans to propose the adoption, by reference, of nine federal standards, issued during the past year, for reducing air toxics emissions at area sources. Area sources are pollution-emitting sources that have lower emissions than major sources. Though often referred to as "area source MACT (Maximum Achievable Control Technology) standards", these NESHAP standards actually tend to require the achievement of only Generally Available Control Technology (GACT), a less stringent pollution control effort than MACT. Adoption by reference means that the Department assumes responsibility for implementing and enforcing these federal standards within its jurisdiction.



All of the standards proposed for adoption are NESHAPs and are printed in the Code of Federal Regulations in Title 40, Part 63. They include: (1) Subpart WWWWW for Hospital Ethylene Oxide Sterilizers; (2) Subpart YYYYY for Electric Arc Furnace Steelmaking Facilities; (3) Subpart ZZZZZ for Iron and Steel Foundries Area Sources; (4) Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities; (5) Subpart CCCCCC for Gasoline Dispensing Facilities; (6) Subpart HHHHHH for Paint Stripping and Miscellaneous Surface Coating Operations; (7) Subpart RRRRRR for Clay Ceramics Manufacturing; (8) Subpart

Roundup cont.

SSSSSS for Glass Manufacturing Area Sources; and (9) Subpart TTTTTT for Secondary Nonferrous Metals Processing.

In addition to adopting the federal area source standards in Chapter 28, the Department will also propose additional rules which will allow two source categories to limit monthly throughputs below a facility's maximum design capacity to avoid the more stringent and costly controls required for facilities with greater monthly throughputs. Sources taking these limits must notify the Department of their intention to adhere to the agreed-upon lower throughputs and comply with recordkeeping and other requirements. The two industry categories for which this option will be offered are bulk gasoline terminals and gasoline dispensing facilities. In the future, other types of area sources may be allowed to take similar limits.

If the proposed changes are adopted by the Environmental Quality Council in March, they will go to the Attorney General for review, then on to the Governor for approval. Rules become effective five days after the Governor signs them.

Federal Air Quality Regulatory Actions July 2008 – December 2008

The following tables list the actions the U.S. Environmental Protection Agency (EPA) has taken on air quality regulations from July 2008—December 2008. The tables are sorted according to 40 Code of Federal Regulations Part. Each table is then sorted by date. You can find more detailed information related to these actions on EPA's website at http://www.epa.gov/fedrgstr/EPA-AIR/.

40 CFR Part 50 – National Ambient Air Quality Standards

Subpart Name	Date	Type & Summary of Action
NAAQS for Ozone	7/21/08	Proposed rule - To revise its Phase 2 implementation rule for the 1997 8-hour ozone NAAQS to address the vacatur and remand of this rule. Specifically, the allowed credit toward reasonable further progress for the 8-hour standard from emission reductions outside the nonattainment area.

40 CFR Part 50 – National Ambient Air Quality Standards

Subpart Name	Date	Type & Summary of Action
NAAQS for Lead	11/12/08	Final rule - To revise the Lead (Pb) NAAQS to 0.15 µg/m3 over a rolling three month period for the primary and secondary standards.
AAQS for Lead	12/19/08	Final Amendment – To correct typographical error in instruction 15 to read: ``15. Section 58.10, is amended by adding paragraph (a)(4) and adding paragraphs (b)(9) through (b)(11) to read as follows:'

40 CFR Part 51 - Preparation, Adoption, & Submittal of State Implementation Plans

Subpart Name	Date	Type & Summary of Action
I - Non-attainment New Source Review	7/21/08	Proposed rule - To revise its Phase 2 implementation rule for the 1997 8-hour ozone NAAQS to address the vacatur and remand of this rule. Specifically, the allowed credit toward reasonable further progress for the 8-hour standard from emission reductions outside the nonattainment area.
Lead NAAQS Provisions	11/12/08	Final rule - To revise the Lead (Pb) NAAQS to 0.15 µg/m3 over a rolling three month period for the primary and secondary standards. EPA also revised the point source emissions inventory by establishing a baseline.
A – Air Emissions Reporting	12/17/08	Final Rule - to harmonize reporting requirements under the NOX SIP Call and the Consolidated Emissions Reporting Rule. It also removes and simplifies existing emissions reporting requirements; allows states to better track changes in source emissions, shutdowns, and start-ups over time; deletes a requirement for states to report biogenic emissions; and offers states the option of reporting emission model inputs in lieu of reporting emissions for certain source categories.
I – Non-attainment New Source Review S – Emission Offsets	12/19/08	Final Rule – to only include fugitive emissions for listed source categories to determine if it is a major modification. Also, clarifying that fugitive emissions should be included in PALs, regardless of source category. Definition changes to net emissions increase and baseline actual emissions.

Federal Rules cont.

40 CFR Part 52 - Approval & Promulgation of Implementation Plans

Subpart Name	Date	Type & Summary of Action
A – Prevention of Significant Deterioration	12/19/08	Final Rule – to only include fugitive emissions for listed source categories to determine if it is a major modification. Also, clarifying that fugitive emissions should be included in PALs, regardless of source category. Definition changes to net emissions increase and baseline actual emissions.
Prevention of Significant Deterioration	12/31/08	This memorandum contains EPA's definitive interpretation of ``regulated NSR pollutant." EPA interprets this definition of ``regulated NSR pollutant'' to exclude pollutants for which EPA regulations only require monitoring or reporting but include all pollutants subject to a provision in the Act or regulation adopted by EPA under the Act that requires actual control of emissions of that pollutant.

40 CFR Parts 53 & 58 – Ambient Air Monitoring

Subpart Name	Date	Type & Summary of Action
Ambient Air Monitoring Reference & Equivalent Methods – Test Method for Lead	5/16/08	Final Rule - to revise data handling procedures for Pb NAAQS, including allowance for the use of Pb-PM10 data in certain circumstances, and the treatment of exceptional events, and ambient air monitoring and reporting requirements for Pb, including those related to sampling and analysis methods, network design, sampling schedule, and data reporting.

40 CFR Part 59 – National Volatile Organic Compound Emission Standards

Subpart Name	Date	Type & Summary of Action
A – General Provisions	10/7/08	Final Rule – to add control techniques guidelines in Lieu of Regulations for Miscellaneous Metal Products Coatings, Plastic Parts Coatings, Auto and Light-Duty Truck Assembly Coatings, Fiberglass Boat Manufacturing Materials, and Miscellaneous Industrial Adhesives in ozone non-attainment areas. Proposed 7/14/08.
E – Standards for Aerosol Coatings	11/7/08	Direct Final & Proposal - moving applicability and compliance dates for aerosol coatings from 1/1/09 to 7/1/09. Also, EPA is making initial notifications due on compliance date.

40 CFR Part 59 – National Volatile Organic Compound Emission Standards

Subpart Name	Date	Type & Summary of Action
E – Standards for Aerosol Coatings	12/24/08	Final rule – to withdraw direct final rule issued 11/7/08 and issuing a final rule based on the notice of proposed rulemaking after considering adverse comments.

40 CFR Part 60 – New Source Performance Standards

Subpart Name	Date	Summary of Action
JJJJ – Spark Ignition Internal Combustion Engines	10/8/08	Final rule - New, reconstructed, or modified marine spark engines. The exhaust emission standards apply starting in 2011 and 2012 for different sizes of new land-based, spark-ignition engines at or below 19 kilowatts (kW). Proposed 6/12/06.
Appendix B & F – Performance Specifications	10/9/08	Proposed Amendment - Proposing Performance Specification 17 and Procedure 4 for Continuous Parameter Monitoring Systems. The requirements establish quality assurance procedures. Also proposes minor amendments to Procedure 1 for Gas Continuous Emission Monitoring that are used for monitoring multiple pollutants. Extension for public comment until 2/5/09.
Ce – Hospital Medical Infectious Waste Incinerators	12/1/08	Proposed amendment - to address remand and 5-year review. Proposes the same changes proposed in 2007. Also includes requirements for NOX and SO2 emissions testing for all HMIWI, performance testing requirements for small rural HMIWI, monitoring requirements for selective non-catalytic reduction (SNCR) technology to reduce NOX emissions, and procedures for test data submittal.
Ja – Petroleum Refineries constructed after May 14, 2007	12/22/08	Proposed rule – to address specific issues for process heaters and flares. Also, proposing various technical corrections.
Ja – Petroleum Refineries constructed after May 14, 2007	12/22/08	Direct Final rule – 9/26/08 granted request for reconsideration and request for a stay until 12/25/08 for certain specific provisions. 12/22/08 extended stay until final determination is made.
A – General Provisions	12/22/08	Final Rule – 4/6/06 proposed voluntary alternative work practice for leak detection and repair using optical gas imaging. The proposed alternative has been amended in this final rule to add a requirement to perform monitoring once per year using the current Method 21 leak detection instrument.

Federal Rules cont.

40 CFR Part 61 – National Emission Standards for Hazardous Air Pollutants

Subpart Name	Date	Type & Summary of Action
A – General Provisions	10/9/08	Proposed Amendment – to propose Performance Specification 17 & Procedure 4 for Continuous Parameter Monitoring Systems. The requirements establish quality assurance procedures. Also proposes minor amendments to Procedure 1 for Gas Continuous Emission Monitoring that are used for monitoring multiple pollutants. Extension for public comment until 2/5/09.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants

Subpart Name	Date	Type & Summary of Action
M – Perchloroethylene Dry Cleaners	7/11/08	Direct Final Amendments – Amendments and clarifications to direct final rule and proposal published 4/1/08.
EEEE – Organic Liquid Distribution (non-gasoline)	7/17/08	Final Amendments - to direct final rule published on 4/23/08. EPA withdrew some of regulatory requirements, amending some provisions, and correcting typographical errors.
BBBB – Semiconductor Manufacturing	7/22/08	Final Amendments - to establish a MACT floor level of control for process vent streams containing inorganic and organic HAPs and clarify the emission requirements.
XXXXXX – Metal Fabrication & Finishing	7/23/08	Final rule - Proposal for area source standards for nine categories of metal fabrication and finishing operations. Proposed 4/3/08.
G – Hazardous Organic Chemical Manufacturing (HON)	8/6/08	Proposed rule - to amend the HON, and thereby, the MON, by adding an equivalent means of emission limitation for wastewater tanks. This action also clarifies and corrects technical inconsistencies that have been discovered in the MON.
FFFF – Miscellaneous Organic Chemical Manufacturing (MON)	8/6/08	Proposed rule - to amend the HON, and thereby, the MON, by adding an equivalent means of emission limitation for wastewater tanks. This action also clarifies and corrects technical inconsistencies that have been discovered in the MON.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants

Subpart Name	Date	Type & Summary of Action
VVVVVV – Chemical Manufacturing area sources	10/6/08	Proposed Rule - for nine area source categories in the chemical manufacturing sector: Ag. Chemicals & Pesticides Mfg., Cyclic Crude & Intermediate Production, Industrial Inorganic Chemical Mfg., Industrial Organic Chemical Mfg., Inorganic Pigments Mfg., Misc. Organic Chemical Mfg., Plastic Materials & Resins Mfg., Pharmaceutical Production, and Synthetic Rubber Mfg. The proposed emissions standards based on generally available control technology or management practices. Comment Period extended to 1/5/09 with rule finalization by 5/15/09.
A – General Provisions	10/9/08	Proposed Amendment - Proposing Performance Specification 17 and Procedure 4 for Continuous Parameter Monitoring Systems. The requirements establish quality assurance procedures. Also proposes minor amendments to Procedure 1 for Gas Continuous Emission Monitoring that are used for monitoring multiple pollutants. Extension for public comment until 2/5/09.
U – Group I Polymers Y – Marine Vessel Loading Operations DDD – Mineral Wool Production GGG – Pharmaceutical Production KK – Printing and Publishing	10/10/08	Proposed rule - proposing no changes based on residual risk review.
T – Halogenated Solvent Cleaning	10/20/08	Proposed rule - to address residual risk rule promulgated 5/3/07. Proposing two options to further reduce emissions from halogenated solvent cleaning machines. Extension of public comment until 2/4/09.
EEE – Hazardous Waste Combustors	10/28/08	Final Rule – to revise the standard for particulate matter for new cement kilns and hazardous waste incinerators; making amendments to the particulate matter detection system provisions and revisions to the health-based compliance alternative for total chlorine; and issuing several corrections and clarifications.

Federal Rules cont.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants

Subpart Name	Date	Type & Summary of Action
CC – Petroleum Refineries	11/10/08	Proposed amendments – to supplement 9/4/07 proposal. Proposal contains new requirements for cooling towers, a new option for storage vessels, and clarifications and corrections to definitions, tables, and regulatory citations.
A – General Provisions	11/10/08	Proposed amendments – to supplement 9/4/07 proposal. Amending 63.14 to include air stripping method of VOCs from water sources
YYYYY – Electric Arc Furnaces area sources	12/1/08	Direct Final and Proposed Rule - to clarify applicability of the opacity limit, make the performance test requirements for particulate matter consistent with requirements in the new source performance standards for EAF steelmaking facilities, allow title V test data to be used to demonstrate compliance, and revise the definition of ``scrap provider'' to include EAF steelmaking facilities that own and operate a scrap shredder.
U – Group I Polymers & Resins W – Group II Polymers & Resins UU – Equipment Leaks Level 2 YY – Generic MACT	12/16/08	Final residual risk rules – no additional controls or standards. Proposed 12/12/07.
A – General Provisions G – Equipment Specific HON H – Equipment Leaks HON U – Group I Polymers HH – Oil & Natural Gas GGG – Pharmaceutical Production HHH – Natural Gas Transmission JJJ – Group IV Polymers & Resins VVV – POTW EEEE – Organic Liquids Distribution FFFF – Misc. Organic NESHAP UUUU – Cellulose Products GGGGG – Site Remediation HHHHH – Misc. Coating Mfg.	12/22/08	Final Rule – 4/6/06 proposed voluntary alternative work practice for leak detection and repair using optical gas imaging. The alternative work practice is an alternative to the current leak detection and repair work practice, which is not being revised. The proposed alternative has been amended in this final rule to add a requirement to perform monitoring once per year using the current Method 21 leak detection instrument.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants

Subpart Name	Date	Type & Summary of Action
A – General Provisions	12/23/08	Final Rule - to revise the area source category list by changing the name of the ferroalloys production category to clarify that it includes all types of ferroalloys. They also added two additional products (calcium carbide and silicon metal) to the source category. Proposed 9/15/08.
YYYYYY – Ferroalloys Productions	12/23/08	Final rule – for Area source rules containing generally available control technology standards. Proposed 9/15/08.

40 CFR Part 65 – Consolidated Federal Air Rule

Subpart Name	Date	Type & Summary of Action
A – General Provisions	12/22/08	Final Rule – 4/6/06 proposed voluntary alternative work practice for leak detection and repair using optical gas imaging. The alternative work practice is an alternative to the current leak detection and repair work practice, which is not being revised. The proposed alternative has been amended in this final rule to add a requirement to perform monitoring once per year using the current Method 21 leak detection instrument.

40 CFR Part 72 – Acid Rain

Subpart Name	Date	Type & Summary of Action
Acid Rain	12/15/08	Interim, direct final, and proposed rule - to reaffirm certain revisions of the Acid Rain Program rules finalized in the Federal Register with the Clean Air Interstate Rule (CAIR) and the Federal Implementation Plans for CAIR (CAIR FIPs). The U.S. Court of Appeals for the District of Columbia Circuit recently issued a decision vacating and remanding CAIR and the CAIR FIPs. These revisions to the Acid Rain Program rules were not addressed by any parties in the proceeding or the Court. EPA is reaffirming the Acid Rain provisions in order to remove any uncertainty about their legal status.

Nebraska Department of Environmental Quality

Air Waves

A bulletin produced by Nebraska Department of Environmental Quality's Air Quality Division

Air Quality Division
1200 'N' St.
Atrium, Suite 400
Lincoln, NE 68508

NDEQ Phone: 402-471-2186
Air Phone: 402-471-2189
Air Permit Hotline: 877-834-0474
Fax: 402-471-2909

We're on the web!
www.deq.state.ne.us

The objectives of the Air Quality Division are to achieve and maintain the ambient air quality standards, to protect the quality of the air in areas of the state that have air cleaner than the standards, and to implement air quality rules and regulations. By fulfilling these objectives, the Department is confident that public health and the environment will be adequately protected.

The major air quality programs are: the construction permit program, the operating permit program, the emission inventory program, the ambient air quality monitoring program, the inspection and compliance program, the planning and development program, and the asbestos program.

Three local agencies -- the Lincoln/Lancaster County Health Department, the Omaha Air Quality Control, and the Douglas County Health Department -- have accepted through contract with the NDEQ, responsibility for various facets of the program. These responsibilities include air quality monitoring, planning, permitting and enforcement within their areas of jurisdiction.

Federal Rules cont.

40 CFR Part 82 – Protection of Stratospheric Ozone

Subpart Name	Date	Type & Summary of Action
A – Production and Consumption of Controls	12/23/08	Proposed Rule - to adjust the allowance system for control of U.S. consumption and production of hydrochlorofluorocarbons (HCFCs) by apportioning baselines and allocating production and consumption allowances for several HCFCs for the control periods 2010-2014.
I - Ban on Refrigeration and Air-Conditioning Appliances Containing HCFCs	12/23/08	Proposed rule – to ban the sale or distribution of air-conditioning and refrigeration appliances containing HCFC-22, HCFC-142b, or blends, beginning 1/1/10. Proposing to extend these requirements to air-conditioning and refrigeration appliances.

If you would like receive periodic air regulation updates, workshop announcements, and the electronic AirWaves Bulletin, contact Melissa Ellis at (402) 471-6624 or melissa.ellis@nebraska.gov.