STATEMENT OF BASIS

Hydro Aluminum of North America, Inc.

St. Augustine Facility

Facility ID No.: 1090447

St. Johns County

REVISED DRAFT Title V Air Operation Permit Revision No.: 1090447-010-AV

This permit revision is being issued for the purpose of incorporating the terms and conditions of air construction permit Nos. 1090447-008-AC and 1090447-009-AC.

On January 25-27, 2011 and February 2, 2011, the facility conducted dioxin/furan and visible emissions testing, respectively. The testing was conducted in accordance with the terms of Air Construction Permit No. 1090447-009-AC, an approved Site Test Plan dated November 23, 2010, and the applicable requirements of 40 CFR 63 Subpart RRR.

The purpose of the dioxin/furan testing was to allow the facility the opportunity to show that the 40 CFR 63 Subpart RRR standards for dioxin/furan could be met at the Remelt Furnace without the use of the wet scrubber.

The purpose of the visible emissions testing was to demonstrate compliance with the State visible emissions standard while only clean charge was charged to the Remelt Furnace and without the wet scrubber in operation. The average quantity of aluminum charged to the Remelt Furnace was approximately 30 tons per operating cycle.

Operating Conditions during Dioxin/Furan Test:

1. The testing was done such that during each test run 35% of the total charge to the Remelt Furnace consisted of aluminum that contains paint, lubricants, coatings, or other foreign materials.

2. The average quantity of aluminum (clean charge plus aluminum that contains paint, lubricants, coatings, or other foreign materials), charged to the Remelt Furnace was approximately 30 tons per operating cycle.

3. The testing was conducted simultaneously on the furnace and the scrubber stacks. Emissions from the Remelt Furnace are routed through the Remelt Furnace stack and emissions from the hood over the Remelt Furnace door are routed through the scrubber stack. The wet scrubber was not in operation (the

scrubber was drained so that no water was used in the scrubber) during the testing.

Dioxin/Furan Test Results:

The test results were 9.4 µg of D/F TEQ/MG of aluminum charge versus the 15 µg of D/F TEQ/MG of aluminum charge Subpart RRR standard.

Based on this testing, the Title V Permit is revised such that the capture and control requirements of 40 CFR 63 Subpart RRR, specifically §§63.1506(c), 63.1510(d), 63.1512(s), and 63.1517(b)(14), have been removed from the permit. In addition, references to control device, control device equipment, and control technology within permit condition Nos. B.9., B.16., C.12., C.19., C.20., C.22., C.31., C.40., and C.52. (§§63.1510(b), 63.1516(a), 63.1506(a), 63.1506(p), 63.1510(a), 63.1510(b), 63.1510(s), 63.511(g), and 63.1516(a)), have also been removed from the permit.

The applicant, Mr. Allan Annis, Regional Director of Operations, applied on March 12, 2010 to the permitting authority for a Title V Air Operation Permit Revision for the St. Augustine Facility which is located at 200 Riviera Boulevard, St. Augustine, St. Johns County; UTM Coordinates: Zone 17, 470.98 km East and 3296.85 km North; and, Latitude: 29°48′13″ North and Longitude: 81°18′01″ West.

This Title V Air Operation Permit Revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Facility Description

Hydro Aluminum of America, Inc. is a secondary aluminum production facility. The standard industrial classification (SIC) codes for the facility's activity are 3354 (extrude aluminum products) and 3341 (secondary smelting and refining of non-ferrous metals). The facility consists of an aluminum melting furnace, a holding furnace, two homogenizing ovens, aluminum extrusion operations, wet and powder paint operations, and ancillary operations.

The remelt facility or cast house contains natural gas fired melting and holding furnaces, an in-line argon fluxer/degasser, casting pit and homogenizing ovens. Clean and painted scrap aluminum mixed with prime (ingot, sows) is loaded into the melting furnace in pre-determined ratios.

Hot dross is skimmed from the molten aluminum and cooled prior to stockpiling in the dross room pending transport to an off-site facility for metal recovery. Molten aluminum is fed from the melting furnace to the holding furnace. Alloying materials may be added during this transfer and while the metals is being stirred in the holder. The metal is transferred from the holding furnace to the casting table for vertical, direct-chill casting into logs. During the transfer from the holder to the casting process, the in-line fluxer or degassing unit injects argon gas into the molten metal.

Degassing removes hydrogen, oxides and other impurities that can lead to formation of porosity/inclusions in the solidified metal. The cast aluminum logs are placed in a homogenizer for heat treatment to achieve uniform grain size in the metal prior to saw cut for shipment to an extrusion plant.

Extrusion operations occur via three aluminum press operations and two drawn tube operation. Aluminum billets are heated and extruded through various dies to form various shaped products. Aluminum tubes and shapes are further processed in age ovens and drawn tubing and OPC departments age ovens for heat treating. In some areas (GDT and OPC), aluminum tubes are dipped into a solvent tank to remove drawing oils.

The facility also operates two paint lines. One of the lines is a wet paint operation including a vertical paint booth with dry filter controls. The second paint line consists of a horizontal electrostatic powder coat operation. The paint lines include ancillary equipment, including pre-treatment acid wash, an acid wash process heat boiler, bake oven, two dry off ovens and a pyrolysis oven for the removal of overspray paint from the paint line equipment (parts and conveyor hooks).

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

Based on the Title V Air Operation Permit Revision application received March 12, 2010, this facility is not a major source of hazardous air pollutants (HAPs).

PSD Applicability

The facility is a major stationary source since it is one of the 28 categories listed in Rule 62-210.200 (195), F.A.C. - secondary metal production plants, and has the potential to emit more than 100 tons per year of PSD pollutant (VOC).

Federal NESHAP Provisions

The facility is not identified as a major source of hazardous air pollutants (HAP).

40 CFR 63 Subpart RRR – Secondary Aluminum Production

The Remelt Furnace (EU 004) and the Holding Furnace (EU 003) are subject to the requirements of 40 CFR 63, Subpart RRR - National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, and the 40 CFR 63 Subpart A General Provisions which are adopted by reference in Rule 62-204.800(8), F.A.C., for area sources.

In accordance with 40 CFR 63.1503, an existing Secondary aluminum processing unit (SAPU) means all existing group 1 furnaces and all existing in-line fluxers within a secondary aluminum production facility. Each existing group 1 furnace or existing in-line fluxer is considered an emission unit within a secondary aluminum processing unit.

Therefore, the Department has created a separate emissions unit, No. 010, for the existing In-line Fluxer as it is a separate piece of equipment from the Holding Furnace (Emissions Unit 003).

In accordance with the Subpart, In-line Fluxers are not subject to a dioxin/furan emissions standard, but a PM or HCl emissions standard. However, the in-line fluxer at the St. Augustine Facility uses only nonreactive, non-HAP-containing/non-HAP-generating gases or agents. In accordance with 40 CFR 63.1505(j), the in-line fluxer is therefore not subject to the PM or HCl emissions standard. The in-line fluxer remains a part of the SAPU along with the Remelt Furnace (Group 1 Furnace) by the 40 CFR 63.1503 definition.

40 CFR 63 Subpart MMMM- Surface Coating of Miscellaneous Metal Parts and Products Applicability

This subpart is applicable to major sources of HAP that apply a protective, decorative, or functional coating to metal parts of items such as railcars, steel drums, construction equipment, metal pipe, structural steel, extruded aluminum products, motor cycles, heavy duty trucks, and magnet wires. As this facility is identified as an area source of HAP, this subpart is not applicable.

40 CFR 63 Subpart HHHHHH- Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources Applicability

This subpart is applicable to area sources of HAP that spray apply coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment. The coatings presently used by the St. Augustine facility do not meet the 63.11180

definition of "*Target HAP Containing Coating*". As such, the facility is not subject to the subpart.

Project Information

EU 001- Surface Coating Operation

Emissions Unit 001 is a regulated source of emissions due to the potential VOC and HAP emissions from the surface coating operation.

The Bake Oven and the Pyrolysis Furnace, previously identified in Title V Permit No. 1090447-005-AV as emission points within this Emissions Unit, have been removed and listed as insignificant activities under Appendix I-1 since their potential emissions are below thresholds specified in Rule 62-213.430 (6), F.A.C.

The facility has stated in the permit application for this Title V Permit Revision, that the facility no longer utilizes Xylene as the solvent for the surface coating operation. The facility therefore requested that the previous Xylene usage limitation be removed from the Title V Permit. The facility also requested that the previously established MEK usage and the hours of operation limitations be removed from the Title V Permit. In accordance with Rule 62-210.200, F.A.C., MEK is no longer considered by EPA to be a HAP.

Because there is not an unit-specific rule applicable to EU 001 that regulates its VOC and HAP emissions, the Department has removed the previously established VOC, Xylene, MEK, and hours of operation limitations from the Title V Permit for this emissions unit.

CAM is not applicable to this emissions unit as the unit is not subject to an emission limitation or standard, and it does not have a control device.

EU 003 – Holding Furnace; EU 004 – Remelt Furnace

As part of a construction permit application being processed simultaneously with this Title V Permit Revision, the facility requested an increase in the permitted processing rate of both furnaces from the previously established 25 tons/batch to 30 tons/operating cycle. The term "operating cycle" is used instead of "batch" to be more consistent with the terms and the definitions in the applicable NESHAP, 40 CFR 63 Subpart RRR.

The facility also requested an increase the annual processing rate of both furnaces from 62,500 tons/year of aluminum to 80,000 tons/12 consecutive months. The Holding Furnace is dependent upon the Remelt Furnace and does not operate independently. The Department has included this information in the Title V Permit Revision and has not required a separate demonstration of compliance with this capacity for the Holding Furnace.

The construction permit application also involves the replacement of the current sill on the Remelt Furnace and a replacement of the swivel joint located on the furnace discharge side. The sill replacement will increase the free-board to keep aluminum from spilling out of the furnace and the swivel joint replacement is primarily for safety reasons, but will improve the aluminum drain time, which will potentially increase the aluminum processing rate on both an hourly and annual basis.

The increases in capacities of the furnaces, along with the Remelt Furnace replacements constituted a "modification" as defined by Rule 62-210.200, F.A.C., which were evaluated for PSD review applicability. A summary of the project emissions and details of the review can be found in the Technical Evaluation and Preliminary Evaluation for construction permit Project No. 1090447-009-AC.

As part of construction permit Project No. 1090447-009-AC, the facility has requested the temporary allowance to operate the Remelt Furnace without the wet scrubber in operation during a Dioxins/Furans performance test. This will allow the facility an opportunity to demonstrate that the Dioxin/Furan 40 CFR 63 Subpart RRR standard can be met without the need of the wet scrubber. The performance test will be conducted while the Remelt Furnace processes aluminum that contains paint, lubricants, coatings, or other foreign materials. Details can be found in the Technical Evaluation and Preliminary Evaluation for construction permit Project No. 1090447-009-AC.

Also as part of construction permit Project No. 1090447-009-AC, the facility has requested the temporary allowance to operate the Remelt Furnace without the wet scrubber in operation during a visible emissions test. The test will be conducted while the Remelt Furnace processes only clean charge. Details can be found in the Technical Evaluation and Preliminary Evaluation for construction permit Project No. 1090447-009-AC.

The facility requested, and the Title V Permit will specify that the Holding Furnace is used as a holding furnace for molten aluminum processed in the Remelt Furnace and alloying elements that are added directly to the Holding Furnace.

In accordance with 40 CFR 63.1503, *clean charge* means furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap.

In accordance with 40 CFR 63.1503, a *Group 2 Furnace* means a furnace of any design that melts, holds, or processes only *clean charge* and that performs no *fluxing* or performs

fluxing using only nonreactive, non-HAP-containing/non-HAP-generating gases or agents.

The Holding Furnace performs no fluxing. As such, the Holding Furnace meets the 40 CFR 63.1503 definition of a Group 2 Furnace as it melts, holds, or processes only clean charge and performs no fluxing.

The facility requested, and the Title V Permit Revision will not include the previous PM and HCl emissions standards from 40 CFR 63 Subpart RRR for both the Remelt and Holding Furnaces that were established in Title V Permit No. 1090447-005-AV. The Subpart does not have PM and HCl emissions standards applicable to area sources of HAP.

In accordance with 40 CFR 64.2(b)(1), CAM is not applicable to these emissions units as they are subject to 40 CFR 63, Subpart RRR - National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, which was promulgated after November 15, 1990 pursuant to 112 of the Act.

EU 005- Nos. 1 and 2 Homogenizing Furnaces

The Nos. 1 and 2 homogenizing furnaces, previously permitted in Title V Permit No. 1090447-005-AV as EU 005, have been reclassified as unregulated emissions units in this Title V Permit Revision. The two furnaces were previously subject to a 20% opacity limit. However, it is unclear as to the rule basis of the limitation. Historical data indicates visible emissions from these furnaces typically at 0% opacity. Given that there is not an unit specific applicable requirement, the Department has reclassified the homogenizing furnaces as an unregulated emissions unit.

EU 006 -OPC Solvent Tank; EU 009 -GDT Solvent Tank (formerly 140/142 Solvent Tank)

These emissions units are regulated sources of emissions due to the potential VOC emissions. Because there is not an unit-specific rule applicable either emissions unit that regulates its VOC, the Department has removed the previously established VOC limitations from the Title V Permit for these emissions units.

CAM is not applicable to these emissions units as they are not subject to an emission limitation or standard, and do not have a control device.

EU 010 –In-Line Fluxer

The In-line fluxer processes molten aluminum from the Holding Furnace (Emissions Unit 003). The in-line fluxer uses only nonreactive, non-HAP-containing/non-HAP-generating gases or agents.

Changes made to permit since issuance of Revised Draft Permit on December 6, 2010

On December 17, 2010, the Department received Hydro's petition for formal administrative hearing – OGC Case No. 10-3681. Pursuant to settlement of this matter, the following changes were made:

Subsection B: Holding Furnace

Condition 9: removed references to control device.

Condition 16: removed references to control device.

Subsection C: Remelt furnace

Emission Unit description:

Additional language included as clarification that the wet scrubber may be used as determined by plant personnel only when clean charge is being processed. The facility demonstrated compliance with the 20% opacity limit without the wet scrubber in operation while processing only clean charge. The sentence now reads, "*The wet scrubber may be used as determined by plant personnel when clean charge is being processed.*"

"*Not equipped with any control device*" is removed from the next sentence and replaced with the word "*uncontrolled*" as requested. The sentence now reads, "*The second emissions point (51' 4", inside diameter: 67") is uncontrolled.*"

Condition 1: Condition removed as requested. Now states "reserved"

Condition 5: The "reserved" is removed and replaced with language from Construction Permit No. 1090447-009-AC, Section B, Specific Condition No. 4, as further clarification that the wet scrubber is to be operated at all times when aluminum that contains paint, lubricants, coating, or other foreign materials is being processed in the Remelt Furnace. This permit condition also states that when clean charge is being processed, the wet scrubber may be used as determined by plant personnel. The condition is worded as follows:

"5. <u>Remelt Furnace – Control Device-Wet Scrubber:</u> *The wet scrubber may be used as determined by plant personnel when clean charge is being processed in the Remelt Furnace. The wet scrubber shall be in operation at all times when aluminum that contains paint, lubricants, coatings, or other foreign materials is being processed in the Remelt Furnace. Specifically, the wet-scrubber shall operate during the charging of aluminum that contains paint, lubricants, coatings, or other foreign materials, from the beginning of the charge for a minimum of 30 minutes after the charge door closes following the last push of charge material.[Rule 62-4.070, F.A.C.; Permit No. 1090047-009-AC]*"

Condition 12: "and control equipment" removed as requested.

Condition 19: Deletions made as requested.

Condition 20: "control equipment" removed as requested.

Condition 22: references to control equipment removed as requested.

Condition 31: control technology removed as requested.

Condition 40: control equipment removed as requested.

Condition 52: control equipment removed as requested.

Condition 57: Condition not removed as requested.

Statement of Basis:

The sentence is revised as follows:

"The purpose of the dioxin/furan testing was to allow the facility the opportunity to demonstrate that the 40 CFR 63 Subpart RRR standards for dioxin/furan could be met at the Remelt Furnace without the use of the wet scrubber."

The paragraphs of the statement of basis have been rearranged a bit - the 4th paragraph moved prior to the 3rd and the following sentence added to state the operating condition during the visible emissions test.

"The average quantity of aluminum charged to the Remelt Furnace was approximately 30 tons per operating cycle."

The third paragraph is broken into sections and some additional information added regarding the test operating conditions from the submitted test report, particularly that the wet scrubber was not in operation during the dioxin/furan testing as requested by the facility.

"Operating Conditions during Dioxin/Furan Test:

1. *The testing was done such that during each test run 35% of the total charge to the Remelt Furnace consisted of aluminum that contains paint, lubricants, coatings, or other foreign materials.*

2. *The average quantity of aluminum (clean charge plus aluminum that contains paint, lubricants, coatings, or other foreign materials), charged to the Remelt Furnace was approximately 30 tons per operating cycle.*

3. *The testing was conducted simultaneously on the furnace and the scrubber stacks. Emissions from the Remelt Furnace are routed through the Remelt Furnace stack and emissions from the hood over the Remelt Furnace door are routed through the scrubber stack. The wet scrubber was not in operation (the scrubber was drained so that no water was used in the scrubber) during the testing.*

Dioxin/Furan Test Results:

The test results were 9.4 µg of D/F TEQ/MG of aluminum charge versus the 15 µg of D/F TEQ/MG of aluminum charge Subpart RRR standard."

The words *"as applicable requirements"* have been deleted from the 5th paragraph as requested by the facility.

Because the permit has been revised to remove additional references to a control device or control equipment as requested by the facility, the following sentence has been added to the 5th paragraph in order to reflect those changes.

"In addition, references to control device, control device equipment, and control technology within permit condition Nos. B.9., B.16., C.12., C.19., C.20., C.22., C.31., C.40., and C.52. (§§63.1510(b), 63.1516(a), 63.1506(a), 63.1506(p), 63.1510(a), 63.1510(b), 63.1510(s), 63.511(g), and 63.1516(a)), have also been removed from the permit."

<u>Statement of Basis:</u>

The word "demonstrate" has been replaced with the word "show" as follows:

"The purpose of the dioxin/furan testing was to allow the facility the opportunity to ~~demonstrate~~ <u>show</u> that the 40 CFR 63 Subpart RRR standards for dioxin/furan could be met at the Remelt Furnace without the use of the wet scrubber."

<u>Subsection C, Condition No. 57 of the permit:</u>

The citation of 40 CFR 63.1503 for the definition of clean charge has been removed from the Condition and the actual 40 CFR 63.1503 definition of clean charge has been inserted in the condition as follows:

"57. Remelt Furnace -Wet Scrubber Operating Status: The owner or operator shall maintain records of the operating status of the wet scrubber (time, date, on/off status). During the time when the scrubber is not operating and the material is charged to the furnace, the owner or operator shall record the amount of the clean charge and confirm that all such material ~~meet the definition of~~ is only clean charge ~~per 40 CFR 63.1503~~.

Clean charge means furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap.

[Rule 62-4.070, F.A.C., Permit No. 1090447-009-AC]"

Subsection C, Condition No. 5 of the permit:

The sentence, "The intended purpose of facility operation of the wet scrubber as such is to comply with the requirements of Condition No. 7.", has been added to the condition as follows:

"5. Remelt Furnace – Control Device-Wet Scrubber: The wet scrubber may be used as determined by plant personnel when clean charge is being processed in the Remelt Furnace.

The wet scrubber shall be in operation at all times when aluminum that contains paint, lubricants, coatings, or other foreign materials is being processed in the Remelt Furnace. Specifically, the wet-scrubber shall operate during the charging of aluminum that contains paint, lubricants, coatings, or other foreign materials, from the beginning of the charge for a minimum of 30 minutes after the charge door closes following the last push of charge material.

The intended purpose of facility operation of the wet scrubber as such is to comply with the requirements of Condition No. 7.

[Rule 62-4.070, F.A.C.; Permit No. 1090047-009-AC]"

Project Processing Schedule and Related Documents
Title V Air Operation Permit Revision received March 12, 2010
Additional Information received April 21, 2010
Comments from applicant received June 18, 28, 29, 2010
Comments from applicant received September 16, 2010
Comments from applicant received November 8, 2010
Comments from applicant received November 11, 2010