

COMMONWEALTH OF PENNSYLVANIA

Department of Environmental Protection

April 13, 2016

814/332-6940

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SUBJECT: Review of Title V Operating Permit Application
INMETCO (The International Metals Reclamation Company, Inc.)
Ellwood City, Lawrence County

TO: TV 37-00243 Auth. ID: 1087299 Site ID: 238881 PF ID: 241793

FROM: Jeffrey D. Fuller *J.D.F.*
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Introduction-

This memo deals with the re-issuance of the Title V Permit for the INMETCO facility located in Ellwood City. This plant is a secondary smelter of non-ferrous metals that recycles metal bearing wastes and numerous types of batteries. This facility is classified as a major source due to the potential for NOx and VOC emissions.

Permit Changes-

- The Permit Contact for this facility has been changed to Richard Lunn. Mr. Lunn is the EHS Manager.
- Source ID: 110 – Sludge Cake Dryer has been removed from service and has been deleted from the operating permit.
- Source ID: 130 – Pellet Drying System has been removed from service and has been deleted from the operating permit.
- Source ID: 107 – (8) Cadmium Recovery Furnaces was deactivated on October 1, 2013. A deactivation, maintenance, and reactivation plan has been approved by the Department. This approval caused no changes to the language contained in the operating permit.
- For Source ID: 102 – Rotary Hearth Furnace, the pressure drop across C102A – Rotary Hearth Baghouse is prescribed to be maintained between 3-11 inches water column. The permittee has

requested changing the range to 2-11 inches water column to account for the reduced pressure drop when the filter bags are cleaned or new. As justification for this change, it is noted that the pressure drop during the initial plan approval inspection and during the initial stack testing was 2.8 inches water column. The system also has a Tribo Guard bag failure indicator system that would indicate any problems with the filter medium. Both the New Source Review Engineer (Thomas Flaherty) and the recent inspector (Scott Dyll) were consulted on this matter and had no objection to this change.

- The permittee has requested a change in the testing interval for the Rotary Hearth Furnace (Source ID: 102) and the Submerged Electric Arc Furnace (Source ID: 103). The RACT permits for this facility include requirements for annual testing of these sources for NOx and VOC emissions. The RACT permits included a provision for adjusting the frequency of the testing “If after three (3) consecutive annual tests, emissions data consistently shows compliance with the RACT emission limits, the testing frequency may be altered as determined by the Department.” All the test results from recent years have shown emission rates well below the RACT emission limits. Based on these results, the testing frequency has been adjusted from annually to once every two years.
- A RFD approved on October 8, 2010, authorized the installation of an oxygen injection system for Source ID: 103 – Submerged Electric Arc Furnace. This oxygen injection system allows the available Carbon Monoxide (CO) to combust in the headspace of the EAF rather than at the off-gas gap within the primary fume control duct work. This approach takes advantage of the available chemical energy and reduces the electrical power needed for the process. This approval caused no changes to the language contained in the operating permit.
- A RFD approved on January 11, 2011, authorized the acceptance of Waste Codes D018, K171, and K172 for processing in Source ID: 102 – Rotary Hearth Furnace. Two of these Waste Codes (K171 and K172) were already listed as permitted feed stock for the source. Item number “(31) USEPA Waste Code D018” has been added to the list of approved materials, contained in Condition #004 of the permit, that can be processed through this source.
- A RFD approved on May 19, 2011, authorized the installation of battery shredding equipment to reduce alkaline batteries into ¼ inch mulch. This battery shredding operation has been included as part of Source ID: 101 – Materials Handling, with emissions controlled by C101 – Materials Handling Baghouse. Other than the addition of “& Battery Shredding” to the source name, there was no need to modify the requirements for Source ID: 101.
- A RFD approved on June 7, 2011, authorized the installation of a second, smaller, damper to introduce dilution air to the exhaust stream from Source ID: 103 – Submerged Electric Arc Furnace. This second damper allows for the modulation of dilution air to prevent the overheating of the electric Arc Furnace Baghouse (C103). This approval caused no changes to the language contained in the operating permit.
- A RFD approved on September 12, 2012, authorized an alternative operating scenario (AOS) for Source ID: 103 – Submerged Electric Arc Furnace. Under the scenario “Alternate EAF Control”, the EAF is permitted to continue limited operation even when control device C103 - EAF Baghouse #1 (Canopy) is taken off line for maintenance. The following requirements have been attached to this alternate operating scenario.

Operation under this alternate operating scenario (OAS) is limited to no more than 288 hours per year on a 12-month rolling basis.

The permittee shall maintain records of all periods of time when Source ID: 103 - Submerged Electric Arc Furnace is operated with only one control device (C103A - EAF Baghouse #2 (4th hole)). This record shall indicate the start time (only EAF Baghouse #2 in operation) and the stop time (both baghouses in operation) of this alternate operating scenario.

When operating under this alternate operating scenario, the following restrictions shall apply;

- The maximum power to the EAF shall be no more than 6000 MVA.
 - The maximum material feed rate to the EAF shall be no more than 5 tons per hour.
 - All material feed shall be curtailed if visible emissions are observed leaving the facility.
- A RFD approved on August 9, 2013, authorized the permanent operation of an oxygen lancing system for Source ID: 102 – Rotary Hearth Furnace. This oxygen lancing system allows for more complete combustion within the RHF. This approach takes advantage of the available chemical energy and reduces the energy needed for the process. This approval caused no changes to the language contained in the operating permit.
 - A RFD approved on November 8, 2013 authorized an alternative operating scenario that allows emissions from Source ID: 102 – Rotary Hearth Furnace, that would normally be controlled by C101 - Inplant Materials Handling Baghouse, to be diverted to C103A - Electric Arc Furnace Baghouse #2 (4th Hole). A new source map has been created under the alternative operating scenario “Alternative RHF Control #1”. With no new requirements contained in this RFD approval, the existing requirements for the subject sources remain in effect.
 - A RFD approved on November 8, 2013 authorized an alternative operating scenario that allows emissions from Source ID: 102 – Rotary Hearth Furnace, that would normally be controlled by C101 - Inplant Materials Handling Baghouse, to be diverted to C102A - RHF Baghouse. A new source map has been created under the alternative operating scenario “Alternative RHF Control #2”. With no new requirements contained in this RFD approval, the existing requirements for the subject sources remain in effect.
 - **Source ID: 120 – Emergency Diesel Generator** is subject to the rules of 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Since the previous permit issuance, the requirements of that subpart have been revised by the EPA. The requirements listed in the Title V Operating Permit have been updated to reflect these revisions.

Conclusion-

A site visit and meeting were conducted by Jeffrey Fuller on March 3, 2016. No problems or violations were noted. Re-issuance of this permit is recommended.