

COMPLIANCE ASSISTANCE PROGRAM UPDATE

SPOKANE COUNTY AIR POLLUTION CONTROL AUTHORITY

An Informative Newsletter Helping Businesses Reduce Air Pollution in Spokane County

Spokane's Air Quality Meets Federal, Clean Air Standards

After decades-long efforts to attain health standards for two federally regulated air pollutants, the U.S. Environmental Protection Agency (EPA) announced in late August its official redesignation of Spokane to attainment status for carbon monoxide and particulate matter.

Carbon monoxide (CO) is an odorless, colorless, poisonous gas which is a byproduct of incomplete combustion. Automobile emissions are the largest contributor to CO pollution.

Particulate Matter measuring 10 microns in diameter or less, (PM₁₀) is primarily composed of dust and smoke particles. Spokane's air monitoring network has consistently measured compliance with clean air standards for these two pollutants for the past eight years.

So, what got us to where we are today? A series of efforts, all of which

combined to bring Spokane into attainment of the standards, including better automobile technology— with the advent of catalytic converters, electronic fuel injection, and oxygen sensors, just to name a few of the technological improvements. Other factors include, but are not limited to, cleaner wood heating devices, reduced use of wood heating, more thorough cleaning of paved

“Reaching attainment is proof to employers that are expanding here and others who are looking to relocate to our region that we are a community that cares about our quality of life.”

Spokane Regional Chamber of Commerce

roads, using cleaner traction sand, and using less of it in favor of liquid deicers.

While it's great to declare success on a couple of fronts, we have more work to do. Spokane's air quality is displaying a slow but steady upward trend in ozone levels. In addition, as we monitor for fine particles (PM_{2.5}), we are recording levels at times that do not yet exceed the federal standard, but fall within the range deemed unhealthy for sensitive groups.

In addition, SCAPCA has embarked on its first air toxics monitoring study. Preliminary results suggest that Spokane's urban air has concentrations of chemicals that may pose a higher health risk to the public than we would like to see.

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Controlling Emissions from Boilers

Boilers are used to supply energy in many industrial and commercial applications, including space heating, domestic hot water production, steam production, electrical cogeneration, and incineration. Fuels used to fire boilers include natural gas, propane, diesel or fuel oil, coal, wood waste, and municipal solid waste.

The majority of boilers in Spokane County burn natural gas as their primary fuel. Some may be equipped to operate on a back-up fuel, the most common of which is fuel oil (#1 or #2). The significant emissions from combustion of these fuels include Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), and Sulfur Oxide (SO_x). In addition, smaller amounts of Particulate Matter (PM), as well as toxic and hazardous air pollutants are emitted.

Air Pollution Controls

Air pollution control techniques for NO_x, CO and SO_x from boilers firing on natural gas and fuel oil are as follows:

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New Federal Air Quality Standards Proposed for Particles

The U.S. Environmental Protection Agency (EPA) is proposing revisions to its national air quality standards for particle pollution.

Particulate matter is a complex mixture of extremely small particles and liquid droplets. Particulate matter can be directly emitted, as in smoke from a fire, or it can form in the atmosphere from reactions of gases such as sulfur dioxide.

EPA is basing its proposal on an extensive review of thousands of scientific studies on the risks associated with exposure to particle pollution. The agency will also conduct an assessment of significant new studies before this rule is finalized.

The proposed revisions will address two categories of particulate matter: fine particles which are particles 2.5 micrometers in diameter and smaller; and “inhalable coarse” particles, which are particles between 2.5 and 10 micrometers (PM_{10-2.5}).

Numerous studies have associated fine particulate matter with a variety of respiratory and cardiovascular problems, ranging from aggravated asthma, to irregular heartbeats, heart attacks, and early death in people with heart or lung disease. EPA has had national air quality standards for fine particles since 1997 and for coarse particles 10 micrometers and smaller (PM₁₀) since 1987. Particle pollution can also contribute to visibility impairment.

The proposed revisions include the significant strengthening — by nearly 50 percent — of EPA’s standards to protect the public from short-term exposure to high levels of fine

“Our nation’s air is the cleanest it has been in over a generation...this proposal begins our steady march toward cleaner air and healthier lives by addressing particle pollution.”

EPA Administrator Stephen L. Johnson

particles. For fine particles, EPA is also taking comment on a range of annual and 24-hour standards, including strengthening these standards as well as retaining the standards at their present levels.

In addition, EPA is proposing a standard for reducing inhalable coarse particles, or PM_{10-2.5}. For these particles, EPA is proposing a 24-hour standard of 70 micrograms per cubic meter. The standard would apply to airborne mixes of coarse particles that come from sources such as high-density traffic on paved roads and industry. The proposed standard would not apply to mixes of coarse particles such as windblown dust and soils and agricultural and mining sources.

The Clean Air Act requires EPA to periodically review air quality standards to ensure they provide adequate health and environmental protection and to update those standards if necessary. EPA last updated the particle standards in 1997.

EPA is taking comment until mid-March. For additional information, visit EPA’s website at: <http://www.epa.gov/air/particles/actions.html>

Proposed Standards... How would the Spokane Area be impacted?

Based on current air pollution data and trends, if the proposed standards take effect, it could put Spokane’s air quality “on the edge” of not meeting a couple of the new or revised standards.

“Basically, it’s one of those ‘wait and see’ deals, because there are so many factors affecting air quality from one year to the next, including weather patterns,” according to Ron Edgar, SCAPCA’s Chief of Technical Services and Acting Director.

Of the proposed revisions, the changes to the 24-hour standards will probably pose more of a challenge to meet, than the annual standards, said Edgar.

“Spokane has been in compliance with existing particulate standards for several years. Now that we’ve been reclassified as an attainment area, we’re in the maintenance mode. Ideally, our current efforts to maintain health standards will be enough to meet future standards. We’ll just have to wait and see.”

Learn more and provide input at SCAPCA’s February 9th Board Meeting

Staff will present additional information at the next Board of Directors meeting, Thursday, February 9, 2006 (regular meeting date of Feb. 2 was postponed to Feb. 9.) Interested individuals are encouraged attend and provide input on the proposed revisions at the work session, which begins at 9:30 a.m., in the lower level, Spokane Public Works Building, W. 1026 Broadway Avenue.

Controlling Emissions from Boilers *Continued from page 1*

Oxides of Nitrogen (NOx)

NOx can be reduced from boilers either by limiting NOx formation during fuel combustion or by later removing NOx from the flue gas.

Low NOx burners and Air Staging limit NOx formation by optimizing fuel and air mixing. Low NOx burners are effective in systems that burn gas or oil, while Air Staging is commonly used during combustion of solid or oil fuels.

Flue Gas Recirculation (FGR) limits NOx formation from natural gas and fuel oil combustion by lowering peak flame temperature, lowering the oxygen concentration in the flame, and reducing the rate of combustion.

Two common systems used to remove NOx from flue gas are selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR). NOx removal is accomplished by spraying a reducing agent, generally ammonia (NH₃) or urea (CO[NH₂]₂) into the flue gas, removing oxygen from the NO and NO₂, and leaving behind nitrogen gas (N₂). The main difference between these systems is SCR systems must use an expensive catalyst bed, designed to be operated between 500° F and 850° F, while SNCR systems utilize high combustion temperatures (between 1400° F and 2000° F) to promote the reaction.

Carbon Monoxide (CO)

Significant CO emissions occur when boilers are operated improperly. Improper burner design, blocked/clogged-flue vent and inefficient combustion (from poor air/fuel mixing or insufficient air) all increase the production of CO. Emissions are minimized by maintaining the burner system and periodically tuning the boiler to minimize incomplete combustion.

Unfortunately, controls that limit NOx formation also reduce combustion efficiency, resulting in higher CO emissions. A delicate balance needs to be achieved in reducing NOx and controlling CO.

Oxides of Sulfur (SOx)

Commercial natural gas generally contains minimal sulfur and therefore controls aren't required. However, fuel oils contain a higher percentage of sulfur. Low sulfur content fuels reduce the amount of sulfur available to react during combustion. Substitution from a higher sulfur content fuel to a lower content sulfur fuel is a key way to reduce SOx emissions.

Notice Of Construction

SCAPCA requires a Notice of Construction (NOC) approval prior to installation and operation of all new or modified boilers, rated at 4 MMBtu/Hr or greater. NOC conditions require testing to demonstrate compliance with emission limits, development and implementation of an operation and maintenance plan, and record keeping and reporting. Boilers over 10 MMBtu/Hr are also subject to federal New Source Performance Standards that specify additional requirements not covered in this article.

Emission testing is required to determine compliance with emission limits specified in the NOC for each fuel type burned in the boiler. Generally, testing is required for NOx and CO. For larger boilers, more rigorous stack testing is required that conforms to EPA reference test methods. For smaller units, results from a portable combustion analyzer may be acceptable. On-going testing may be required as a NOC condition,

to ensure that the boiler is properly operated and maintained.

Operation and Maintenance

An operation and maintenance plan must be developed to ensure that the boiler is operated properly and maintained in good condition. These plans generally:

- ✓ **describe** periodic maintenance activities to be performed
- ✓ **identify** the frequency for performing each maintenance activity
- ✓ **retain** record keeping forms to track maintenance activities
- ✓ **specify** corrective actions to be taken if any operating parameters are outside of normal ranges
- ✓ **perform** periodic combustion analysis to minimize emissions, optimize fuel efficiency, and ensure proper operation.

Recordkeeping and Reporting

Boiler NOCs require that the following records be kept on site:

- ✓ **forms** used to document performance of maintenance activities
- ✓ **copies** of combustion test results
- ✓ **fuel usage records** and **records of sulfur content** for fuel oil fired equipment. Fuel usage must be reported to SCAPCA on an annual basis for performing annual emission estimates.

For older, existing boilers currently registered with SCAPCA (that were not required to obtain a NOC) it's strongly recommended that periodic combustion analysis, tuning, and maintenance be performed. This helps reduce emissions from older boilers and helps improve efficiency, saving money on fuel costs. Questions? Contact Crystal Alford, 477-4727, # 104.

Businesses “Doing Our Share for Clean Air”

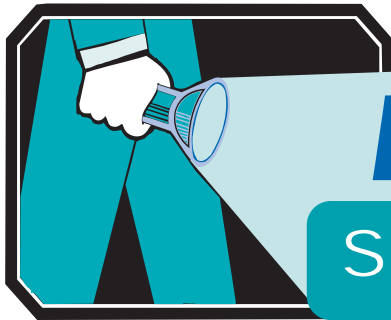
We are pleased to recognize the businesses listed below, that are some of the 600+ businesses in SCAPCA’s registration program. Every two years, businesses in our registration program are provided an application form for the “*Doing Our Share for Clean Air*” recognition program. To be recognized, businesses sign and return the form, indicating that they have met the minimum criteria for recognition. The three criteria are: annual registration forms are complete and sent in on time; annual fees are current; and the facility has not received a Notice of Violation from SCAPCA in the previous three years. After verification by staff that criteria has been met, a window decal is sent to the business to proudly display. For information about the recognition program, please call 477-4727, extension # 115, or visit www.scapca.org/business_recognition.asp

ABCO Wood Recycling LLC
Accra Fab Inc.
ADM Milling Co. Mix Div
Advanced Engines Inc.
Advanced Truck Repair
Agilent Technologies, Inc.
Air Liquide America LP
Airway Heights Speedi Shoppe
Alliance Machine Systems Int’l
AlSCO
American Way Collision Center
Appleway Auto Body Shop
A-Pro Auto Body
Artistic Body & Fender
Avista Corporation
Banner Furnace & Fuel
Bartow Collision Center
Beacon Cleaners & Laundry
Belair Composites
Boston’s Body Shop
Broadway Truck Stops
Burlingame Steel, Inc.
C & C Auto Restoration
Can-Am Body Shop
Cannon Hill Industries Inc.
Cascade Marble & Granite Inc.
Chevron Foodmart I
Cheney Wastewater Facility
City of Spokane, Fleet Svcs
City Service Valcon
City Service Valcon #28
City West Auto Body Center
Columbia Lighting
Columbia Paint & Coatings
Contemporary Fiberglass
Contract Resource Group, Inc.
Cooperative Supply, Inc.
Corbin Park Cleaners Corp.
Cravens Coffee
Crescent Court Building
Cricket Communications
Custom Painting Inc.
D & D Auto Body
Dave’s Auto Body & Glass Inc.
Deaconess Medical Center

Deer Park Cleaners
Designer Decal Inc.
Driscoll One Stop
Ed’s Premier Auto Body
Express Mart
ExxonMobil
Foothills Lincoln/Merc/Mazda
Four Lakes Grocery
Freeborn Tool Co.
Freeman Store
Freeze Furniture & Mfg. Co.
GCR Tire Center
Gobees Auto Body
Grand Blvd. Conoco
H & B Superior Metals, Inc.
Half Moon Feeds, LLC
Harper Shell Inc.
Harry’s Food Mart
Hennessey Valley Funeral Home
Hennessey-Smith Funeral Home
High Trail Coffee
Hollister-Stier Laboratories
Holly Energy Partners
Huttig Building Products
Hy Mark Wood Mfg. Inc.
Impact Service Corporation
J & A Body & Fender, Inc.
JJ’s Auto Collision Inc.
Jim Larkins Chevron
Jones Automotive Engines, Inc.
K & N Electric Motors, Inc.
Kar-Brite, E. Sprague
Kar-Brite, W. Five Mile Rd.
Kasco Reconditioner’s Inc.
Kemiron Northwest, Inc.
Kimmel Athletic Supply
L & M Truck Sales Inc.
Land O’ Lakes “Purina Mills”
Leland Trailer & Equipment Co
Liberty Lake Chevron
Litho Art Printers, Inc.
Lloyd Industries
MAACO Auto Paint/Body
Market Mini Mart

Marty Fitzgerald
Metalite Industries Inc.
Miller’s One Stop
Monroe Sure Save
Moon Rock Company
National Music Service
Nelson’s Autobody
New Castings dba Travis
Pattern & Foundry
Nine Mile Store
Northtown Chevron, Inc.
Northtown Mall
NW Chrome and Hydraulics
Northwest Food Mart
Northwest Pea & Bean Co.
Northwest Sandblast & Paint
One Stop Convenience
P H & J Incorporated
P. D. Q. #10
Pathology Assoc. Medical Labs
Papé Material Handling
Pioneer Union Service
Proto Technologies, Inc.
Pyrotek Inc.
Quintex Corporation
Qwest - Riverside Co.
Qwest Corporation
R & B Systems
Recon
Right On Color Systems
Riplinger Funeral Home
Riverside Park Water
Reclamation Facility
Riverside Service
R-N-R RV
Rocket Engineering Corp.
Rockford Minimart
Roi’s Furniture Touch Up/Repair
Ross Printing Company
RPark, Inc. dba/S&B Mart
Sacred Heart Medical Center
Scollards Cleaners
Seubert Excavators, Inc.
Snow Peak Forest Products, Inc.
Spokane Co. Facilities Dept

Spokane Co Reg’l Animal Care
Spokane Fire Dept Commun.
Spokane Galvanizing
Spokane Public Library
Spokanite Cleaners, Inc.
Sprint Communications
Star Steel
Sterling International, Inc.
Sunset Food Mart
Super C Store
Super Gas & Grocery
Super Qwik Stop
Swansons Auto Body
Telect, Inc.
The Door & Millwork Co.
The Gas Company
The Woodman
Thornhill Valley Funeral Home
Thunderbird Lubrications
Toby’s Body & Fender
Towner’s Conoco
Transformer Technologies
Tresko Monument Inc.
Triumph Composite Systems
United Coatings
Valley Hospital & Med. Center
VA Medical Center
Village Square Dry Cleaning
Wagstaff Inc.
Washington Air Guard 256
Watson Paint & Body Works
Wear-Tek
West Plains Conoco
Western Concrete Products
Western States Operating Engrs
Wilcox Farms
WingFoot Com Tire Systems
Xllent Gas & Grocery



Business Spotlight

Spokane Transit Authority

For nearly twenty years, the Spokane Transit Authority (STA) has operated a surface coating operation at 1229 W. Boone Avenue. Although a relatively small source of emissions, STA is one of over 200 surface coating operations located throughout Spokane County which are registered with and inspected by SCAPCA.

The combined emissions from all of these surface coating operations total over 700 tons of pollutants annually. The main air pollutants are:

- * Volatile Organic Compounds (VOCs)—a pollutant that contributes to the formation of ground-level ozone;
- * Air Toxics; and
- * Particulate Matter (PM).

STA is an example of a business that has helped reduce air emissions in Spokane County by maintaining equipment, practicing good housekeeping, properly training employees, and utilizing improved control technology.

Since 1986, SCAPCA inspectors have conducted on-site visits of STA's facility periodically to de-

termine compliance with local surface coating regulations and the SCAPCA approved Notice of Construction (permit).

STA has consistently maintained compliance with SCAPCA regulations over the years. Doing so has required periodic upgrades to their facility, including:

- * Raising the height of its exhaust stacks in 1998, and
- * Replacing stack rain guards with an approved stack cap design in 2000.

Below are examples of ways in which STA successfully complies with surface coating regulations:



Paints & Solvents Waste container with closed funnel



Vertical exhaust stack at least 6' above penetration point of roof with approved stack caps.



Storing/keeping all solvent containing materials in closed containers



Use of SCAPCA approved hvlp application methods to reduce VOC emissions.

SCAPCA wishes to acknowledge STA for consistently doing their part to reduce overall pollutant emissions in Spokane County.

For more information on surface coating rules, and for complete SCAPCA Regulations and additional information, please visit SCAPCA's web site at www.scapca.org, or call 477-4727.

Air · Quality · Calendar

UPDATE is published quarterly by Spokane County Air Pollution Control Authority (SCAPCA) as part of its Compliance Assistance Program. Comments, suggestions and story ideas may be directed to Update Editor Lisa Woodard.

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SCAPCA's Board of Directors conduct their monthly meeting on the first Thursday of each month, unless otherwise publicized. Meeting begin at 9:30 a.m., in the lower level Commissioners Hearing Room, Spokane County Public Works Building, 1026 W. Broadway Avenue. Agendas and minutes are available at www.scapca.org. For information: 477-4727.

Feb. 9: Meeting moved from Feb. 2 to Feb. 9. SCAPCA Board of Directors monthly board meeting (see location info above)

Mar. 9: Meeting moved from Mar. 2 to Mar. 9. SCAPCA Board of Directors monthly board meeting (see location info above)

Apr. 6: Meeting back to regular schedule of first Thursday of each month.

Throughout the year, SCAPCA provides compliance assistance support materials on its website at www.scapca.org. Just click on "Business Information" and then "Compliance Assistance Materials and Programs." If you aren't internet active, all of the materials are available in hard copy at our offices.

Spokane County Air Pollution Control Authority 2006 Board of Directors:

Matthew Pederson, Chair, Small Cities & Towns Representative
Michele Pope, Vice Chair, Member-at-Large
Vacant, City of Spokane Representative
Phillip Harris, Spokane County Commissioner
Todd Mielke, Spokane County Commissioner

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UPDATE

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working together for clean air