

# **REVISIONS TO NEW SOURCE PERFORMANCE STANDARDS (NSPS) FOR NITRIC ACID PLANTS**

## **FACT SHEET**

### **OVERVIEW OF ACTION**

- On May 14, 2012, in response to a court ordered deadline, the U.S. Environmental Protection Agency (EPA) finalized emissions standards to strengthen air pollution limits for nitric acid plants.
- Most nitric acid is used to produce fertilizer and explosives.
- The standards, known as New Source Performance Standards (NSPS), limit emissions of nitrogen oxides (NO<sub>x</sub>) from new, modified, and reconstructed nitric acid plants. NO<sub>x</sub> is a key ingredient in the formation of ground-level ozone (smog). It also contributes to the formation of fine particle pollution. The EPA estimates that the final rule will reduce NO<sub>x</sub> emissions from these facilities by 2,100 tons per year. These revisions also include additional testing and monitoring requirements.
- The EPA sought comment on the proposed rule, and has included changes to the final rule in response to those comments. The EPA has revised the equation used to calculate the 30-day emission rate, but did not change the proposed NO<sub>x</sub> emissions limit of 0.50 lb NO<sub>x</sub>/ton acid based on a 30-day emission rate. The corrected equation prevents days with very few operating hours from having a disproportionate impact on the calculated 30-day emission rate for compliance. We are requiring a dual span monitor so that NO<sub>x</sub> emissions can be accurately measured at all times.
- The EPA estimates that five new facilities will come on line over the next five years and one existing facility will be modified. There are an estimated 40 nitric acid plants in the U.S. This rule only applies to existing facilities if the plant is modified or reconstructed.

### **HEALTH AND ENVIRONMENTAL BENEFITS**

- The final rule would protect human health and the environment by reducing NO<sub>x</sub> emissions.
- NO<sub>x</sub> can react in the air to form ground-level ozone. Ozone can cause coughing, shortness of breath, aggravate asthma and other chronic lung diseases such as emphysema and bronchitis. Ozone can lead to reduced lung function in both children and adults.
- NO<sub>x</sub> can also form fine particle pollution. Exposure to fine particle pollution is associated with significant adverse health effects including, shortness of breath, bronchitis, asthma attacks, heart attacks and premature death. Particle pollution also contributes to haze, which reduces visibility in cities and in our national parks and wilderness areas.
- NO<sub>x</sub> reacts with moisture in the atmosphere to form acid rain, which, when deposited, causes

acidification of soil and surface waters.

- The EPA estimates the annualized costs to comply with this final rule would be \$585,000 for five new sources and one modified source in 2016. This would have a negligible impact on the industry and consumers.
- Nitric acid production units also emit another nitrogen compound known as nitrous oxide (N<sub>2</sub>O), which is considered a greenhouse gas (GHG). While we are not taking final action on GHGs at this time, the EPA encourages owners/operators of nitric acid production units to consider using technologies such as nonselective catalytic reduction which are effective in controlling both NO<sub>x</sub> and N<sub>2</sub>O.

### **SUMMARY OF REQUIREMENTS IN THE FINAL RULE**

- The Clean Air Act requires the EPA to set new source performance standards (NSPS) for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare.
- New, modified, or reconstructed nitric acid plants will need to meet a NO<sub>x</sub> emission limit of 0.50 lb NO<sub>x</sub> per ton of nitric acid produced, as a 30-day average emission rate. This emission limit applies at all times including periods of startup, shutdown and malfunction.
- Also, sources are required to install, calibrate, maintain, and operate continuous emission rate monitoring system for measuring NO<sub>x</sub>.

### **BACKGROUND**

- The primary purpose of the NSPS is to help areas attain and maintain air quality by ensuring that the best demonstrated emission control technologies are installed when it is most cost effective; this occurs as new facilities are updated and existing facilities are updated or expanded. Since 1970, the NSPS have been successful in achieving long-term emissions reductions in numerous industries by assuring that cost-effective controls are installed on new, reconstructed, or modified sources.
- The EPA issued the current NSPS for Nitric Acid Plants in December 1971. Since that time, the EPA has completed two reviews of the standards and made only minor changes to testing and monitoring requirements. The law requires the EPA to review new source performance standards every eight years. This NSPS was last reviewed April 5, 1984.
- On February 4, 2009, the Sierra Club and Environmental Integrity Project notified the EPA of their intent to sue for the EPA's failure to review the NSPS for Nitric Acid Production. The EPA and the litigants agreed to propose this rule by September 30, 2011 and take final action by May 14, 2012.

**FOR MORE INFORMATION ABOUT TODAY'S ACTION:**

- The rule and other background information is posted at <http://www.epa.gov/ttn/oarpg>, under Recent Additions. Information also is available at EPA's electronic public docket and comment system (<http://www.regulations.gov>) using Docket ID Number EPA-HQ-OAR-2010-0750.
- The rule and materials also are available in hard copy at the EPA Docket Center's Public Reading Room, room 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern time, Monday through Friday, excluding federal holidays.
- Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
- For further information about the final rule, contact Nathan Topham of the EPA's Office of Air Quality Planning and Standards (OAQPS) at (919) 541-0483 or by e-mail at: [topham.nathan@epa.gov](mailto:topham.nathan@epa.gov).