

From the GM Lower Boiler Emissions Limits: What they mean for you



Gordon Judd
General Manager

Many owners of buildings with gas-fired boilers are gearing up for another round of equipment retrofit and/or replacement to comply with the Bay Area Air Quality Management District's (BAAQMD) latest emissions regulations. Since stricter new emissions limits have been stipulated—and the cost of compliance may be quite significant for some building owners—it's worth reviewing what the updated regulations entail. (NRG San Francisco customers can rest easy because they get their steam from us!)

Three years ago, the BAAQMD lowered the limits set forth in Regulation 9 (Inorganic Gaseous Pollutants) Rule 7, which controls the emissions of nitrogen oxides (NOx) and carbon monoxide from industrial, institutional and commercial boilers, steam generators and process heaters. These new levels will be phased in from 2011 through 2014 according to a compliance schedule. (Download our summer 2010 newsletter for details: tinyurl.com/NRGbaaqmd)

Regulation 9 Rule 7, which many owners remember from its original adoption in the 1990s, necessitated retrofitting many boilers with the first generation of low-NOx burners. The most recent update will require even more extensive upgrades.

In addition to lowering NOx limits, the revised regulations also significantly lower the threshold for the boiler sizes affected. Previously, only boilers with a rated heat input of 10 million Btu/hr or more were included in the requirements. Now the regulation extends to boilers with rated heat input as low as 2 million Btu/hr. To put that in perspective, the 10-million Btu/hr limit affected only the owners of large boilers like those at the city's largest hotels and office buildings as well as



NRG Energy Center San Francisco. With the new threshold, however, owners of some of the smaller and mid-sized hotels will be affected too.

Some previous retrofits cost building owners hundreds of thousands of dollars to meet the requirements—usually by replacing a boiler's burner. The downside was that those retrofits did not necessarily make their boilers more efficient to operate—in some cases, it made them less efficient—so there was no return on investment. Similarly, the latest regulations are expected to require even greater capital investment in either new burners on smaller boilers or, in the case of larger boilers, installation of selective catalytic reduction systems, essentially catalytic converters for boilers. As in the past, there is no ROI for these projects, and in this economy, it can be very difficult to get capital to upgrade boilers that won't show an ROI.

Although NRG San Francisco is subject to the same regulations of Regulation 9 Rule 7 as other boiler operators, we have an advantage since we already operate well within BAAQMD compliance levels. Our customers do not have to worry about boiler upgrades in their buildings, as they no longer operate boilers.

Building owners and managers who are still running their own boilers can avoid the expense and headaches of compliance with the new regulations by taking all or even part of their steam from NRG San Francisco. If you or someone you know is faced with a potentially expensive boiler retrofit to meet the Regulation 9 Rule 7 requirements, let them know we offer an alternative. We'd be happy to talk about BAAQMD compliance and the other advantages of NRG San Francisco's reliable, environmentally responsible district steam service. ↪

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100 PINE STREET STANDS TALL, GREEN IN FINANCIAL DISTRICT

The 33-story building at 100 Pine Street in San Francisco was built in 1972 as the headquarters of Continental Insurance Company and became one of the city's early modern skyscrapers. It was designed by the architectural firm of Hertzka & Knowles as a showpiece office property in the heart of the city's financial district. More recently, the 402,000-square-foot steel, concrete and glass structure, an NRG Energy Center San Francisco customer from the start, earned acclaim for other distinctions—of the "green" variety.

Three years ago, 100 Pine Street became the first multi-tenant office building in California to earn LEED® (Leadership in Energy and Environmental Design) for Existing Buildings certification from the U.S. Green Building Council. Completing the upgrades required to become LEED-certified was a major feat for a building designed before "green" standards were in place.

The sustainable measures implemented at 100 Pine included overhauling the HVAC system; adding digital controls for better energy efficiency; reducing water usage by approximately 50 percent with installation of low-flow toilets; upgrading HVAC; installing lighting with motion sensors; switching to ecologically preferred cleaning products; landscaping with native perennials; and continuing the building's award-winning recycling program. (The San Francisco Building Owners and Managers Association named 100 Pine Street Commercial Recycler of the Year numerous times in the past decade.)

Before 100 Pine obtained LEED certification, the building had received the prestigious ENERGY STAR label from the U.S. Environmental Protection Agency. The ENERGY STAR, which is presented to buildings that demonstrate an energy performance rating better than at least 75 percent of similar buildings

nationwide, was awarded to 100 Pine for the first time in 2002. 100 Pine continues to improve its energy efficiency and has earned the label every year since, most recently achieving 89 out of 100 points in 2010.

CB Richard Ellis Inc., which manages the building; LaSalle Investment Management, which leases the building; and the building's owner, 100 Pine Street Investment Group LLC, continue to institute innovative programs to benefit the building's many financial, insurance and real estate tenants, including The Bank of New York Mellon Corp. and Republic Indemnity Company of America.

A multimillion-dollar elevator modernization project, which involved converting to solid-state circuitry and activating so-called destination dispatch to provide passengers with the shortest-possible wait times, was completed last year. The new system also includes a self-service kiosk where tenants and preregistered visitors swipe an ID card to be granted permission to access a specific floor. "100 Pine is the only building in the nation with such a system," says Ernie Horciza, Chief Engineer at 100 Pine Street. He added, "Besides adding security and convenience, the new system actually uses the elevator's momentum to generate electricity, which is fed back to the grid, another efficiency measure."

Other recent efficiency upgrades include installation of a variable-frequency drive and variable-air-volume boxes, which reduced the building's steam demand. 100 Pine Street uses steam for space heating, domestic hot water and running its vintage 1972 York absorption chiller (there's also an electric centrifugal chiller on site).

According to Horciza, who is profiled on page 2, the building has made such great progress in sustainability and efficiency that it may now qualify for the Gold level of LEED certification. NRG San Francisco congratulates 100 Pine Street on its environmental accomplishments—proof that being green is smart business and a goal within reach of existing buildings. ↪



100 Pine Street is conveniently located with easy access to public transportation plus daily and monthly parking for tenants and guests. It's also a Zipcar location (www.zipcar.com) that brings car sharing and cost savings to the city's core.



Featured in the *San Francisco Chronicle* in 2009, the public plaza at 100 Pine Street is tucked above a parking ramp entrance and framed by moss and ferns that drape sloped walls of pebbled masonry. A water fountain spills from smooth shards of recycled pottery and glass while a metal sculpture, hidden here from view, adds a splash of color.

Envisioning Possibilities at 100 Pine

In 1991, Ernie Horciza was right out of college and starting a new job—as a Utility Engineer at 100 Pine Street. Twenty years later, Horciza has risen through the ranks and is now Chief Engineer at the same property, considered one of the city's prime pieces of real estate.

In his early role as Utility Engineer, Horciza was responsible for such jobs as changing light bulbs and maintaining 100 Pine Street's mechanical space. After a four-year apprenticeship, he became a Journeyman Stationary Engineer; in 2005, he was named to his current post.

Today he oversees a staff of four and continues to find his work at the building to be creative and fulfilling. What he enjoys most is that he has a hand in shaping the skyscraper's future. "As Chief Engineer, I help identify and evaluate projects that can enhance the building's performance and provide an even

better tenant experience and a good return for the owners. It's great to always be looking at the latest technologies and thinking ahead to what's possible at 100 Pine. My job lets me help create the future."

It's no surprise that Horciza has dedicated two decades of his career to 100 Pine Street in the heart of San Francisco, given his ties to the Bay Area. He was born in San Francisco, raised in Petaluma and since then has lived either in the city or in the East Bay, where he and his wife currently reside. "San Francisco is a great place to live and work," he explains. "I enjoy the fast pace and vibe of downtown. The city is also in a great location, with easy access to wine country to the north and snow to the east. I enjoy travel outside the country too. My dad was born in Prague, Czech Republic, so I've been there a number of times, plus to other European countries, New Zealand and Canada. I've had a great opportunity to see the world, yet I still appreciate coming home."



Courtesy 100 Pine Street.

Although Ernie Horciza, Chief Engineer at 100 Pine Street, now celebrates his large extended family in Europe, all still remember the scars of World War II. The events of war separated his grandparents—one in West Germany and the other in what was then Czechoslovakia. Unable to reunite given Communist rule, they divorced and remarried others. The families and their cultural heritages run deep and have welcomed the freedom of the past decades.

Safety Isn't Expensive: It's priceless.



Safety is the cornerstone of operations at NRG Energy Center San Francisco, as it is at all of NRG's facilities and operations throughout the country. Our management and staff have worked diligently as a team to build and maintain a "safety culture"—an environment where safety is a shared core value. This effort has paid off, as the company has reported zero recordable injuries (i.e., a statistic measured by the Occupational Safety and Health Administration) since 2008.

Establishing a culture of workplace safety means that everyone in our organization makes safety an inseparable component of his or her decisions and activities. This is reinforced in numerous ways. Regular monthly safety training sessions are conducted to keep everyone up to speed on various safety procedures and topics.

Before any task is performed, a job safety analysis is performed and one important question asked: **What's the worst that could happen (or "W.W.C.H.")?** This safety slogan is on each employee's hard hat as a reminder to ponder—and plan to prevent—the unthinkable. Employees are provided with all the tools and personal protective equipment they need. In addition, stringent "lockout-tagout" procedures are in place to ensure the safety of employees working with or near electric power sources.



All employee hard hats bear the abbreviation "W.W.C.H.," a shorthand reminder to think about "What's the worst that could happen?"—and then take measures to prevent it.

The professionals at NRG Energy Center San Francisco are not only conscientious about safety in the plant and in the field but also off the job. Each year, our Safety Committee organizes a special event where employees are joined by friends and families to deepen their safety understanding. Past Family/Friends Day programs have focused on earthquake preparedness and traffic and pedestrian safety, for example.

At NRG San Francisco, safety awareness is "contagious," spread from the workplace to our homes and the wider community. We remain committed to investing time and resources to further our safety culture, because we believe safety isn't expensive: It's priceless.

welcome!



NRG San Francisco Welcomes Dwain Botelho

Dwain Botelho, the new Director of Sales and Marketing for NRG Energy Center San Francisco, joined the company in May. With more than 20 years of sales experience in a variety of markets and industries, Botelho says what he likes most about his work is meeting customers' needs, having a positive impact on their businesses and, in the process, forming long-term customer partnerships. In his new role, Botelho will have many opportunities to continue doing so as he expands NRG San Francisco's customer base downtown.

A Bay Area native, Botelho has held regional sales, sales management and other positions selling to Fortune 500 companies in the renewable energy, contract manufacturing, aerospace, medical, semiconductor and data storage fields. Prior to coming on board at NRG San Francisco, he served as regional sales manager for an energy company that provided custom-engineered materials and services to U.S. photovoltaic manufacturers. Earlier, Botelho managed a local business unit where he implemented ISO 9001 quality management standards.

Botelho is proud of the "win-win" relationships he has forged along his career path, as he provided customers with innovative solutions and helped them grow their businesses. "The interesting result is seeing customers also become personal friends," he adds. "That is truly rewarding."

Although he has enjoyed traveling around the U.S., wherever his past sales positions have taken him, Botelho has always lived in northern California. "The diversity of industries, recreational activities, the mild climate, scenery and culture have all kept me rooted here," he explains. He also acknowledges another reason for his loyalty to the area: "I have been a longtime San Francisco Giants fan, and it was encouraging to see them win the World Series last year!"

At home in our community and with his vast industry experience, Vincent is an exceptional addition to the NRG family. We're pleased to have him aboard!

Giving Back to Our Community: Employees volunteer at St. Anthony's



Lisa Smethurst
Account Manager



Employees of NRG Energy Inc. from across the country rolled up their sleeves in June for NRG Global Giving Day, volunteering their time to help various charitable organizations in their communities. In San Francisco, employees of NRG Energy Center volunteered at St. Anthony Foundation, whose mission is to meet the needs of the city's homeless and disadvantaged by providing daily hot meals, clothing and temporary shelter.

Our NRG San Francisco team and volunteers from other organizations joined forces to serve more than 3,400 meals in the St. Anthony Dining Room, where more than one-third of the guests receive their only food of the day. Team members carried and distributed food trays, served as wait staff, and cleaned and prepped tables for each group of diners. As we learned, the dining room is a high-energy, high-traffic place, and one of the Bay Area's largest community meal programs, yet it maintains a homey atmosphere.

The efforts of our 15 volunteers at St. Anthony's were among NRG Global Giving Day projects that helped more than 30 organizations in 11 states this year.

Elsewhere around the U.S., NRG employees were involved in packing food boxes and preparing meals at a food bank, hosting a picnic for homebound seniors, beautifying the grounds of a local park, enhancing the facilities at an animal shelter, doing maintenance work at a Boys & Girls Club, and more.

NRG Global Giving Day, now in its fourth year, is just one of many employee-led efforts that are part of the Corporation's global giving initiative. Over the past few years, NRG Energy Inc. has donated millions to nonprofit organizations to address community needs. Almost \$350,000 was raised in the first half of 2011 alone for earthquake and flooding victims in Japan and Australia.

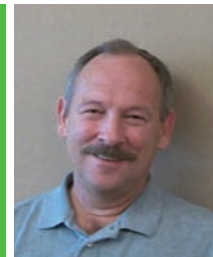
Here in San Francisco, volunteering at St. Anthony's provided the NRG Energy Center team with a sense of accomplishment while keeping in touch with the community. It was fulfilling not only to serve meals to those who need them but also to embody the company's principles: personal development, communication skills, teamwork and increased community awareness.



Preparing to serve food at St. Anthony Dining Room as part of the NRG San Francisco team were (left to right) Nick Joseph, Bryan Vasey and Gordon Judd.

Meet Ted Vincent, Plant Manager

welcome!



NRG Energy Center San Francisco has a new Plant Manager: Ted Vincent, PE, Bay Area native and energy industry veteran. From designing cogeneration systems to supervising environmental regulatory compliance at 80 power plants to starting his own businesses, Vincent brings an uncommon breadth of experience to his new role.

"I've enjoyed the opportunity to work in a variety of professional situations and to solve a wide range of problems," he says, "but I've always found energy facility operation to be interesting and challenging." At NRG San Francisco, Vincent is primarily responsible for overseeing the operation of our steam generation plants.

He began his career in mechanical and nuclear design after graduating from the University of California, Davis, with degrees in both mechanical engineering and physics. He worked for many years as a senior

research and performance testing engineer at various commercial and industrial facilities before becoming Supervising Engineer/Director of Air Quality for Pacific Gas and Electric Co.

In the 1990s, he launched Vincent Engineering, a multidisciplinary engineering and environmental services firm, as well as an energy conservation and management company. He also served as principal for a large international corporation and on the boards of the Green Foundation and National Energy Alliance. Besides being a licensed professional mechanical and civil engineer, Vincent is a licensed general building contractor who is active in California's green building code rollout.

For most of his professional life, Vincent has been based in northern California, and he enjoys NRG's downtown San Francisco location. "I enjoy the diversity of the weather, the food, entertainment and especially the people," he explains.