Title V Air Operation Permit Revision
Permit No. 0570119-014-AV

APPLICANT

The applicant for this project is Trademark Metals Recycling, LLC. The applicant's responsible official and mailing address are: Michael Walbridge, Vice President, Trademark Metals Recycling, LLC, 400 N Ashley Drive, STE 1300, Tampa, FL 33602.

FACILITY DESCRIPTION

The applicant operates the secondary aluminum smelting operation at Trademark Metals Recycling, LLC which is located at 6912 E 9th Avenue, Tampa, FL 33619.

The purpose of this permit is to revise the Title V operation permit by incorporating Permit No. 0570119-013-AC, which authorized the installation of a new baghouse which controls the emissions from the secondary aluminum smelting operations at Trademark Metals Recycling. The baghouse is a 50,000 ACFM four-compartment Control Design & Integration Model SMF-50-3.0 Reverse Air Type Baghouse with a continuous lime injection system.

Trademark Metals Recycling, LLC is a secondary aluminum smelting facility that processes scrap aluminum received from a variety of business and recycling centers. The scrap aluminum is classified, separated and stored in various piles throughout the site in preparation for processing in the furnaces. Prior to smelting, the aluminum scrap is reduced in volume by one of two diesel-fired compactor/balers. The molten aluminum is cast on-site and then sold for reuse in production of other aluminum products.

The primary operation at the facility is the two rotary Group 1 furnaces designated as Aluminum Rotary Furnace #1 (EU No. 005) and Aluminum Rotary Furnace #2 (EU No. 006), which are each fired on natural gas with burners rated at 6 MMBtu/hr, and capable of processing up to 6,000 lbs/hr of aluminum scrap per furnace. Prior to the initial charge of aluminum and as needed throughout the melting process, a flux comprised of a salt and potash blend is placed in the furnaces for removal of the impurities in the scrap aluminum and for temperature control. Cryolite (a compound consisting of calcium aluminum fluorides) and calcium chloride are also added as needed for an increased aluminum recovery rate. Scrap aluminum without a substantial quantity of iron is then loaded into the furnaces with a front end loader. The furnaces are typically charged with primarily aluminum products (beverage cans, milled turnings, rolled aluminum sheets, etc.); however, Aluminum Rotary Furnace #1 is also fed with scrap more contaminated with foreign material (aluminum castings, automotive engines and transmission parts, etc.), which results in a lower quality finished product. After a sufficient quantity has been added, the burner door shuts and the burner is fired. The charge in the rotating furnace then becomes molten after 10-30 minutes. More charge is then added in the same manner until the furnace is full. Occasionally, some additional product (i.e. magnesium, etc.) is then added in small quantities to meet specifications regarding alloy quality. The molten aluminum is then poured into preheated kettles and transferred to a holding furnace, or poured directly into a mold (sow) for cooling and hardening. Dross is skimmed from the surface of the sows prior to hardening. The remaining slag in the furnace is then removed and stored for disposal off-site.

PM, HCl, and D/F (dioxins and furans) emissions from the rotary furnaces are ducted to a 4-chamber lime-injected 50,000 ACFM four-compartment induced-draft Control Design & Integration Model SMF-50-3.0 Reverse Air Type Baghouse. Hoods are present over the openings of each furnace with emissions induced into the corresponding ducts by means of a 50,000 ACFM fan located downstream of the baghouse. The duct for Aluminum Rotary Furnace #1 has a damper set to open at approximately 500ºF to allow for dilution air to cool the exhaust stream. Another damper is present in the duct downstream from the point where the two furnace ducts join together. This duct is also for dilution air, with an opening set-point of approximately 350ºF, as measured in the baghouse chamber. The system also has an emergency shut-off set at approximately 375ºF to protect the baghouse from high temperatures. The baghouse has a continuous feed lime-injection system to control D/F and HCl emissions. As required by applicable MACT standards, a new bag leak detection system was installed on the exhaust of the baghouse to ensure continual compliance. An Operation, Maintenance and Monitoring (OM&M)

Plan has been included in the permit, which establishes requirements for maintenance and inspection of the process equipment.

The Holding Furnace (EU No. 004) is used exclusively for storage of molten aluminum and maintains the temperature through use of a combined 6 MMBtu/hr burner arrangement, fired on natural gas. The holding furnace is capable of processing up to 2,500 lbs/hr of clean charge as defined in 40 CFR 63.1503 and is considered a Group 2 furnace. Emissions from this operation vent directly to the atmosphere. The molten aluminum is allowed to pass through a 0.25 MMBtu/hr natural gas-fired heated trough and into molds (deox or ingots) running on a conveyor system. The molds are automatically filled and the dross is manually skimmed. The molds then travel down the conveyor while being water quenched for rapid cooling. The steam from the water quenching is drawn through a stack that exits on the roof. The hardened aluminum is then popped free from the molds and stored for shipment off-site.

The sweat furnace that is part of EU No. 004 is an Al-Jon Model AS-990-R-20 dual chamber furnace that is designed to process irony scrap and is controlled by an afterburner. However, it has not operated since 1999, and though it is still on-site, it will require a new air construction permit prior to start-up. Also present at the facility is a second sweat furnace (Model MS-1500), formerly identified as Emission Unit 001. The furnace has been determined to have been out of service for over 10 years and, pursuant to Rule 62-210.300(2)(a)3.c., F.A.C., cannot resume operation without submission of an air permitting application and issuance of a construction permit. Both sweat furnaces must comply with all requirements of the NESHAP (Subpart RRR) prior to any resumption of operation.

The facility is subject to the Secondary Aluminum NESHAP (40 CFR 63 Subpart RRR) for the rotary and holding furnaces. The rotary furnaces are also subject to PM RACT Rule 62-296.712, F.A.C.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to revise the existing Title V permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Initial Title V Permit Application received May 4, 2004
Request for Additional Information requested July 1, 2004
Request for Additional Information received January 10, 2005
DRAFT Title V Permit issued March 10, 2005
PROPOSED Title V Permit issued December 1, 2005
FINAL Title V Permit issued February 2, 2006
Title V Permit Renewal Application received July 16, 2010
DRAFT Title V Permit issued October 13, 2010
PROPOSED Title V Permit issued December 6, 2010
FINAL Title V Permit issued January 31, 2011
Title V Permit Revision Application received June 30, 2011

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is identified as an area source of hazardous air pollutants (HAP).

Title V: The facility is a Title V source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is not a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does not operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

PROJECT REVIEW

This Title V Permit revision updated several portions of the permit summarized as follows:

1) The permit was reformatted using latest version of the preferred Title V permit format. Appendix TV-5 was replaced with new Appendix TV, and Appendices RR and TR were added to document reporting and testing requirements.
2) The annual operating report due date was changed to April 1st in accordance with state rule changes since the last Title V renewal.
3) The Process Description was updated to more accurately reflect the current facility operations.
4) A Compliance Plan, Appendix CP, is being included with the permit to require a compliance test for HCl, in order to quantify the HCl emissions and determine whether this facility is a major source of HAP emissions. In accordance with Specific Condition No. A.7. of the current operating permit (Permit No. 0570119-012-AV), the facility is prohibited from using of any HAP generating fluxes. During the permit review, EPC staff learned that the facility uses a variety of fluxes to make different types of aluminum alloys, and these fluxes have chlorine and generate HCl emissions under high temperature. Therefore, a compliance test for HCl is being required within 120 days of issuance of the FINAL Title V Permit No. 0570119-014-AV, per Appendix CP, Compliance Plan and Specific Condition No. A.21. of the permit.
5) The requirements for the aluminum sweat furnace, previously associated with the holding furnace (EU 004), were removed from the permit since a separate Air Construction permit will be required prior to start-up of either one of the sweat furnaces.

COMMENTS

The DRAFT Title V Permit package, which included the DRAFT Title V Permit Revision, "NOTICE OF INTENT" and "PUBLIC NOTICE OF INTENT TO ISSUE," was mailed on September 27, 2011. Written comments were received from Gulf Coast Metals, Inc. on October 13, 2011 and November 8, 2011 on the DRAFT Title V Permit. Since the comments were considered minor in nature and did not result in a substantially modified DRAFT permit, the changes were incorporated into the PROPOSED permit, which was e-mailed to the facility on December 23, 2011. Gulf Coast Metals agreed with the changes, and published the public notice on January 13, 2012 in La Gaceta. During the 30-day public comment period, Trademark Metals Recycling, LLC purchased Gulf Coast Metals, Inc. on January 16, 2012 and submitted additional comments on the DRAFT Title V Permit on February 10, 2012. No comments were received from the general public on the DRAFT Title V Permit. The comments and responses are listed below. The comments will not be restated but are summarized. Where duplicative comments exist, the original response is referenced.

A. Comments from Gulf Coast Metals, Inc. on October 13, 2011 and November 8, 2011:

Comment No. 1: Section I. Facility Information. Subsection A. Facility Description. Paragraph 4.
Section III. Subsection A. Emission Units 005 and 006. Paragraph 2.
Statement of Basis.

The facility commented that the system has an emergency shut-off set at 375 ^{o}F, rather than a baghouse bypass duct as previously indicated in the DRAFT permit.

Response: EPC Staff verified that the system does not have a baghouse bypass duct, but rather an emergency shut-off when the baghouse inlet temperature gets too high. The changes are being made as requested.

FROM: The system also has a separate probe to activate a baghouse bypass duct in the event of an emergency. It is typically set at approximately 375 ^{o}F.

TO: The system also has an emergency shut-off set at approximately 375°F to protect the baghouse from high temperatures.

Comment No. 2: DRAFT Permit and Appendix ICE. The facility commented that the baler internal combustion engines are not subject to 40 CFR 63 Subpart ZZZZ since the engines are portable and do not remain on-site for more than 12 consecutive months at a time.

Response: EPC staff concurs that if the engines are portable and do not remain on-site for more than 12 consecutive months at a time, they are not subject to 40 CFR 63 Subpart ZZZZ, pursuant to 40 CFR 1068.30 (definition of nonroad engine). A condition is being added to the permit stating that the baler engines can not remain on-site for more than 12 consecutive months at a time.

Comment No. 3: Appendix I. Item No. 10. The facility commented that no brazing or soldering takes place at the facility.

Response: Since no brazing or soldering activities take place at the facility, and it was requested to remove these activities from the permit, EPC staff is making the changes as requested.

Comment No. 4: Section I. Subsection B. Summary of Emissions Units. The facility commented that the words "holding furnace" should be replaced with "rotary furnace" for EU's 005 and 006.

Response: EPC staff acknowledges that this was a typographical error in the DRAFT permit. The changes are being made as requested.

B. Comments from Trademark Metals Recycling, LLC received on February 10, 2012:

Comment No. 1: Specific Condition (SC) A.8.: According to Permit No. 0570119-013-AC, the facility is not a major source of hazardous air pollutants (HAPs). Since the HCl emissions limitations in 40 CFR 63, Subpart RRR only apply to major sources of HAPs, this SC should be deleted. Please note that under the terms of the draft Appendix CP, emissions limitations for HCl will be established through an AC/AV revision only if the source is determined to be a major source of HAPs.

Response: EPC staff agrees with the assessment that the HCl compliance testing is only required if the facility is determined to be a major source of HAPs. Therefore, this specific condition is being changed as follows:

FROM:

A.8. <u>HCl Emissions</u>. HCl emissions shall not exceed 10 percent of the uncontrolled HCl emissions, by weight, for each group 1 furnace. For the purposes of this emission standard, HCl is defined as emissions of hydrogen chloride that serve as a surrogate measure of the total emissions of the HAPs hydrogen chloride, hydrogen fluoride, and chlorine. [40 CFR 63.1505(i)(4)]

TO: [RESERVED]

Comment No. 2: SC A.17.: This condition should be revised to reflect that the compliance testing for HCl emissions would only apply if the source is determined to be a major source of HAPs. Footnote 1 should be deleted since inlet and outlet testing for HCl would only apply if the source is determined to be a major source of HAPs.

Response: The changes are being made as requested.

FROM:

A.17. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
23	Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources
26A[1]	Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources

[1]For the EPA Method 26A test, the owner or operator must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system while simultaneously testing the baghouse exhaust for HCl to demonstrate compliance with the 90% reduction standard.

The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [40 CFR 63.1511(c) and 63.1512(d), Rule 62-204.800, F.A.C., and Air Construction Permit No. 0570119-013-AC]

TO:

A.17. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
23	Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources
26A[1]	Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources

[1]EPA Method 26A testing is only required if the facility is determined to be a major source of HAPs, in accordance with Appendix CP – Compliance Plan.

The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [40 CFR 63.1511(c) and 63.1512(d), Rule 62-204.800, F.A.C., and Air Construction Permit No. 0570119-013-AC]

Comment No. 3: SC A.21.: This condition should be revised to reflect that the compliance testing for HCl emissions would only apply if the source is determined to be a major source of HAPs. This condition should refer to the terms of the draft Appendix CP, for acceptable procedures for determining if the source is a major source of HAPs.

Response: The changes are being made as requested.

FROM:

A.21. Additional Compliance Test Requirements. The owner or operator shall comply with the Compliance Plan, which is referenced in Appendix CP, which includes a schedule for completion of compliance testing for HCl. In addition, the owner or operator shall perform a compliance test for HCl within 90 days of issuance of this permit and submit two copies of test data to the Air Management Division of the Environmental Protection Commission of Hillsborough County within 45 days of such testing. The test method shall be EPA Method 26A, as described in 40 CFR 60, Appendix A, adopted by reference in Rule 62-204.800, F.A.C. For the EPA Method 26A test, the owner or operator must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system while simultaneously testing the baghouse exhaust for HCl to demonstrate compliance with the 90% reduction standard. The HCl test shall be performed during the period when the furnaces are being charged with the most contaminated aluminum scrap and utilizing the highest chlorinated fluxing rate. The owner or operator should minimize periods of processing and pouring of entirely molten aluminum during the testing. For the initial HCl performance test, the facility should test during the same operating conditions established during the D/F test conducted in May 2011. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [40 CFR 63.1512(d), Rule 62-204.800, F.A.C. and 62-297.310(7)(a), F.A.C.]

TO:

A.21. Additional Compliance Test Requirements. The owner or operator shall comply with the Compliance Plan, which is referenced in Appendix CP, which includes a schedule for conducting compliance testing for HCl. Appendix CP is an enforceable part of this permit. For the initial HCl performance test, the facility should test during the same operating conditions established during the D/F test conducted in May 2011. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [40 CFR 63.1512(d), Rule 62-204.800, F.A.C. and 62-297.310(7)(a), F.A.C.]

Comment No. 4: SC A.23.: This condition should be revised to reflect that the performance testing for HCl emissions would only apply if the source is determined to potentially be a major source of HCl. This condition should also refer to the terms of the draft Appendix CP, for acceptable procedures for determining if the source is a major source of HAPs.

Response: This specific condition is being revised to reference Appendix CP for the HCl compliance testing.

FROM:

A.23. All performance testing for dioxin/furan and HCl shall follow the requirements from Subpart RRR (40 CFR 63.1511). At least 60 days prior to any performance test for dioxin/furan or HCl, the owner or operator shall prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7(c). The site-specific test plan shall specifically identify the intended make-up of the charge to simulate worst-case conditions during the test and provide the methodology for that determination. Following demonstration of compliance, a limiting description of acceptable charge based on the previous test shall be added to the OM&M as an enforceable limitation, pending approval from the EPC. The test shall also establish operating parameters for all future operation including baghouse inlet temperature (Specific Condition A.13.e.), pressure drop across baghouse cells, lime-feeder setting (Specific Condition A.13.f.)) and damper temperature set-points.

The D/F and HCl tests must constitute a minimum of 3 runs and sampling for each run must be conducted over the entire process operating cycle. Since the emissions from both furnaces are exhausted through a common stack, sampling for each run must be conducted over a period of time during which both furnaces complete at least 1 entire process operating cycle. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [Rule 62-4.070(3), F.A.C., 40 CFR 63.1511 and 63.7]

TO:

A.23. All performance testing for dioxin/furan and shall follow the requirements from Subpart RRR (40 CFR 63.1511). All performance testing for HCl shall follow the requirements from Subpart RRR and Appendix CP – Compliance Plan. At least 60 days prior to any performance test for dioxin/furan or HCl, the owner or operator shall prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7(c). The site-specific test plan shall specifically identify the intended make-up of the charge to simulate worst-case conditions during the test and provide the methodology for that determination. Following demonstration of compliance, a limiting description of acceptable charge based on the previous test shall be added to the OM&M as an enforceable limitation, pending approval from the EPC. The test shall also establish operating parameters for all future operation including baghouse inlet temperature (Specific Condition A.13.e.), pressure drop across baghouse cells, lime-feeder setting (Specific Condition A.13.f.)) and damper temperature set-points.

The D/F test must constitute a minimum of 3 runs and sampling for each run must be conducted over the entire process operating cycle. Since the emissions from both furnaces are exhausted through a common stack, sampling for each run must be conducted over a period of time during which both furnaces complete at least 1 entire process operating cycle. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [Rule 62-4.070(3), F.A.C., 40 CFR 63.1511 and 63.7]

Comment No. 5: SC A.24.: This condition should be revised to reflect that the performance testing for HCl emissions would only apply if the source is determined to potentially be a major source of HAPs.

Response: The specific condition is being revised to reference Appendix CP for the HCl compliance testing.

FROM:

A.24. The owner or operator of an affected source must notify the EPC in writing of his or her intention to conduct a performance test for dioxin/furan or HCl at least 60 calendar days before the performance test. The owner or operator must analyze performance audit (PA) samples during each performance test. The owner or operator must request performance audit materials 30 days prior to the test date. If the EPC fails to provide required PA materials to an owner or operator of an affected source in time to analyze the PA samples during a performance test, the requirement to conduct a PA under this paragraph shall be waived for such source for that performance test. [40 CFR 63.1511 and 63.7(b) & (c)]

TO:

A.24. The owner or operator of an affected source must notify the EPC in writing of his or her intention to conduct a performance test for dioxin/furan or HCl, pursuant to Appendix CP, at least 60 calendar days before the performance test. The owner or operator must analyze performance audit (PA) samples during each performance test. The owner or operator must request performance audit materials 30 days prior to the test date. If the EPC fails to provide required PA materials to an owner or operator of an affected source in time to analyze the PA samples during a performance test, the requirement to conduct a PA under this paragraph shall be waived for such source for that performance test. [40 CFR 63.1511 and 63.7(b) & (c)]

Comment No. 6: Appendix CP: The CP should be revised to incorporate the following provisions to determine if the source is a major source of HCl emissions:

a. Given the recent change in facility ownership, please revise the timeline to test for HCl within 180 days after FINAL Title V permit is issued, if required. The additional time will allow TMR to make the necessary administrative and operational transitions prior to any testing that may be required.

Response: After review of this request, the test requirement for HCl will be revised to 120 days from the FINAL issuance of the Title V Permit No. 0570119-014-AV. Based on the timeline issuance of the FINAL permit, the facility will be required to test by the month of September. EPC staff believes that this is a reasonable amount of

time for the facility to be able to plan and conduct the HCl test. Therefore, Appendix CP is being revised to reflect that the facility will be required to test within 120 days of issuance of the FINAL Title V Permit.

Comment No. 7: Statement of Basis, Project Review: Please revise Item 3 so that it reflects the revised terms of the draft Appendix CP.

Response: The change is being made as requested.

Comment No. 8: Appendix ICE: Please update the footers so that it matches facility information.

Response: Please refer to Comment No. 2 in Section A. above.

Comment No. 9: The two 196 HP baler engines (EU 007 and EU 008) mentioned in the permit are listed as *stationary*, non-emergency, compression-ignition engines manufactured prior to 06/01/2006. Please note, the balers are mobile units, not stationary, and should not be subject to the 40 CFR 63, Subpart ZZZZ requirements.

Response: Please refer to Comment No. 2 in Section A. above.

CONCLUSION

This project revises Title V air operation permit No. 0570119-012-AV, which was issued on January 31, 2011. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.