

A Primer: Notice of Construction Review Process

Spokane Clean Air receives 40-50 Notices of Construction (NOCs) permit applications each year. These NOCs are a one-time requirement for new and modified air contaminant sources.

The applications go through a thorough review process prior to the approval of a Notice of Construction permit. Here's how the process works:

Application Completeness

Once a NOC application, a SEPA checklist (if required), and appropriate filing fee is submitted to Spokane Clean Air, the Agency's engineering staff reviews the application for completeness, including but not limited to, the following:

- ◆ General information (owner/applicant contact information.)
- ◆ Installation information.
- ◆ Process equipment information, including equipment specifications and data on expected emissions, which may include source test data on similar equipment.
- ◆ Air pollution control information, including equipment specifications and control efficiency.
- ◆ Exhaust point data.
- ◆ Building dimensions (for modeling) or modeling information, if available.
- ◆ Operational information for equipment installed/modified.
- ◆ Best Available Control Technology (BACT) analysis, if required.

- ◆ Site location map/information and facility layout.
- ◆ Process flow description.
- ◆ SEPA checklist/DNS (Determination of Non-significance)
- ◆ Material Safety Data Sheets (MSDS) if applicable.
- ◆ Applicant signature and date on application.

The engineering staff makes a determination of whether the application is complete, and provides written notification to the applicant on the completeness determination.

Application Review

Upon receipt of a complete application, the reviewing engineer performs an analysis of the project/proposal. This may include some or all of the following:

- ◆ Determine applicable regulations (federal, state, and local).
- ◆ Perform or review emissions calculations.
- ◆ Perform or review air dispersion computer modeling.
- ◆ Determine compliance with applicable federal, state, and local laws and regulations, including BACT, RACT, etc.
- ◆ Determine adequacy of air pollution control equipment.
- ◆ Determine approval conditions.
- ◆ Review environmental checklist/DNS.
- ◆ Draft NOC review document.

- ◆ Draft preliminary determination and approval conditions

The review documents and draft conditions of approval (generally in the form of a review memo) are circulated to the staff professional engineer, Chief of Technical Services, and the Agency Director for review and/or comment. Upon their review and signatures, draft conditions of approval are sent to the applicant. Depending on the proposal, a 15-day or 30-day public comment period may be held on the preliminary determination.

Final Determination

At the end of the comment period, a final determination is made on whether to approve the proposal/project. Comments received are reviewed and may be incorporated into the final conditions of approval. The applicant is notified of the final determination. If the determination is to approve the proposal/project, the application and conditions of approval are signed, and then sent to the applicant.

For more information, contact Joe Southwell, Air Quality Engineer, 477-4727, ext. # 103. ■

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Beyond Compliance: Boilers

Editor's Note: This is the third in a series of articles featuring ways in which businesses can go "beyond compliance" by implementing voluntary measures. For more information, call Margee Chambers, P2 Specialist, at 477-4727, ext. # 114.

Boiler emissions and clean air requirements were featured in our Fall/Winter 2007 issue. This article showcases a few steps that go beyond compliance to ensure it is operating at peak efficiency. Doing so can save money on fuel costs and reduce emissions. There are multiple ways to successfully implement pollution prevention applications in boiler, furnace and/or kiln operations. Below you will find a few examples of ways to improve energy efficiency, reduce air emissions and annual operating costs by \$1,000 - \$60,000.

Combustion Efficiency:

According to the Department of Energy, the percent of fuel efficiency improvement with testing and tuning boiler combustion varies from 2-15%. Spokane Clean Air recommends that businesses with boilers, furnaces or kilns keep their equipment well-tuned, regularly maintained, and perform a combustion analysis test each year.

Keeping a 400,000 British Thermal Units (BTU)/hour boiler (running 24 hours a day, 365 days/year), tuned with a \$1,500 combustion analyzer can save up to \$897-\$6,709 in reduced natural gas costs annually. That could pay for the cost of the combustion analyzer in the first year. (Example: the cost of \$5.12/400,000 BTUs of natural gas, for annual total of \$44,728.32/year.)

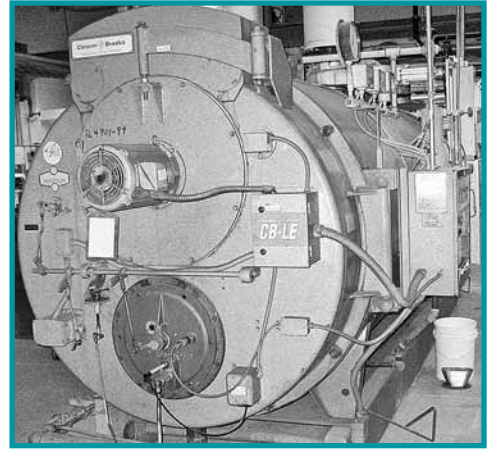
Boiler Blowdown:

The boiler blowdown process involves the periodic or continuous removal of water from a boiler to remove accumulated dissolved solids and/or sludges. During the process, water is discharged from the boiler to avoid the negative impacts of dissolved solids or impurities on boiler efficiency and maintenance. However, boiler blowdown wastes energy because the blown down liquid is at about the same temperature as the steam produced. Much of this heat can be recovered by routing the blown down liquid through a heat exchanger that preheats the boiler's makeup water.

A boiler blowdown heat recovery project at the Augusta Newsprint Company mill in Georgia will pre-heat the boiler feed water by 17°F to save almost \$31,000 in annual fuel costs. The calculations are based on a normal feed water flow of 220 gallons per minute, a temperature differential of 17°F, and a fuel cost of \$2.33 per 1,000 pounds of steam. The total cost of the project is \$15,000; the payback period is about six months. Nearly 14,000 million BTUs in annual energy savings are expected. Success story courtesy of U.S. Dept. of Energy.

Upgrade & Modernize:

The Rozell Heating Plant at Eastern Washington University upgraded and modernized the boilers that are used to provide heat and hot water to the campus. A new 99.7 MMBtu/hr boiler was installed. In addition, new burners were installed in the four existing boilers, which were new in the 1960s & 1970s. The new burners allow the existing boil-



This natural-gas fired boiler at Whitworth University produces about 8 MMBTU/Hr.

ers to burn fuel oil #2 as a back up fuel, a cleaner burning fuel than fuel oil #6. The five boilers all run on natural gas. Boilers emit products of combustion, primarily oxides of nitrogen and carbon monoxide (CO). To minimize emissions, the new boiler was equipped with a low NOx burner and flue gas recirculation system, resulting in lower NOx emission concentrations from the new boiler when burning natural gas. The use of a low NOx burner with staged combustion partially delays the combustion process, which results in a cooler flame and less NOx formation. The flue gas recirculation system reduces combustion temperatures and dilutes the concentration of oxygen in the flame by recirculating a portion of the exhaust flue gases back into the flame, again reducing NOx emissions.

The NOx emissions from the new boiler are 75% lower than expected emissions from the older boilers. The CO emissions are 56% lower. Resulting in NOx emissions reductions of 15 tons and CO emissions reductions of 9 tons.

These are just a few examples of how a business can go "beyond compliance" by adopting combustion efficiency programs. Doing so can have a positive impact on our environment and on your bottom line! ■

Regulation & Program Update

Revised Asbestos Control Standards in Spokane County Effective October 7, 2008

In September, after public comment periods and hearings, the Spokane Clean Air's Board of Directors approved amendments to the Agency's Asbestos Control Standards, Regulation I, Article IX and Section 10.09.

Spokane Clean Air administers an asbestos program in Spokane County. Whether at home or work, if you will be involved in any renovation project or demolition project, you need to be familiar with the rules.

Examples of Renovation

- ◆ Remodeling a residence or other building, inside or out;
- ◆ Replacing, repairing, or disturbing flooring, wall, ceiling, siding or roofing materials;
- ◆ Replacing, repairing, or disturbing heating, plumbing, or electrical systems; and
- ◆ Altering a structure or structural component (e.g., wall, pipe, equipment, etc.) any way, other than demolition.

Examples of Demolition

- ◆ Wrecking, leveling or dismantling a structure, making it permanently uninhabitable or unusable in part or whole;
- ◆ Wrecking or taking out any load-supporting structural member of a facility;
- ◆ Using a structure for fire training;
- ◆ Moving a facility to a different location.

Structure means something built or constructed in part or whole and includes, but is not limited to the following: commercial buildings, houses, garages, mobile homes, pole-

buildings, barns, canopies, lean-tos, foundations, equipment (e.g., boiler, ducting, etc.), and other parts and miscellaneous components.

Facility means any institutional, commercial, public, industrial or residential structure, installation or building with more than four dwelling units under one roof. It includes structures that are part of urban renewal or highway construction projects.

Why Regulate Renovation and Demolition Projects?

Disturbing asbestos is regulated because asbestos is a known human carcinogen. When asbestos-containing materials are disturbed, microscopic fibers are released to the air. When inhaled, these fibers travel deep into the lungs. Medical research shows that exposure to asbestos fibers can cause lung cancer, mesothelioma, or asbestosis up to 30 years after inhalation.

After 110 years, asbestos mining ceased in the United States in 2002 (U.S. Department of the Interior and U.S. Geologic Survey, Worldwide Asbestos Supply and Consumption Trends from 1900 through 2003, Circular 1298, 2006). In 2007, the U.S. relied exclusively on imports, mostly from Canada, to meet manufacturing needs. That same year, roofing products accounted for 41% of U.S. consumption, coating and compounds (much of it probably used in roofing products) accounted for 35%, and unknown or unspecified uses accounted for 24% of U.S. consumption (USGS, DOI, 2007 Minerals Yearbook, August 2008).

Because of its extensive use, asbestos can be found in more than 3,000

different construction materials and manufactured products, including acoustical ceiling texture "popcorn", roofing paper and shingles, built-up roofing, cement board, furnace and ducting tape/paper/insulation, mudded pipe elbows, joint compound/wallboard, pipe insulation, stucco, sub-floor slip sheet, textured paints/coatings, vinyl floor tile/mastic, vinyl sheet flooring/mastic or "linoleum", and many others.

Asbestos publications and forms are available at www.spokanecleanair.org/asbestos.asp. Asbestos regulations in their entirety are available on-line or call 477-4727. ■

Ask Spokane Clean Air

Q What is an Annual Registration Form?

A The annual registration form is used to verify site information and calculate pollutant emissions from businesses registered with Spokane Clean Air. It is important that the annual registration form be filled out completely, signed, and returned by the deadline, noted at the end of each form. Information often missing on returned forms includes:

- ✓ **New products** or an attached MSDS for those new products reported;
- ✓ **Report usage** in units directed (e.g. "gallons" of paint; "therms" of natural gas; "hours" of operation; etc.
- ✓ **Signature** of the responsible official.

For more information about the annual registration process, call 477-4727.

Good Housekeeping 101

Implementing housekeeping practices should be a priority at your worksite. Good practices inevitably result in reduced emissions and a cleaner, safer workplace. Here are key practices to follow that will have many an inspector smile while visiting your facility:

❖ Handle solvent-containing materials properly.

Examples include keeping all solvent containers tightly sealed, storing solvent rags/wastes in tightly-sealed metal containers, and cleaning up spills immediately.

❖ Keep equipment in good operating condition.

To capture emissions effectively, equipment must be maintained in good working order. Follow the manufacturer's recommended preventative maintenance schedules to ensure your equipment maintains its high level of control efficiency.

❖ Regularly train employees.

Keeping your employees trained on compliance issues and housekeeping practices is critical.

❖ Maintain accurate records.

Examples include: document product usage and purchases, keep MSDS (Materials Safety Data Sheets) for all production materials on-site, record all equipment maintenance activities, save waste disposal manifests, and keep records on-site and available for inspection.

To schedule a compliance assistance visit for your facility, contact Margee Chambers, Pollution Prevention Specialist, 477-4727, ext. # 114.

Please visit our website at www.spokanecleanair.org, and check out the Business Information section. There are a variety of compliance assistance materials available.

It All Adds Up to Cleaner Air. ■

Meet our new Air Quality Specialists

Two new air quality specialists joined our team over the summer, while we said goodbye to **Brenda Smits**, a 9-year agency employee, who accepted a position with the Washington State Department of Ecology, Eastern Region Office.

Deanna Clarkson holds a Master's Degree in Geology, Environmental Emphasis from EWU. She previously worked in water quality projects for Conservation Districts in the Columbia Basin, and is pleased to be back in the environmental field after years as an insurance agent.

Mike Taylor - A recent transplant from Klamath Falls, Oregon, earned a Bachelor's Degree in Environmental Science from Southern Oregon University. He spent the last 8 years doing wildlife work, and the last 2 years converting ranch land into game management units.

Reduce Vehicle Idling At Your Workplace

Spokane Clean Air is implementing a "No-Idle Zone" program at elementary and middle schools in Spokane County. In addition, some cities/towns in the county are supporting the "reduce unnecessary idling" message in their communities, including posting No Idle Zone signs in various locations.

So, why should your organization consider adopting a No Idle Zone policy at your workplace? Here are a few reasons:

- ✓ Vehicle fleets: Overall fuel savings, longer engine life, longer time between oil/filter changes
- ✓ Improved air quality and less noise making it a healthier work environment

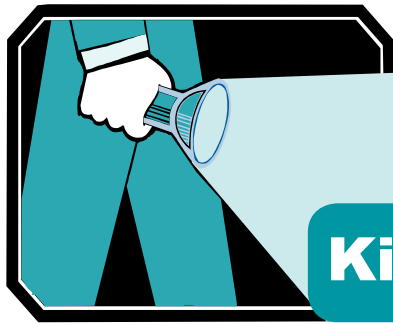
To get on-board, contact us to order your "No-Idle Zone" signs today. The first sign is free, after that they are \$25.

Place your sign(s) in prominent idling locations, such as fleet yards, loading docks, etc.

Even if you aren't interested in signs, it is still a good idea to talk with your employees and fleet service providers during staff meetings or training sessions about turning engines off instead of idling.

To get a free "No-Idle Zone" sign, we consider the proposed site for effectiveness/impact and your commitment to post and maintain the sign. Our agency will follow up to assess your results. To request sign(s), e-mail lwoodard@spokanecleanair.org, or call 477-4727, ext. # 115. ■





Business Spotlight

Kim Hotstart Manufacturing Co

Earlier this year, the U.S. Environmental Protection Agency (EPA) finalized a program that will dramatically reduce emissions from diesel locomotives of all types—line-haul, switch, and passenger rail. The program sets more stringent exhaust emissions standards and idle reduction requirements for new and remanufactured locomotives, aiming to cut particulate matter emissions by 90 percent and nitrogen oxide emissions by 80 percent when fully implemented.

Because of the difficulty in starting up cold engines, locomotives often are left idling for hours or days. Beyond wasting fuel, idling also causes excessive noise and engine wear.

Overall, idling trucks and locomotives consume 1.2 billion gallons of diesel fuel and produce more than 200,000 tons of nitrogen oxides each year, according to EPA estimates. Yet due to the difficulty in starting up cold diesel engines, shutting locomotives off in cold weather has historically been avoided as much as possible.

Local Company's Innovation Utilized Around the Globe

Spokane-based Kim Hotstart Manufacturing Company, is helping railways around the globe meet and even surpass these new regulations, offering a variety of engine idling reduction solutions. Each day, more locomotives are outfitted with engine warmers, reducing idling and keeping the environment cleaner.

Idle reduction technology has actually been around since 1942 when Kim Hotstart started business with the first patent for an engine coolant heater.

“The first engine heaters were used on trucks and buses, which we still do today,” according to Terry Judge, Director of Sales & Marketing for Kim Hotstart.

Besides trucks and buses, the company makes engine heaters for generators, gas pipeline compressors, construction and mining machinery, boats, ships and locomotives. The heaters are typically powered by electricity.

In a locomotive application, the crew brings the locomotive back home at the end of the day, shuts down the engine and plugs in the heating system to shore power. The system keeps the engine temperature between 100°F and 120°F even over long, cold nights or weekends. When the crew comes back to work, they unplug the system and easily restart the engine.

The company has been selling this type of locomotive system since the 1960s. However, there are many cases where it is not possible or convenient to plug into electric power. So, in 1996, the company began developing a stand-alone, engine-based system that operated off the locomotive's diesel fuel supply and did not have to be plugged-in.

“Now, the crew can shutdown the locomotive anytime, anywhere and the system automatically kicks on and maintains engine temperature until the locomotive is restarted,” added Judge.



Kim Hotstart's technology at work at a Vancouver, Washington railway.

The Hotstart diesel driven heaters, or APUs as they are sometimes called, have been purchased by railroads across the country from mammoth BNSF to tiny Eastern Washington Gateway Railway, which is located in Spokane County.

The Hotstart Senior diesel driven heater costs \$33,000 and the Junior system costs \$18,000. The electric systems run \$3,000-\$14,000. When the railroad considers how much idling they do, how much fuel is consumed by the locomotive when idling (typically 3-11 gallons per hour) and the cost of diesel fuel, they figure a very fast payback and the payback for our community is reduced pollution.

For more information about Kim HOTSTART, visit <http://www.kimhotstart.com>. ■

UPDATE is published by the Spokane Regional Clean Air Agency (Spokane Clean Air) as part of its Compliance Assistance Program. Comments, suggestions and article ideas may be directed to Update Editor Lisa Woodard.



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To view this newsletter online, go to Spokane Clean Air's web site, and click the "Business Info" button on left navigation bar.

To add or remove names to the **UPDATE** mailing list, call 477-4727.

Air . Quality . Calendar

Nov. 6 Board of Directors meeting. 9 a.m., lower level hearing room, Spokane County Public Works Bldg, 1026 W. Broadway Ave. A Public Hearing on Proposed Revisions to the Outdoor Burning Regulation will be held at this meeting. The meeting agenda is available online at www.spokanecleanair.org or call 477-4727.

Dec. 4 Board meeting: time/location above, unless otherwise publicized.

MOVING:

We plan to relocate to our new building, at 3104 E. Augusta (northwest corner of Mission and Greene) sometime in December. Check our web site for updates!

Spokane Regional Clean Air Agency 2008 Board of Directors:

Jeff Corkill, City of Spokane Representative, Chair
Rose Dempsey, City of Spokane Valley
Edward "Chuck" Crockett, Small Cities & Towns Representative
Melissa Ahern, Member-at-Large
Bonnie Mager, Spokane County Commissioner

Preserve, enhance and protect the quality of Spokane County's air resources for the benefit of current and future generations.

Spokane Regional Clean Air Agency's Mission

UPDATE

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