

## Do you need an air permit for your boilers?

Many businesses have boilers or emergency generators that burn natural gas, gasoline, and/or fuel oil. It is important to calculate emissions for this equipment and evaluate the need for a Kansas Department of Health and Environment (KDHE) air permit or approval/registration. Many units need permits and KDHE is considering a new initiative to raise awareness of this need.

Combustion emissions from boilers and generators are typically regulated based on the amount of nitrogen oxides (NOx), carbon monoxide (CO), sulfur oxides (SOx), particulate matter (PM), and volatile organic compounds (VOC) that result from burning fuel.

SBEAP has spreadsheets available to help calculate emissions from combustion sources. In addition to actual emissions produced, you must consider potential emissions (the emissions that would be produced if you operated 24/7).

If you modify existing equipment or want to install new equipment, you must also know emissions per hour and in a 24-hour period. There are also special rules that may affect your facility, based on the size and installation date of your equipment. **It is important to ask KDHE or SBEAP if you have questions!**

If you have an emergency generator that is only used to supply emergency power, and not used to supplement power needs during peak hours (for example, you don't routinely operate it in the summer), you only need to fill out a simplified application for approval. Forms are available at [www.kdbeks.gov/air-permit/forms/Emergency\\_Gen\\_App.pdf](http://www.kdbeks.gov/air-permit/forms/Emergency_Gen_App.pdf). If you operate the generator to supplement power needs, then these emissions need to be accounted for when assessing your need for an air permit.

If you currently operate a boiler or generator, calculate the air emissions. You can contact SBEAP for assistance. If your equipment can use more than one fuel, you must calculate your emissions as though you use each fuel exclusively 24/7. If emissions exceed the thresholds, you must get a permit. If the equipment uses one primary fuel, like natural gas, but uses fuel oil as a backup, then you must calculate the emissions for both fuels as if they were operated 24/7. Although many boilers may not trigger the thresholds due to natural gas use, the fuel oil backup, even though it may never be used, often triggers the permitting threshold.

If you are going to modify your existing equipment or install new equipment, you may need a construction approval or construction permit from KDHE. **Note: the thresholds for new construction or modifications are based on per-hour and per-24-hour thresholds, which typically apply to more facilities than operating permit thresholds.** The fact sheet posted at [www.sbeap.org/ppi/publications/airqual.pdf](http://www.sbeap.org/ppi/publications/airqual.pdf) details these thresholds.

*Example:* Hospital boiler:

A hospital uses a natural gas boiler that does not have any fuel backup or control devices. The capacity of the boiler is 75 million BTU/hr. It was installed in 1986.

The emissions, based on EPA "emissions factors" found at [www.epa.gov/ttn/chieflap42/ch01/](http://www.epa.gov/ttn/chieflap42/ch01/), are as follows:

Pollutant	tons/yr	lb/hr	lb/24 hr
NOx	32.2		176.5
SOx	0.2	0.0	
CO	27.1		148.2
VOC	1.8		9.7
PM/PM10	2.4	0.6	

This boiler would not need an operating permit; however if it was installed or modified since 1995, it needs a construction approval.

If it were installed or modified after June 9, 1989, it is subject to New Source Performance Standard (NSPS). In this case, the source category is 40 CFR 60.42 subpart Dc, small industrial-commercial-institutional steam-generating units, greater than or equal to 10 million Btu/hr but less than or equal to 100 million Btu/hr.

If a modification or new installation had occurred, one way the hospital could comply with the NSPS would be to limit the weight percent sulfur of the fuel to 0.5% or less. An air permit would be required and you would have to keep records.

The same boiler with low-NOx burners would emit only 16.1 tons per year of NOx, and 88.2 lb/hr of NOx. It would still need a construction approval based on emissions greater than 50 lb/24hr for NOx and CO.

An existing boiler installed after 1995 which exceeds construction permit or approval thresholds but never obtained a construction permit or approval should contact KDHE and get the permit or approval now.

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A 75-MMBtu/hr boiler using #2 fuel oil (diesel) containing 0.5% sulfur by weight would have emissions as follows:

Pollutant	tons/yr	lb/hr	lb/24 hr
NOx	47	11	257
SOx	169	39	926
CO	12	3	64
PM/PM10	8	2	42

In this case, the emission of 169 tons per year of SOx makes the boiler a major source of air pollution. Permit limits could be taken to limit the amount of fuel oil used and avoid major source status. The construction permit thresholds are also exceeded.

Note that this example is for a single boiler. As emissions are calculated for a facility *when determining if an operating permit is needed*, all emission sources must be included in the total amount.

For assistance with calculating combustion emissions for boilers, generators, or other sources, contact SBEAP at 800-578-8898.

## Solvent recycling—quantity determination quandaries?

Do you have questions about how to track the amount of hazardous waste generated when recycling solvent on site? Kansas regulations are currently stricter than federal requirements. However, last year the Bureau of Waste Management published a policy (BWM 06-02) that allows its regulatory requirements to match federal limits [40 CFR 261.5(d)] until state regulations are promulgated. The policy allows for regulatory flexibility when tracking waste that is treated on site, including solvent recycled for reuse in an on-site

still. Find this and other policies at [www.kdheks.gov/waste/bwm\\_policies.html](http://www.kdheks.gov/waste/bwm_policies.html).

If you have been accounting for solvent quantities as hazardous each time they are dumped into the distillation unit, then utilizing this policy will likely decrease your monthly generation rate and may even allow you to move to a lower generator category, decreasing regulatory burden. Review the policy and contact your RCRA inspector or SBEAP at 800-578-8898 if you have questions.

### Final publication of *EnviroLines* newsletter

In order to cut costs, the *EnviroLines* newsletter will be discontinued. Several resources are available for finding answers to your environmental regulatory questions:

The **SBEAP hotline** is toll-free and staffed with individuals experienced in the environmental field. Call 1-800-578-8898.

The **SBEAP Web site** ([www.sbeap.org](http://www.sbeap.org)) has been revamped to be more user friendly. Publications summarizing environmental regulations are listed by industry and media type (air, waste, water). Past issues of *EnviroLines*, *AIRlines*, and links to other useful Web sites are available, including popular KDHE sites.

The **KDHE Web site** is loaded with technical guidance documents, frequently asked questions, contact information, and other useful data. Go to [www.kdheks.gov](http://www.kdheks.gov) and choose the "Environment" link near the top. This will take you to a Web page with links to each of the KDHE bureaus.

### Small Business Environmental Assistance Program

The mission of the Kansas Small Business Environmental Assistance Program (SBEAP) is to help Kansas small businesses comply with environmental regulations and identify pollution prevention opportunities. SBEAP is funded through a contract with the Kansas Department of Health and Environment. SBEAP services are free and confidential. For more information, call 800-578-8898, send an e-mail to [SBEAP@ksu.edu](mailto:SBEAP@ksu.edu), or visit our Web site at [www.sbeap.org](http://www.sbeap.org).



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## Trash to treasure

“One man’s trash is another man’s treasure” and “Waste not, want not” are two popular adages. One Kansas Department of Health and Environment (KDHE) document indicates that with only 5% of the world’s population, Americans consume approximately 25% of the world’s resources. Quantum leaps in technology, particularly electronics technology, render equipment obsolete in a shockingly short amount of time. Highly efficient manufacturing processes quite often make it more economical to discard a product than to repair and reuse it. Consequently, businesses and households generate more trash today than ever before.

The KDHE estimates that each Kansan generates approximately 3/4 tons of trash per year, for a total of 3.2 million tons per year. The Environmental Protection Agency estimates that American industrial facilities generate and dispose of approximately 7.6 billion tons of industrial solid waste each year.

The growing trend in America is for companies to “go green.” Although greenhouse gases are the most familiar venue for the greening of America, numerous resources are also available to companies who want to reduce their amount of solid waste through recycling or reusing products. The Kansas Business and Industry Recycling Program, located at [www.kansasbirp.com/](http://www.kansasbirp.com/), has recycling directories and information that allows you to locate a recycling center or program near your facility, or to find markets for collected materials. The Kansas Organization of Recyclers is another statewide recycling information center that can assist businesses in developing recycling programs and reducing their solid waste disposal. There are also county-specific programs, such as the one for Sedgwick County ([www.sedgwickcounty.org/environment/recycling.html](http://www.sedgwickcounty.org/environment/recycling.html)), which provides a comprehensive list of businesses that recycle materials from

ammunition to wood to yard waste. Some recycling information is focused on a narrower target. At [www.recyclespot.org](http://www.recyclespot.org), you can find a Web-based directory that provides information on centers that collect materials from aluminum foil and athletic shoes to toner and ink cartridges, for the entire Kansas City metro area.

If your spring cleaning results in accumulation of hazardous wastes, there may be places that accept those wastes as well. Some household hazardous waste (HHW) facilities, which normally accept waste only from private residences, have been permitted to accept hazardous wastes from small quantity generators. Go to [www.kdheks.gov/waste/download/HHW\\_point\\_of\\_contact\\_01-04.pdf](http://www.kdheks.gov/waste/download/HHW_point_of_contact_01-04.pdf) to contact an HHW facility in your area.

Of course, the most prudent business thing to do is not to generate the waste in the first place. Reducing waste can begin with reducing the amount of packaging for your products and buying more durable, longer-lasting goods. Your vendor may be able to provide supply information to you, or you can contact the Small Business Environmental Assistance Program for help. To reduce wastes associated with electronic products, consult the Electronic Products Environmental Assessment Tool (EPEAT), which is a system to help purchasers in the public and private sectors evaluate, compare, and select desktop computers, notebooks, and monitors based on their environmental attributes. The EPEAT registry, located at [www.epeat.net/default.aspx](http://www.epeat.net/default.aspx), currently has more than 800 products that have been certified to meet eight environmental performance areas, including design for end of life, product longevity, energy conservation, and packaging.

Regardless of the type of waste you generate, always consult these recycling directories, and consider recycling and reuse over disposal or incineration.

## Manufacturers of lawn and watercraft equipment—take note

### **Phase 3 emission standards for new spark-ignition engines posted**

According to KDHE and the 2002 National Emissions Inventory, lawn and garden equipment is the largest non-road mobile category contributing to VOCs in Kansas. In an announcement on April 17, 2007, the Environmental Protection Agency (EPA) indicated that it has proposed Phase 3 of regulations that set strict standards for most lawn and garden equipment and small recreational watercraft. To meet the new exhaust emission standards, manufacturers are expected to use catalytic converters for the first time ever in many types of small watercraft, and lawn and garden equipment. The new standards would apply as early as 2011 for most lawn and garden equipment (under 25 horsepower) and 2009 for watercraft. Obviously, this rule would have implications for the many lawn and watercraft manufacturers in the state of Kansas. Comments on the proposed rule are due Aug. 3, 2007. The proposal and information about how to submit comments can be found on the EPA Web site at [www.epa.gov/otaq/equip-ld.htm](http://www.epa.gov/otaq/equip-ld.htm) for lawn and garden equipment and at [www.epa.gov/otaq/marinesi.htm](http://www.epa.gov/otaq/marinesi.htm) for gasoline boats and personal watercraft.

Obviously, air quality is the driver for these regulations. The EPA estimates Americans spend more than 3 billion hours each year using lawn and garden equipment. Air emissions from this equipment greatly exceed those from automobiles on a per-engine basis. According to EPA studies, a push mower emits as much hourly pollution as 11 cars and a riding mower emits as much as 34 cars. Additionally, recreational watercraft can emit as much as 348 cars an hour.

On their Web site at <http://www.epa.gov>, the EPA estimates the proposed rule, when fully implemented, could result in estimated annual emission reductions of 630,000 tons of hydrocarbons, 98,000 tons of NO<sub>x</sub>, 6,300 tons of particulate matter, and 2.7 million tons of carbon monoxide. Additionally, total estimated public health effects are \$3.4 billion by 2030, including prevention of 450 premature deaths, 500 hospitalizations, and 52,000 work days lost annually. Annual fuel savings upon full implementation are estimated at 190 million gallons. Estimated costs for implementation of the new standards range from \$9.5 million in 2008 to \$620 million in 2037. These costs would be offset by estimated annual fuel savings in the amount of \$360 million by 2037.

# EnviroLines reporting and events calendar

## June 2007

National Small Business Environmental Assistance Program conference; June 18–21, 2007; Saint Paul, Minn.; to register go to [www.sbeapconference.com/](http://www.sbeapconference.com/).

## August 2007

2007 Kansas Environmental Conference; Aug. 21–23, 2007; Hutchinson, Kan; to register go to [www.kdheks.gov/sbcs/environment\\_conf.html](http://www.kdheks.gov/sbcs/environment_conf.html).

## December 2007

Second Annual Region 7 Hospital Compliance and Pollution Prevention Workshop; Dec. 5–6, 2007; Kansas City area; watch [www.sbeap.org](http://www.sbeap.org) for more information.

## March 2008

Kansas Air Quality Conference; early March; Topeka, Kan.; watch [www.sbeap.org](http://www.sbeap.org) for more information.

Several monthly Environmental Health and Safety Networks meet regularly around the state; go to [www.sbeap.org/ppi/calendar.asp](http://www.sbeap.org/ppi/calendar.asp).

**Favorite places—Web sites**

**KDHE Bureau of Air and Radiation** – [www.kdheks.gov/bar/index.html](http://www.kdheks.gov/bar/index.html)

**National Small Business Environmental Assistance Program** – [www.smallbiz-enviroweb.org/](http://www.smallbiz-enviroweb.org/)

**Environmental Protection Agency** – [www.epa.gov/](http://www.epa.gov/)

**Air Toxics Web site – MACT information** – [www.epa.gov/ttn/atw/mactfnlalph.html](http://www.epa.gov/ttn/atw/mactfnlalph.html)

**Air Toxics – Area Source MACT rules** – [www.epa.gov/ttn/atw/urban/arearules.html](http://www.epa.gov/ttn/atw/urban/arearules.html)

**Kansas Small Business Environmental Assistance Program** – [www.sbeap.org](http://www.sbeap.org)

## Attend the 2007 Kansas Environmental Conference

This conference will be held Aug. 21–23, 2007, at the Grand Prairie Hotel and Convention Center in Hutchinson.

### Here is what's included—

- regulatory updates
- regulatory training
- new regulations
- new compliance opportunities
- pollution prevention case studies
- vendors

Watch your mailbox for registration information or go to [www.kdheks.gov/sbcs/environment\\_conf.html](http://www.kdheks.gov/sbcs/environment_conf.html).

## MACT compliance dates

HHHHH	Miscellaneous Coating Manufacturing	12/11/2006
MMMM	Miscellaneous Metal Parts and Products Coating	1/2/2007
EEEE	Organic Liquids Distribution	2/3/2007
PPPP	Plastic Parts and Products Surface Coating	4/19/2007
EEEE	Iron and Steel Foundries	4/22/2007
IIII	Auto and Light-Duty Trucks Surface Coating	4/26/2007
ZZZZ	Reciprocating Internal Combustion Engines	6/15/2007
FFFF	Miscellaneous Organic Chemical Production and Processes	5/10/2008 (extended from 11/10/2006)



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