

# Fact Sheet



*For Final Renewal Permitting Action Under 45CSR30 and  
Title V of the Clean Air Act*

Permit Number: **R30-03500043-2008**  
Application Received: **December 28, 2007**  
Plant Identification Number: **03500043**  
Permittee: **Alcan Rolled Products – Ravenswood, LLC**  
Mailing Address: **P. O. Box 68, Ravenswood, WV 26164**

---

Physical Location: Ravenswood, Jackson County, West Virginia  
UTM Coordinates: 428.30 km Easting • 4,308.60 km Northing • Zone 17  
Directions: Facility is located along Century Road off of WV State Route 2 just south of Ravenswood.

---

## Facility Description

Alcan Rolled Products – Ravenswood, LLC (ARP) is a secondary aluminum operation covered under SIC code 3353. This facility melts aluminum in 23 furnaces in the cast house. The metal is cast into ingot for further processing. From the cast house the aluminum is sent to fabrication plant, which consists of hot rolling, cold rolling, plate, and general finishing. In fabrication the metal is reheated to give it particular characteristics and rolled on one of the facility's hot or cold mills. After the metal has been finished into coil or plate it is warehoused and prepared for shipping to the customer.

## Emissions Summary

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2006 Actual Emissions</b>
Carbon Monoxide (CO)	485	104
Nitrogen Oxides (NO <sub>x</sub> )	741	173
Particulate Matter (PM <sub>2.5</sub> )	496	354.2
Particulate Matter (PM <sub>10</sub> )	496	354.2
Total Particulate Matter (TSP)	712	467.2
Sulfur Dioxide (SO <sub>2</sub> )	7.5	5
Volatile Organic Compounds (VOC)	665	200.2

*PM<sub>10</sub> is a component of TSP.*

<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2006 Actual Emissions</b>
HCl	393	79.0
Cl <sub>2</sub>	0.1	0.092
HF	0.7	0.718
Chromium Compounds	< 0.1	0.015
Manganese Compounds	< 0.1	0.022

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

This facility has the potential to emit over 100 tons per year of CO, NO<sub>x</sub>, Particulate Matter (PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP), and VOC; over 10 tons per year of HCl; and over 25 tons per year of aggregate HAPs (HCl, Cl<sub>2</sub>, and HF). Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, ARP is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.

	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63, Subpart RRR	Secondary Aluminum MACT
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

**Active Permits/Consent Orders**

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R13-0017	January 10, 1974	N/A
R13-0072	May 23, 1974	N/A
R13-0383	February 27, 1978	N/A
R13-2102	July 1, 1997	N/A
R13-2376C	December 19, 2005	N/A

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

**Determinations and Justifications**

*Changes to the Initial Title V Permit*

- 1) **45CSR13 Permits, Title V Modifications, 45CSR13 Permit Determinations, and other changes which did not require review under 45CSR13 and 45CSR30.** R30-03500043-2002 was issued on June 30, 2003. Since the issuance of the initial Title V Permit, the following Class II administrative update, permit determination, and Title V Minor Modification permit have been submitted to the Division of Air Quality, along with other changes which did not require review under 45CSR13 or 45CSR30:

- a) **Class II administrative update R13-2376C.** R13-2376C was issued on December 19, 2005. The purpose of this Class II administrative update was to increase the hourly NO<sub>x</sub> emissions from the Preheat Furnace (006P120) as a result of emissions testing. In order to offset the increase in emissions from the Preheat Furnace so there was no overall increase in annual emissions, the annual natural gas usage and annual emission limits for the DC-10 Melting Furnaces (005P139 and 005P140) were decreased.
- b) **Permit Determination PD05-164.** ARP submitted permit determination PD05-164 for the installation of Aging Furnace # 2 (008P114) and Horizontal Heat-Treat Furnace Addition #2 (008P113). The addition of Aging Furnace #2 (008P114) and Horizontal Heat-Treat Furnace Addition #2 (008P113) did not increase emissions above 6 lbs/hr and ARP was notified by a letter dated December 22, 2005 that a permit was not required under 45CSR13.
- c) **Title V Minor Modification R30-03500043-2002-MM01.** Title V Minor Modification R30-03500043-2002-MM01 was issued on October 5, 2006. This modification was to include changes associated with R13-2376C, approved on December 19, 2005, and to incorporate conditions for the installation of Aging Furnace #2 (008P114) and Horizontal Heat-Treat Furnace Addition #2 (008P113). Although ARP submitted permit determination PD05-164 for the addition of Aging Furnace #2 (008P114) and Horizontal Heat-Treat Furnace Addition #2 (008P113) and it was determined that a permit would not be required under 45CSR13, ARP requested that limits be incorporated in accordance with 45CSR§30-12.7.
- d) **Replacement or Installation of Equipment which did not require review under 45CSR13 or 45CSR30 and for which a permit determination form was not submitted to the DAQ.**
  - (i) Paste Mixer (005P138) was replaced with a new paste mixer. ARP determined that emissions from the new paste mixer did not require a permit under 45CSR13 or 45CSR30 because the maximum uncontrolled hourly particulate matter emissions are 1.32 lb/hr and 5.78 tpy and the maximum controlled hourly particulate matter emissions are 0.00132 lb/hr and 0.00578 tpy; which are all less than the 6 lb/hr and 10 tpy limit that requires a modification permit under 45CSR13. Also, since maximum uncontrolled and controlled hourly particulate matter emissions are much less than the maximum allowable 45CSR§7-4.1 hourly particulate matter emission limit, the justification used in the initial Title V Permit for not requiring any monitoring of the paste mixer should still apply.
  - (ii) Two new dross presses were installed. ARP determined that emissions from these dross presses did not require a permit under 45CSR13 or 45CSR30.
  - (iii) Two new Tysaman Saws were installed. This equipment has no emissions and did not require a permit under 45CSR13 or 45CSR30.

## 2) ARP Requested Changes to the Initial Title V Permit

- a) **Sow Dryers (005P101) and Crucible Heaters (005P102).** These emission units are natural gas fired and have no applicable requirements, so ARP has requested that these emission units no longer be included in the Section 1.0 Emission Units Table.
- b) **Chlorine Railcar/Chlorine Unloading System (005P103).** This system has been upgraded and no longer uses a railcar. Instead it uses 1-ton cylinders as feed and all chlorine is sent through the furnaces with any emissions accounted for in the furnaces. Since these are no longer emission sources and have no applicable requirements, ARP has requested that they be removed from the Section 1.0 Emission Units Table.

- c) **SNIF 1 (005P127), SNIF 2 (005P128), SNIF 3 (005P129), SNIF 5 (005P131), SNIF 6 (005P132), SNIF 7 (005P133), SNIF 8 (005P134), SNIF 9A (005P135), and SNIF 9B (005P136).** These units are used to polish the metal. The polishing is completed using Argon and Nitrogen. Other SNIF units have been permitted due to the use of chlorine as a polishing agent. Since these units do not use chlorine, there are no emissions of regulated pollutants from these sources and ARP has requested that these units be removed from the Section 1.0 Emission Units Table.
- d) **Shaker Belt #1 (005P126) and Shaker Belt #2 (005P137).** The shaker belts are integrated with the induction furnaces and are not stand-alone equipment with a separate emission point. Since the shaker belts do not have a separate emission point, they were taken out of the Section 1.0 Emission Units Table and no longer have a separate 45CSR§7-4.1 emission limit listed in the Title V Permit.
- e) In the initial Title V Permit, emissions from the Induction Furnace East (005P104) went to Baghouse No. 1 (005C101) and emissions from the Induction Furnace West (005P105) went to Baghouse No. 2 (005C102). Actually, emissions from Induction Furnace East (005P104) and Induction Furnace West (005P105) can go to either of the baghouses (005C101 and 005C102). The Section 1.0 Emission Units Table has been revised to reflect that either furnace can be controlled by either baghouse.
- f) In the initial Title V Permit, Holding Furnace 1 (005P117) and Holding Furnace 2 (005P118) were controlled by Baghouse No. 4 (005C105) and emissions from Holding Furnace 5 (005P121) were uncontrolled. In 2004, Holding Furnace 1 (005P117) and Holding Furnace 2 (005P118) were removed from Baghouse No. 4 (005C105) and Holding Furnace 5 (005P121) was added to Baghouse No. 4 (005C105).
- g) In the initial Title V Permit, the control device ID for Baghouse No. 4, controlling emissions from the Holding Furnace 10 (005P141), was listed as 005C106. The control device ID for Baghouse No. 4 is 005C105 and the entry in the table was changed.
- h) In the initial Title V Permit, the control device ID for Baghouse No. 5, controlling emissions from the Rotary Furnace (005P142), was listed as 005C106. The control device ID for Baghouse No. 5 is 005C108 and the entry in the table was changed.
- i) **Butt Saw (006P101).** This source has been removed from the facility, so all requirements for it in the Title V Permit have been omitted.
- j) **Scalper 332 (006P102), Hammermill (006P103), 6 Inch Shear 352 (006P108), 3 Inch Shear 356 (006P111), Rotary Cup Shear 357 (006P112), Trimmer (006P114), Ingot Saw 334 (008P101), Finish (Tysaman) Saw 339 (008P106), Finish (Tysaman) Saw 342 (008P107), Plate Profiler 345 (008P108), Hammermill (008P109), Foil Mill 401 (009P101), Foil Mill 402 (009P102), 60 Inch Coil Slitter 533 (009P105), 60 Inch Coil Slitter 531 (009P106), 66 Inch Coil Slitter 532 (009P107), 66 Inch High Speed Slitter 559 (009P108), and Coordinated Line 555 (009P112).** These pieces of equipment do not have any particulate matter emissions and no applicable requirements. Since these pieces of equipment do not have particulate emissions, they are not subject to the hourly particulate matter emission limits of 45CSR§7-4.1 and a limit is no longer provided in the Title V permit for these sources. Also, since they have no applicable requirements, they were taken out of the Section 1.0 Emission Units Table. Any recordkeeping which was used in the initial Title V Permit to demonstrate compliance with a 45CSR§7-4.1 emission limit was also removed since these sources are no longer subject to a 45CSR§7-4.1 particulate matter emission limit.

- k) **Ingot Wash (006P106).** There are no emissions from this activity, therefore this equipment was removed from the Section 1.0 Emission Units Table.
- l) **3 Filters (006P115), Fluid Storage (006P116), Filter (006P117), Waste Fluid Tank (006P118).** This equipment is used to recover and recycle coolant for the hot line. The equipment is located in the basement of the fabrication building and has no stacks or emission points, no emissions, and does not have any applicable requirements; therefore ARP requested that the equipment no longer be included in the Section 1.0 Emission Units Table.
- m) In the initial Title V Permit, emissions from the 5-Stand Hot Mill 361 (006P113) were controlled by demisters (006C102, 006C103, and 006C104). According to ARP, these demisters were installed to assist with internal air quality and not for emission reduction. In addition, the facility does not take credit for emission reduction from the 5-Stand Hot Mill 361 (006P113) by using the demisters. The initial Title V permit required ARP to operate the demisters at all times (condition 5.2.5) and to have annual inspection and maintenance performed (condition 5.4.6) on them. ARP has requested that the demisters (006C102, 006C103, and 006C104) no longer be included as control devices for the 5-Stand Hot Mill (006P113) and that all requirements to monitor the demisters be excluded from the Title V Permit.
- n) **Rolling Fluid Storage (007P106).** The rolling fluid is stored in the basement of the fabrication building and has no stacks or emission points, no emissions, and does not have any applicable requirements; therefore ARP requested that the equipment no longer be included in the Section 1.0 Emission Units Table.
- o) Requirements for the Heat-Treat Furnace Addition #2 (008P113) and Aging Furnace #2 (008P114) were added under Title V Minor Modification R30-03500043-2002-MM01, approved on October 5, 2006. Although ARP submitted permit determination PD05-164 for the addition of Aging Furnace #2 (008P114) and Horizontal Heat-Treat Furnace Addition #2 (008P113) and it was determined that a permit would not be required under 45CSR13, ARP requested that limits be incorporated in accordance with 45CSR§30-12.7. ARP has now requested that these voluntary limits, incorporated through 45CSR§30-12.7, be removed from the Title V Permit. Since these furnaces did not require a permit under 45CSR13, the maximum design heat input limits (condition 7.1.2), emission limits (condition 7.1.3), natural gas consumption limits (condition 7.1.4), the individual NO<sub>x</sub> emission rate limit (condition 7.1.4), natural gas monitoring requirements (condition 7.2.2) and record keeping requirements (7.4.3 and 7.4.5) for the Heat-Treat Furnace Addition #2 (008P113) and the Aging Furnace #2 (008P114) were removed from the Title V Permit.
- p) In the initial Title V Permit, the 144 Inch Plate Mill (008P103), 66 Inch Coil Processing Line 527 (009P109), 120 Inch Wide Level Line 575 (009P110), and Cut to Length Line 511 (009P111) were subject to the hourly particulate matter emission limits of 45CSR§7-4.1. Compliance with the 45CSR§7-4.1 particulate matter emission limits was demonstrated by maintaining monthly records of the amount of oil used and its VOC content. Since there didn't appear to be a direct correlation between monthly VOC records and an hourly 45CSR§7-4.1 particulate matter emission limit, clarification was requested from ARP. In their response, dated April 14, 2008, ARP stated that the 144 Inch Plate Mill (008P103), 66 Inch Coil Processing Line 527 (009P109), 120 Inch Wide Level Line 575 (009P110), and Cut to Length Line 511 (009P111) do not have particulate matter emissions and only VOC emissions, therefore the 45CSR§7-4.1 hourly particulate matter emission limits should no longer be included in the Title V permit for these sources. Since the 45CSR§7-4.1 hourly particulate matter emission limits no longer apply to the 144 Inch Plate Mill (008P103), 66 Inch Coil Processing Line 527 (009P109), 120 Inch Wide Level Line 575 (009P110), and Cut to Length Line 511 (009P111), the requirements to maintain monthly VOC records were also not included in the Title V permit.

- q) **Oil Coater (009P113), and 24 Inch Leveler (009P114).** These pieces of equipment have no emissions or applicable requirements and have been removed from the Section 1.0 Emission Units Table.
- r) **Truck Dump Receiving (010P201), Hopper A (010P202), Hopper B (010P203), Screw Conveyor SC-1 (010P204), Screw Conveyor SC-2 (010P206), Screw Conveyor SC-3 (010P207), Screw Conveyor SC-4 (010P215), Bucket Elevator BE-1 (010P205), Loading Bin (010P208), and Truck Loadout (010P214).** Each of these sources vent to a common baghouse (010C201), so these individual emission units were grouped together as the Dust Handling System (010P201).
- s) **Tank No. 1 (010P301), Pond 2 (010P303), Spray Fields (010P304), Batch Tank 1 (010P305), and Batch Tank 2 (010P306).** These pieces of equipment have no emissions and no applicable requirements, therefore, they were removed from the Section 1.0 Emission Units Table of the Title V Permit.
- t) **Pond 1 (010P302), UF Unit 1 (010P307), and UF Unit 2 (010P308).** Pond 1 only contains clean water and has no emissions. The UF Units 1 and 2 are oil-water separation systems which are closed systems and have no emissions. Since this equipment has no emissions and no applicable requirements, they were removed from the Section 1.0 Emission Units Table of the Title V Permit.
- u) **UF Unit 3 (010P310) and UF Unit 4 (010P311).** UF Unit 3 (010P310) and UF Unit 4 (010P311) were never installed.
- v) **Storage Bunker No. 1 (010P210), Storage Bunker No. 2 (010P211), Storage Bunker No. 3 (010P212), Storage Bunker No. 4 (010P213), and Truck Loading (010P209).** Storage Bunker No. 1 (010P210), Storage Bunker No. 2 (010P211), Storage Bunker No. 3 (010P212), Storage Bunker No. 4 (010P213), and Truck Loading (010P209) are not located on ARP's site. They are located on the adjacent Century Aluminum property. These points are not operated by ARP and ARP has no authority over these emission sources, so they were removed from the Section 1.0 Emission Units Table.
- w) The entire Storage Tanks Section is no longer included in the Emission Units Table. None of these tanks are subject to 40 C.F.R. 60, Subpart K – “Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;” 40 C.F.R. 60, Subpart Ka – “Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 19, 1978, and Prior to July 23, 1984;” or 40 C.F.R. 60, Subpart Kb – “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.” 40 C.F.R. 60, Subpart Kb, as amended on October 15, 2003, applies to each storage vessel with a capacity greater than or equal to 75 m<sup>3</sup> that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. Tanks listed in the Storage Tanks Section are exempt from these rules because either they were installed prior to June 11, 1973 or have a capacity of less than 75 m<sup>3</sup>.

### ***Section 3.0 – Facility –Wide Requirements***

#### **45CSR7 Requirements**

Emissions from emission units 005P104, 005P105, 005P106, 005P107, 005P108, 005P109, 005P111, 005P112, 005P113, 005P114, 005P115, 005P116, 005P139, 005P140, 005P117, 005P118, 005P119, 005P121, 005P122, 005P123, 005P124, 005P125, 005P141, 005P142, 005P138, 006P104, 006P105, 006P107, 006P109, 006P110, 006P113, 006P119, 006P120, 007P101, 007P102, 007P103, 007P105, 007P107, 008P102, 008P104, 008P105, 008P110, 008P112, 008P113, 008P111, 008P114, 009P103, 009P104, and 010P201 are required by 45CSR§7-3.1 (Condition 3.1.9) to be maintained at or below twenty percent opacity. To demonstrate compliance with this limit, the permittee will be required to conduct visible emission checks in accordance with Condition 3.2.1.

45CSR§7-5.1 (3.1.11) requires the emission units to be equipped with a system which may include, but not be limited to, process equipment design, control equipment design, or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. In order to demonstrate compliance with this requirement, the permittee will be required to maintain records as specified in 3.4.4 of the types of fugitive particulate capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems.

In order to demonstrate compliance with the fugitive particulate matter requirements of 45CSR§7-5.2 (3.1.12), the permittee will be required to maintain records in accordance with 3.4.5 indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility.

### ***Section 4.0 – Casting Department***

#### **45CSR§7-4.1 Requirements**

Induction Furnace East (005P104), Induction Furnace West (005P105), Dross Cooler/Breaker (005P106), Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-3 (005P109), Melting Furnace DC-5 (005P111), Melting Furnace DC-6 (005P112), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), Holding Furnace 5 (005P121), Holding Furnace 6 (005P122), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Paste Mixer (005P138), Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 10 (005P141), Rotary Furnace (005P142), Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), and Holding Furnace 9 (005P125) are subject to the particulate matter emission limits of 45CSR§7-4.1. Emission limits are calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. Compliance with the hourly TSP emission limits from Condition 4.1.4 for Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 10 (005P141), and Rotary Furnace (005P142); and compliance with the hourly particulate matter emission limits from Condition 4.1.15 for Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), and Holding Furnace 9 (005P125) shall demonstrate compliance with the less stringent 45CSR§7-4.1 hourly particulate matter emission limits.

Compliance with the 45CSR§7-4.1 hourly particulate matter emission limit for Induction Furnace East (005P104), Induction Furnace West (005P105), Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-3 (005P109), Melting Furnace DC-5 (005P111), Melting Furnace DC-6 (005P112), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), Holding Furnace 5 (005P121), Holding Furnace 6 (005P122), Holding Furnace 7 (005P123), and Holding Furnace 8 (005P124) shall be demonstrated by operating and maintaining the furnaces in accordance with the manufacturer's recommendations and specifications and by burning only natural gas which meets the FERC limit as specified in Condition 4.2.16. Also, the permittee is required by Condition 4.4.1 to maintain records of the amount of natural gas consumed on a monthly basis and the daily and average hourly charge/feed rates. These natural gas and charge/feed rates will be used along with stack test data, emission factors, or engineering calculations previously approved by the DAQ in order to calculate an hourly particulate matter emission rate for each source.

40 C.F.R. 63, Subpart RRR requires the permittee to install, operate, and maintain a capture/collection system and a fabric filter with a bag leak detection system to demonstrate compliance with the MACT particulate matter concentration limits specified in Condition 4.1.16 for the Dross Cooler/Breaker (005P106). Since the permittee is already required to operate a capture/collection system and a fabric filter with a bag leak detection system in order to demonstrate compliance with the MACT, no other monitoring, testing, recordkeeping, or reporting was deemed necessary for demonstrating compliance with the 45CSR§7-4.1 hourly particulate matter emission limit for the Dross Cooler/Breaker (005P106).

Particulate emissions from the Paste Mixer (005P138) are controlled by Baghouse (005C109). The maximum uncontrolled hourly particulate matter emissions are 1.32 lb/hr and 5.78 tpy and the maximum controlled hourly particulate matter emissions are 0.00132 lb/hr and 0.00578 tpy. Since maximum uncontrolled hourly particulate matter emissions are much less than the maximum allowable 45CSR§7-4.1 hourly particulate matter emission limit of 11.2 lb/hr, no monitoring, testing, recordkeeping, or reporting was required to demonstrate compliance with 45CSR§7-4.1.

#### 45CSR§7-4.2 Requirements

Induction Furnace East (005P104), Induction Furnace West (005P105), Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-3 (005P109), Melting Furnace DC-5 (005P111), Melting Furnace DC-6 (005P112), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), Holding Furnace 5 (005P121), Holding Furnace 6 (005P122), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 9 (005P125), Holding Furnace 10 (005P141), and Rotary Furnace (005P142) are subject to the HCl concentration limits of 45CSR§7-4.2. The HCl concentration limit for a source is determined based on the installation date. Since all the furnaces are either a Group 1 or Group 2 furnace subject to the requirements of 40 C.F.R. 63, Subpart RRR, no additional monitoring, testing, recordkeeping, or reporting was added to demonstrate compliance with the HCl concentration limits of 45CSR§7-4.2. 40 C.F.R. 63, Subpart RRR limits HCl emissions from Group 1 furnaces and Group 2 furnaces do not have HCl emission limits since they are limited to only processing clean charge and no reactive flux.

#### 45CSR10 Requirements

45CSR§10-4.1.e exempts manufacturing process source operations from the 45CSR§10-4.1 sulfur dioxide concentration limit of 2,000 ppm<sub>v</sub>, if the potential to emit from the manufacturing process source operation is less than 500 pounds per year of sulfur oxides. In the Emission Unit Forms submitted as part of the Title V Permit Renewal Application, ARP proposed sulfur dioxide emissions from the Induction Furnace East (005P104) and Induction Furnace West (005P105) of 2.03 TPY each. Based on the information submitted in the application, it would appear that the induction furnaces would be subject to the 2,000 ppm<sub>v</sub> sulfur dioxide concentration limit of 45CSR§10-4.1. ARP has, however, stated that the sulfur dioxide emissions estimates were based on testing from induction furnaces located at the Kaiser, Trentwood, Washington facility in 1993 and may not be representative of their operations. The estimated sulfur emissions seem too high since the furnaces process only clean charge having very limited sulfur content in the metal and are operated electrically, burning no fuel. ARP plans to test the induction furnaces in order to obtain an accurate emission factor for future use. Since these induction furnaces have never been required to comply with the 45CSR§10-4.1 sulfur dioxide concentration limit, nor submit a 45CSR10 monitoring plan in accordance with 45CSR§10-8, requirements were not added to this Title V Permit Renewal to make them do so since the emission estimates used may not be representative of the actual emissions from the furnaces at the Ravenswood facility. However, if future testing conducted on Induction Furnace East (005P104) and/or Induction Furnace West (005P105) indicate that emissions of sulfur oxides are in excess of 500 lbs/year, the permittee shall take necessary action to revise the Title V permit to include the applicable requirements from 45CSR10 and shall submit a 45CSR10 Monitoring Plan in accordance with 45CSR§10-8.

### R13-2376C Requirements

The R13-2376C requirements for Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 10 (005P141), and Rotary Furnace (005P142) are as follows: 4.1.3 limits the maximum design heat input of each furnace and only allows for the combustion of natural gas; 4.1.4 limits the hourly and annual TSP, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC, and HCl emissions; 4.1.5 requires that Melting Furnaces DC-10A and DC-10B (005P139 and 005P140) be equipped with regenerative low-NO<sub>x</sub> burners; 4.1.6 requires that a Permanent Total Enclosure be installed, maintained, and operated on the Rotary Furnace (005P142) and that the emissions captured be vented to Baghouse (005C108); 4.1.7 requires a lime-injected baghouse (005C105) be installed, maintained, and operated to control emissions from Holding Furnace 10 (005P141) so as to achieve a minimum 99.00% particulate matter (PM) control efficiency and a 95.00% hydrochloric acid (HCl) control efficiency; 4.1.8 requires a lime-injected baghouse (005C108) be installed, maintained, and operated to control emissions from the Rotary Furnace (005P142) so as to achieve a minimum 99.00% particulate matter (PM) control efficiency and a 95.00% hydrochloric acid (HCl) control efficiency; 4.1.9 limits the annual natural gas consumption; 4.1.10 limits the average hourly and annual throughput of aluminum charge for Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), and Holding Furnace 10 (005P141); 4.1.11 limits the average hourly and annual throughput of aluminum charge for Rotary Furnace (005P142); 4.1.12 limits the TSP and PM<sub>10</sub> emission rates for each furnace in terms of lb/ton; 4.1.13 limits the NO<sub>x</sub> emission rate for each furnace in terms of lb/MMBtu; 4.1.14 limits the HCl emissions from the DC-10A Melting Furnace (005P139), DC-10B Melting Furnace (005P140), Holding Furnace 10 (005P141), and Rotary Furnace (005P142) in terms of lb/ton. To demonstrate compliance with 4.1.3 maximum design heat input limit, the 4.1.4 hourly and annual emissions limits, the 4.1.9 annual natural gas usage limit, the 4.1.10 average hourly and annual aluminum charge throughput limits for the Direct Chill Complex Number 10 (Melting Furnaces DC-10A and DC-10B, and Holding Furnace 10), and the 4.1.11 average hourly and annual aluminum charge throughput limits for the Rotary Furnace (005P142), the permittee will be required to maintain records of the amount of natural gas consumed on a monthly basis by each affected source and the daily and average hourly charge/feed rates of DC-10 (005P139, 005P140, and 005P141) and the Rotary Furnace (005P142) as specified in Condition 4.4.2. The monthly natural gas usage records shall be used to calculate a 12-month rolling total natural gas usage rate in order to demonstrate compliance with the 4.1.9 annual natural gas limit. To demonstrate compliance with the TSP, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC, and HCl hourly and annual emission limits in Condition 4.1.4, the permittee shall use the charge/feed rates and natural gas records along with stack test data, emission factors, or engineering calculations previously approved by the DAQ, to calculate hourly and 12-month rolling total emissions. Compliance with the 4.1.3 limit on the design heat input can be verified using the BTU content of the natural gas and the hourly natural gas usage rate calculated from the monthly natural gas usage rate and the hours in the month.

To demonstrate compliance with the TSP and PM<sub>10</sub> limits in Condition 4.1.12, the NO<sub>x</sub> emission limits in Condition 4.1.13, the HCl emission limits in Condition 4.1.14, and the HCl concentration limits in Condition 4.1.2, the permittee is required to conduct testing upon the request of the Director in accordance with Conditions 4.3.20, 4.3.21. and 4.3.22.

The Condition 4.1.3 requirement that only natural gas can be combusted in the furnace and the Condition 4.1.5 requirement specifying the type of burners to be installed on the furnaces can be verified upon inspection.

To demonstrate compliance with the requirements of Condition 4.1.6 for the Permanent Total Enclosure for the Rotary Furnace (005P142), the permittee shall meet the requirements of Method 204, as set forth in 40 C.F.R. 51, Appendix M and shall monitor the negative pressure in the PTE daily and maintain records in accordance with 4.4.4.

To demonstrate compliance with the PM and HCl control device efficiencies specified in Conditions 4.1.7 and 4.1.8 for Baghouse (005C105) and Baghouse (005C108), the permittee shall operate and monitor the baghouses in accordance with the requirements of 40 C.F.R. 63, Subpart RRR.

**R13-0383 Requirements**

Condition 4.1.15 provides hourly emissions limits for PM, HCl, SO<sub>2</sub>, NO<sub>x</sub>, and VOC for Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), and Holding Furnace 9 (005P125). For the purpose of demonstrating compliance with the hourly PM, HCl, SO<sub>2</sub>, NO<sub>x</sub>, and VOC emission limits specified in Condition 4.1.15 for the Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), and Holding Furnace 9 (00P125), the permittee is required by Condition 4.4.3 to maintain records of the amount of natural gas combusted on a monthly basis by each affected source and the daily and average hourly charge/feed rates. These records shall be used along with stack test data, emission factors, or engineering calculations previously approved by the DAQ to calculate hourly emission rates of PM, HCl, SO<sub>2</sub>, NO<sub>x</sub>, and VOC.

**40 C.F.R. 63, Subpart RRR Requirements**

ARP is subject to the 40 C.F.R. 63, Subpart RRR requirements for a Group 1 Furnace (controlled and uncontrolled), Group 2 Furnace, and rotary dross cooler. For each of these sources, ARP is required by condition 4.2.1 to prepare and implement a written operation, maintenance, and monitoring (OM&M) plan and to comply with all provisions of the OM&M plan as submitted to the permitting authority, unless and until the plan is revised in accordance with 4.2.1. The current version of the OM&M plan submitted by ARP is dated September 2006. This plan was revised on March 12, 2007. The revised plan was approved by DAQ on April 9, 2007. The tables below represent the operating parameters and preventative maintenance overview and schedule as specified in the OM&M plan:

**Operating Parameters for the Furnaces**

Equipment Name	Operating Parameter	Monitoring Frequency	Operating Range
DC-1 Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 125,490 lbs/batch
	Purchased scrap weight Analytical Verification <sup>(A)</sup>	Once per operating cycle	≤ 96,850 lbs/batch @ 0.09% oil by wt.
	Purchased scrap weight for visual verification <sup>(B)</sup>	Once per operating cycle	≤ 34,800 lbs/batch @ 0.25 oil by wt.%
DC-2 Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 125,490 lbs/batch
	Purchased scrap weight Analytical Verification <sup>(A)</sup>	Once per operating cycle	≤ 96,850 lbs/batch @ 0.09% oil by wt.
	Purchased scrap weight for visual verification <sup>(B)</sup>	Once per operating cycle	≤ 34,800 lbs/batch @ 0.25 oil by wt.%
DC-7 Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 125,490 lbs/batch
	Purchased scrap weight Analytical Verification <sup>(A)</sup>	Once per operating cycle	≤ 96,850 lbs/batch @ 0.09% oil by wt.
	Purchased scrap weight for visual verification <sup>(B)</sup>	Once per operating cycle	≤ 34,800 lbs/batch @ 0.25 oil by wt.%
DC-8 Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 125,490 lbs/batch
	Purchased scrap weight Analytical Verification <sup>(A)</sup>	Once per operating cycle	≤ 96,850 lbs/batch @ 0.09% oil by wt.
	Purchased scrap weight for visual verification <sup>(B)</sup>	Once per operating cycle	≤ 34,800 lbs/batch @ 0.25 oil by wt.%
DC-9A Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 177,021 lbs/batch
	Purchased scrap weight	Once per operating cycle	≤ 100,000 lbs/batch
	Reactive flux addition weight	Once per operating cycle	≤ 83 kgs/batch
	Purchased scrap oil content	Verify visual inspection	≤ 0.25% - 0.5%
DC-9B Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 177,021 lbs/batch
	Purchased scrap weight	Once per operating cycle	≤ 100,000 lbs/batch
	Reactive flux addition weight	Once per operating cycle	≤ 83 kgs/batch
	Purchased scrap oil content	Verify visual inspection	≤ 0.25% - 0.5%
DC-10A Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 218,599 lbs/batch
	Purchased scrap weight	Once per operating cycle	≤ 97,960 lbs/batch @ 0.25% ≤ 49,980 lbs/batch @ 0.50%
	Reactive flux addition weight (salt only)	Once per operating cycle	≤ 100 lbs/batch
	Purchased scrap inspection	Verify visual inspection	≤ 0.25% - 0.50%
DC-10B Melting Furnace	Feed (or charge) weight	Once per operating cycle	≤ 218,599 lbs/batch
	Purchased scrap weight	Once per operating cycle	≤ 97,960 lbs/batch @ 0.25% ≤ 49,980 lbs/batch @ 0.50%
	Reactive flux addition weight (salt only)	Once per operating cycle	≤ 100 lbs/batch
	Purchased scrap inspection	Verify visual inspection	≤ 0.25% - 0.50%

Equipment Name	Operating Parameter	Monitoring Frequency	Operating Range
DC-1 Holding Furnace	Production weight	Once per operating cycle	≤ 98,442 lbs/batch
	Reactive flux addition weight	Flux event average	≤ 560 scf/batch
DC-2 Holding Furnace	Production weight	Once per operating cycle	≤ 98,442 lbs/batch
	Reactive flux addition weight	Flux event average	≤ 560 scf/batch
DC-3 Holding Furnace	Production weight	Once per operating cycle	≤ 47,728 lbs/batch
	Reactive flux addition weight	Flux event average	≤ 103.3 lbs/batch
DC-5 Holding Furnace & Lime-injected Baghouse	Production weight	Once per operating cycle	≤ 42,465 lbs/batch
	Reactive flux addition rate	Flux event average	≤ 703 ft <sup>3</sup> /batch
	Lime injection rate	Continuous (every 15 minutes)	≥ 160 lbs/hr (Additional)
	Fabric filter inlet temperature	Continuous (every 15 minutes)	≤ 350 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
DC-6 Holding Furnace	Production weight	Once per operating cycle	≤ 47,728 lbs/batch
	Reactive flux addition weight	Flux event average	≤ 103.3 lbs/batch
DC-7 Holding Furnace & Lime-injected Baghouse	Production weight	Once per operating cycle	≤ 85,936 lbs/batch
	Reactive flux addition rate	Flux event average	≤ 850 ft <sup>3</sup> /batch
	Lime injection rate	Continuous (every 15 minutes)	≥ 160 lbs/hr (Additional)
	Fabric filter inlet temperature	Continuous (every 15 minutes)	≤ 350 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
DC-8 Holding Furnace & Lime-injected Baghouse	Production weight	Once per operating cycle	≤ 91,761 lbs/batch
	Reactive flux addition rate	Flux event average	≤ 685 ft <sup>3</sup> /batch
	Lime injection rate	Continuous (every 15 minutes)	≥ 160 lbs/hr (Additional)
	Fabric filter inlet temperature	Continuous (every 15 minutes)	≤ 350 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
DC-9 Holding Furnace & Lime-injected Baghouse	Production weight	Once per operating cycle	≤ 156,921 lbs/batch
	Reactive flux addition rate	Flux event average	≤ 903 ft <sup>3</sup> /batch
	Lime injection rate	Continuous (every 15 minutes)	≥ 160 lbs/hr
	Fabric filter inlet temperature <sup>(1)</sup>	Continuous (every 15 minutes)	≤ 350 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
DC-10 Holding Furnace & Lime-injected Baghouse	Production weight	Once per operating cycle	≤ 191,142 lbs/batch
	Reactive flux addition rate	Flux event average	≤ 1,605 ft <sup>3</sup> /batch
	Lime injection rate	Continuous (every 15 minutes)	≥ 160 lbs/hr
	Fabric filter inlet temperature <sup>(1)</sup>	Continuous (every 15 minutes)	≤ 350 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
Rotary Furnace & Lime-injected Baghouse	Feed (or charge) weight	Once per operating cycle	Dross only: ≤ 17,230 lbs/batch Purchased scrap only: ≤ 16,330 lbs/batch
	Purchased scrap weight	Once per operating cycle	Dross only: 0 lbs/batch Purchased scrap only: ≤ 15,510 lbs/batch
	Flux addition weight	Once per operating cycle	Dross only: ≤ 2,530 lbs/batch Purchased scrap only: ≤ 820 lbs/batch
	Lime injection rate	Continuous (every 15 minutes)	Dross only: ≥ 0 lbs/hr Purchased scrap only: ≥ 100 lbs/hr
	Inlet temperature <sup>(1)</sup>	Continuous (every 15 minutes)	Dross only: ≤ 185.8 °F Purchased scrap only: ≤ 191.2 °F
	Bag leak detection	Continuous (every 15 minutes)	Compliance Limit
	SIP	Plan Implementation	Dross only: 0% Purchased scrap only: 2.32% coatings
Bypass damper position	Continuous (every 15 minutes)	Closed during Normal Operation	

<sup>(A)</sup> Purchased scrap weight limit and oil content was established through the initial performance test. The oil content of the purchased scrap will be verified prior to charging the furnace through the analytical test outline in Section 12 of the Revised OM&M Plan dated February 2007.

<sup>(B)</sup> Purchased scrap weight limit and oil content was established through the initial performance test and the guidelines outlined in the Purchased Scrap Inspection Program. The oil content of the purchased scrap will be controlled through visual inspection process presented in Section 12 of the Revised OM&M Plan dated February 2007.

<sup>(1)</sup> Inlet temperature includes +25 °F.

**Preventative Maintenance Overview and Schedule**

<b>Equipment Name</b>	<b>Type of Preventative Maintenance</b>	<b>Maintenance Frequency</b>
DC-1, DC-2, DC-7, and DC-8 Melting Furnaces	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair melting furnace combustion analyzer	Quarterly
DC-1, DC-2, DC-7, and DC-8 Melting Furnaces' Continuous Monitoring System	Floor scale (load cell) inspection (CMS)	Semiannually
DC-9A and DC-9B Melting Furnaces	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair melting furnace combustion analyzer	Quarterly
DC-9A and DC-9B Melting Furnaces' Continuous Monitoring System	Floor scale (load cell) inspection (CMS)	Semiannually
DC-10A and DC-10B Melting Furnaces	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair melting furnace combustion analyzer	Quarterly
DC-10A and DC-10B Melting Furnaces' Continuous Monitoring System	Floor scale (load cell) inspection (CMS)	Semiannually
DC-1, DC-2, DC-3, and DC-6 Holding Furnaces	Inspect/repair bi-gas panel	Monthly
	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair degassing unit	Monthly
	Inspect/repair ingot water loss switch	Monthly
	Inspect/repair rod feeder	Monthly
DC-1, DC-2, DC-3, and DC-6 Holding Furnaces' Continuous Monitoring System	Calibrate Mass Flow Meter	Every six months
DC-5, DC-7, and DC-8 Holding Furnaces & Lime-injected Baghouse	Inspect/repair bi-gas panel	Monthly
	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair degassing unit	Monthly
	Inspect/repair ingot water loss switch	Monthly
	Inspect/repair rod feeder	Monthly
DC-5, DC-7, and DC-8 Holding Furnaces' & Lime-injected Baghouse's Continuous Monitoring System	Inspect lime conveyance equipment	Every eight hours
	Baghouse leak detection probe visual check	Bi-monthly
	Thermocouple replacement	Bi-monthly
	Calibrate gas flow meters	Every six months
DC-9 Holding Furnace & Lime-injected Baghouse	Inspect/repair bi-gas panel	Monthly
	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspect/repair crane and hoists	Bi-monthly
	Inspect/repair degassing unit	Monthly
	Inspect/repair ingot water loss switch	Monthly
	Inspect/repair rod feeder	Monthly
DC-9 Holding Furnace's & Lime-Injected Baghouse's Continuous Monitoring System	Inspect lime conveyance equipment	Every eight hours
	Baghouse leak detection probe visual check	Bi-monthly
	Pressure drop gauge inspection	Bi-monthly
	Thermocouple replacement	Bi-monthly
	Replace gas flowmeters	Every 6 months

Equipment Name	Type of Preventative Maintenance	Maintenance Frequency
DC-10 Holding Furnace & Lime-Injected Baghouse	Inspect/repair bi-gas panel	Monthly
	Inspect/repair furnace instrumentation	Monthly
	Inspect/repair furnace mechanical and seals	Monthly
	Inspect/repair furnace hydraulic and lubrication	Monthly
	Inspection/repair crane and hoists	Bi-monthly
	Inspect/repair degassing unit	Monthly
	Inspect/repair ingot water loss switch	Monthly
DC-10 Holding Furnace's & Lime-injected Baghouse's Continuous Monitoring System	Inspect/repair rod feeder	Monthly
	Inspect lime conveyance equipment	Every eight hours
	Baghouse leak detection probe visual check	Bi-monthly
	Pressure drop gauge inspection	Bi-monthly
Rotary Furnace & Lime-injected Baghouse	Thermocouple replacement	Bi-monthly
	Calibrate gas flowmeters	Every 6 months
	Furnace rotation system, oven hood door, and pneumatic unit inspection	Quarterly
	Filter and lime conveyor inspection	Bi-yearly
	Guidance roller, hose, and nozzle seal replacement	Bi-yearly
	Hydraulic unit inspection and cleaning	Bi-yearly
	Air intake vent and filter replacement	Bi-yearly
	Tilting body and furnace rotation components inspection	Bi-yearly
Rotary Furnace's and Lime-injected Baghouse's Continuous Monitoring System	Pneumatic panel inspection	Bi-yearly
	Lime addition, fume removal, fume cooling, and stack inspection	Bi-yearly
	Inspect lime conveyance equipment	Once per shift
	Baghouse leak detection probe visual check	Bi-monthly
	Pressure drop gauge inspection	Bi-monthly
	Thermocouple inspection	Bi-monthly
	Calibrate gas mass flow meters	Bi-yearly

The following furnaces are Group 1 furnaces: Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), Holding Furnace 5 (005P121), Holding Furnace 6 (005P122), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Holding Furnace 9 (005P125), Holding Furnace 10 (005P141), and Rotary Furnace (005P142). These group 1 furnaces are not clean charge only furnaces, and are therefore subject to the following 40 C.F.R. §§63.1505(i)(1), (i)(3) and (i)(4) emission limits as set forth in condition 4.1.17: 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge, 15 µg of D/F TEQ per Mg ( $2.1 \times 10^{-4}$  gr of D/F TEQ per ton) of feed/charge, 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge if the furnace is not equipped with an add-on air pollution control device, and 10 percent of the uncontrolled HCl emissions if the furnace is equipped with an add-on air pollution control device. There are no group 1 furnaces which process only clean charge at ARP and there are no sidewall furnaces, so the requirements for clean charge only furnaces and sidewall furnaces were not included in ARP's Title V Renewal Permit. These group 1 furnaces are also not subject to the 40 C.F.R. §63.1505(i)(5) visible emission limit of 10 percent opacity since a COM was not chosen as the monitoring option for any of these furnaces.

The emission limits specified in 4.1.17 for a Group 1 furnace are used to calculate an emission limit for each secondary aluminum processing unit (SAPU). The following Group 1 furnaces have been grouped into a single SAPU for ARP: Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), Holding Furnace 5 (005P121), Holding Furnace 6 (005P122), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Holding Furnace 9 (005P125), and Holding Furnace 10 (005P141). The equations to calculate the PM, HCl and D/F emission limits for ARPs SAPU are provided in condition 4.1.18. In order to demonstrate compliance with the PM, HCl and D/F emission limits for the SAPU, condition 4.2.14, requires ARP to calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F on a daily basis. These emissions are calculated using emission rates determined during performance testing and calculated using the equations in 4.3.16. Additional equations are provided in 4.3.17

(HCl percent reduction standard), 4.3.18 (Conversion of D/F measurements to TEQ units), and 4.3.19 (If mass-weighted emissions from performance testing meets the SAPU limit in 4.1.18.). The permittee is required by 4.4.6.m to maintain records of the total charge weight, or if the permittee chooses to comply on the basis of aluminum production, the total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

Instead of demonstrating compliance by calculating the 3-day, 24-hour rolling average emissions, the permittee also has the option of demonstrating compliance for the SAPU by individual emission unit demonstration as specified in 4.2.15.

Condition 4.2.13 requires ARP to submit site-specific requirements for the SAPU within the OM&M plan (condition 4.2.1).

The Rotary Furnace (005P142) is not part of the SAPU and must meet the individual emission limits for PM, D/F, and HCl specified in 4.1.17.

The following Group 1 furnaces use a lime-injected fabric filter to control emissions: Holding Furnace 5 (005P121), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Holding Furnace 9 (005P125), Holding Furnace 10 (005P141), and the Rotary Furnace (005P142). Emissions from Holding Furnaces 5, 7, 8, 9, and 10 are routed to Baghouse 4 (005C105). Emissions from the Rotary Furnace are controlled by Baghouse 5 (005C108). For each fabric filter, the permittee is required to install, operate and maintain a capture/collection system, install a bag leak detection system, monitor the fabric filter inlet temperature, monitor the lime injection rate, and monitor the total reactive chlorine flux injection rate.

The capture/collection system must be installed in accordance with condition 4.1.20. At least once per calendar year, the permittee is required by condition 4.2.3 to inspect the capture/collection and closed vent system to ensure that is operating in accordance with the operating requirements in 4.1.20 and to record the results of each inspection. Records of the annual inspections of emission capture/collection and closed vent systems are required to be maintained in accordance with 4.4.6.j.

The bag leak detection system must be operated in accordance with condition 4.1.23.a. Condition 4.1.23.a requires the owner or operator to initiate corrective action within 1 hour of a bag leak detection system alarm, to complete the corrective action procedures in accordance with the OM&M Plan, and to operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. Monitoring of the bag leak detection system must be conducted in accordance with condition 4.2.5. Condition 4.4.6.a.i requires the permittee to maintain records of the total operating hours for the affected source during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken.

The permittee is required by condition 4.1.23.b to maintain the 3-hour block average inlet temperature for each fabric filter (Baghouse 4 and Baghouse 5) at or below the average temperature established during the performance test (condition 4.3.13), plus 14 °C (plus 25 °F). In order to demonstrate compliance with this requirement, the permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases as specified in 4.2.6.a. This temperature monitoring device must meet the performance and equipment specifications outlined in 4.2.6.b. The permittee is required by 4.4.6.b to maintain records of the 15-minute block average inlet temperatures for each lime injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliance operating parameter value of +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken.

Condition 4.1.23.c requires the permittee to maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test (condition 4.3.15). In order to demonstrate compliance with condition 4.1.23.c, the permittee is required by condition 4.2.7 to inspect the feed hopper or silo at least once per 8-hour period, record the results of the inspection, and to record the lime feeder setting once each day of operation. These inspection records shall be maintained in accordance with 4.4.6.c.

Condition 4.1.23.d requires the permittee to maintain the total reactive chlorine flux injection rate at or below the rate used during the performance test (4.3.14) for each operating cycle. To demonstrate compliance, the permittee is required to install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected; record the weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; and calculate and record the total reactive flux injection rate for each operating cycle or time period used in performance test. These monitoring requirements are specified in condition 4.2.8. Records of the 15-minute block average weights of gaseous or liquid reactive flux injection; records of the total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux); records of any period the rate exceeds the compliant operating parameter value; and records of any corrective action taken are required to be maintained in accordance with 4.4.6.d.

The following Group 1 furnaces are uncontrolled: Melting Furnace DC-1 (005P107), Melting Furnace DC-2 (005P108), Melting Furnace DC-7 (005P113), Melting Furnace DC-8 (005P114), Melting Furnace DC-9A (005P115), Melting Furnace DC-9B (005P116), Melting Furnace DC-10A (005P139), Melting Furnace DC-10B (005P140), Holding Furnace 1 (005P117), Holding Furnace 2 (005P118), Holding Furnace 3 (005P119), and Holding Furnace 6 (005P122). As specified in condition 4.1.24, The permittee is required to maintain the total reactive chlorine flux injection rate at or below the rate used during the performance tests for each operating cycle or time period used in the performance test; to operate each furnace in accordance with the work practice/pollution prevention measures documented in the OM&M plan; and to operate each furnace within the parameter values or ranges established in the OM&M plan. Condition 4.2.9 requires the permittee to develop a site-specific monitoring plan to be submitted as part of the OM&M plan (condition 4.2.1). Demonstration of compliance with the total reactive chlorine flux injection rate for Group 1 furnaces without controls is the same as for Group 1 furnaces with a lime-injected fabric filter and are specified in condition 4.2.8 as described above.

For all uncontrolled Group 1 furnaces, the permittee is required to monitor the furnace scrap. Monitoring using a scrap inspection program is provided in condition 4.2.10. If the permittee has a group 1 furnace dedicated to processing feed/charge using scrap with a uniform composition, they may use a calculation method as specified in condition 4.2.11 for monitoring the scrap contamination level.

All Group 1 furnaces (both controlled and uncontrolled) are required by condition 4.1.21 to install and operate a device that measures and records the weight of feed/charge for each operating cycle or time period used in the performance test (condition 4.3.12) and to operate the weight measurement system in accordance with the OM&M plan. The requirements for the accuracy of the weight measurement device and calibration of the device are provided in condition 4.2.4. Recordkeeping requirements of the feed/charge weights are provided in 4.4.6.f.

Performance testing is required for all Group 1 furnaces every 5 years following the initial performance test. Testing requirements for Group 1 furnaces with add-on air pollution control devices are provided in 4.3.8. Testing requirements for Group 1 furnaces without add-on air pollution control devices are provided in 4.3.9. Testing requirements for the SAPU are provided in 4.3.11. Condition 4.3.5 allows ARP to test representative units and use the results to determine the emission rate for other units of the same type. The most recent compliance testing for the furnaces was conducted as follows:

**Compliance Testing Schedule**

Furnace	Date of Last Test (month-year)	Test Due Date (month-year)	Comments
DC-1 Melting Furnace <sup>a</sup>	March-03	March-08	Results from testing of DC-2 Melting Furnace (Representative Furnace)
DC-2 Melting Furnace <sup>a</sup>	March-03	March-08	Tested Furnace
DC-7 Melting Furnace <sup>a</sup>	March-03	March-08	Results from testing of DC-2 Melting Furnace (Representative Furnace)
DC-8 Melting Furnace <sup>a</sup>	March-03	March-08	Results from testing of DC-2 Melting Furnace (Representative Furnace)
DC-9A Melting Furnace	November-04	November-09	Results from testing of DC-9B Melting Furnace (Representative Furnace)
DC-9B Melting Furnace	November-04	November-09	Tested Furnace
DC-3 Holding Furnace	April-05	April-10	Results from testing of DC-5 Holding Furnace (Representative Furnace)
DC-6 Holding Furnace	April-05	April-10	Results from testing of DC-5 Holding Furnace (Representative Furnace)
DC-5 Holding Furnace	April-05	April-10	Tested Furnace
DC-7 Holding Furnace	April-05	April-10	Tested Furnace
DC-8 Holding Furnace	April-05	April-10	Tested Furnace
DC-9 Holding Furnace	April-05	April-10	Tested Furnace
DC-10 Holding Furnace	April-05	April-10	Tested Furnace
DC-1 Holding Furnace	May-05	May-10	Tested Furnace
DC-2 Holding Furnace	May-05	May-10	Results from testing of DC-1 Holding Furnace (Representative Furnace)
DC-10A Melting Furnace	November-06	November-11	Results from testing of DC-10B Melting Furnace (Representative Furnace)
DC-10B Melting Furnace	November-06	November-11	Tested Furnace
Rotary Furnace	December-01	See Comments	Furnace has not been operated since August 2004. The unit is not currently scheduled for operation. A repeat test of the furnace will be conducted within 60 days after completion of startup and debugging.

<sup>a</sup>Testing conducted on DC-1 Melting Furnace in January 2008. This furnace will serve as representative furnace for DC-2 Melting Furnace, DC-7 Melting Furnace, and DC-8 Melting Furnace.

The following furnaces are Group 2 furnaces: Induction Furnace East (005P104), Induction Furnace West (005P105), Melting Furnace DC-3 (005P109), Melting Furnace DC-5 (005P111), and Melting Furnace DC-6 (005P112). Group 2 furnaces may use only clean charge as the feedstock and are not allowed to use reactive flux (condition 4.1.25). To demonstrate compliance with this requirement, the permittee is required by condition 4.2.12 to record a description of the materials charged to each furnace and to submit a certification of compliance with the operational standard for charge materials in 4.1.25 for each 6-month period. Records of all charge materials and fluxing materials or agents are required to be maintained in accordance with 4.4.6.h.

All Group 1 and Group 2 furnaces are required to have labels posted which identifies the applicable emission limits and means of compliance as specified in condition 4.1.19. At least once per calendar month, the permittee must inspect the labels and confirm that the posted labels are intact and legible (condition 4.2.2). Recordkeeping requirements for the monthly inspections of the labels are specified in 4.4.6.i.

The Dross Cooler/Breaker (005P106) is a rotary dross cooler and is subject to a 40 C.F.R. §63.1505(h)(1) emission limit of 0.09 g of PM per dscm (0.04 gr per dscf) as set forth in 4.1.16. It is not subject to the 40 C.F.R. §63.1505(h)(2) visible emission limit of 10 percent opacity since a COM was not chosen as the monitoring option. Emissions from the Dross Cooler/Breaker are controlled by Baghouse 3 (005C103). 40 C.F.R. 63, Subpart RRR requires the permittee to install, operate, and maintain a capture/collection system and a fabric filter with a bag leak detection system on the Dross Cooler/Breaker. The capture/collection system must be installed in accordance with condition 4.1.20. At least once per calendar year, the permittee is required by condition 4.2.3 to inspect the capture/collection and closed vent system to ensure that it is operating in accordance with the operating requirements in 4.1.20 and to record the results of each inspection (4.4.6.j). The bag leak detection system must be operated in accordance with condition 4.1.22. Condition 4.1.22 requires the owner or operator to initiate corrective action within 1 hour of a bag leak detection system alarm, to complete the corrective action procedures in accordance with the OM&M Plan, and to operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. Monitoring of the bag leak detection system must be conducted in accordance with condition 4.2.5. There is currently no bag leak detection system in place, but the Dross Cooler/Breaker (005P106) is currently not operating. Should the Dross Cooler/Breaker be restarted, a bag leak detection system would need to be installed prior to startup in order to be in compliance with the MACT standards of 40 C.F.R. 63, Subpart RRR.

In addition to the capture/collection system and the bag leak detection system, the permittee is also required to conduct a performance test to measure the PM emissions at the outlet of the control device (condition 4.3.10) on the Dross Cooler/Breaker (005P106). This performance test is required by 4.3.4 to be conducted every 5 years following the initial performance test.

ARP does not have the following 40 C.F.R. 63, Subpart RRR affected sources at their facility: Aluminum scrap shredder, thermal chip dryer, scalp dryer/delacquering kiln/decorating kiln, sweat furnace, dross-only furnace, and in-line fluxer. Since ARP does not have any of these types of emission units, the 40 C.F.R. 63, Subpart RRR requirements for these sources were not included in the facility's Title V Renewal Permit.

40 C.F.R. 63, Subpart RRR requires the permittee to develop a written startup, shutdown, and malfunction plan/report in accordance with condition 4.5.1. The permittee must also submit semi-annual reports in accordance with 4.5.2 and an annual compliance certification in accordance with 4.5.3.

### ***Section 5.0 - Hot Line***

#### **45CSR7 Requirements**

The Walking Beam Furnace (006P104), 27 Heat Soaking Pits 337 (006P105), 168 Inch Hot Mill 351 (006P107), 4 Reheat Furnaces (006P109), 110 Inch Hot Mill 355 (006P110), 5 Stand Hot Mill 361 (006P113), Ingot Pusher (006P119), and Preheat Furnace (006P120) are subject to the particulate matter emission limits of 45CSR§7-4.1. Emission limits are calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. Compliance with the hourly total PM emission limit from Condition 5.1.3 for the Ingot Pusher Furnace (006P119) and the hourly TSP emission limit from Condition 5.1.5 for the Preheat Furnace (006P120) shall demonstrate compliance with the less stringent 45CSR§7-4.1 hourly particulate matter emission limits.

Compliance with the 45CSR§7-4.1 hourly particulate matter emission limits specified in Condition 5.1.1 for the Walking Beam Furnace (006P104), 27 Heat Soaking Pits 337 (006P105), and the 4 Reheat Furnaces (006P109), shall be demonstrated by maintaining monthly records of natural gas usage and calculating average hourly PM emissions based on AP-42 emission factors for natural gas combustion and the number of hours in the month. The recordkeeping requirements are specified in Condition 5.4.1.

The 168 Inch Hot Mill 351 (006P107), 110 Inch Hot Mill 355 (006P110), and the 5 Stand Hot Mill 361 (006P113) use rolling oils which become heated during operation and a small amount of the oil vaporizes inside the building. These mills are not vented to the outside and the oils are heavy, so most of the oil vapors condense and fall back to the ground. Particulate emissions from these sources are expected to be minimal and much less than the 45CSR§7-4.1 hourly particulate emission limits of 38.2 lb/hr each, therefore monitoring to demonstrate compliance with the 45CSR§7-4.1 hourly particulate emission limits is not required.

As an additional means of compliance with all hourly and annual emission limits specified in 45CSR§7-4.1, R13-2102, and R13-2376C, Condition 5.2.3 requires the Walking Beam Furnace (006P104), 27 Heat Soaking Pits 337 (006P105), Reheat Furnaces (006P109), Ingot Pusher Furnace (006P119), and Preheat Furnace (006P120) to be operated and maintained in accordance with the manufacturer's recommendations and specifications and in a manner consistent with good operating practices and to burn natural gas which meets the Federal Energy Regulatory Commission (FERC) requirements.

#### R13-2102 Requirements

Condition 5.1.2 limits the hourly and annual consumption of natural gas in the Ingot Pusher Furnace (006P119) and Condition 5.1.3 provides hourly and annual CO, NO<sub>x</sub>, SO<sub>2</sub>, Total PM, and VOC emission limits. For the purpose of demonstrating compliance with the hourly and annual natural gas consumption limits of 5.1.2 and the hourly and annual emission limits of 5.1.3, the permittee is required by Condition 5.4.2 to maintain records of the amount of natural gas consumed on a monthly basis, using a recordkeeping form similar to the one provided in Appendix B. The monthly natural gas usage records will be used to calculate hourly and annual natural gas usage rates. The hourly usage rate will be calculated by dividing the monthly natural gas usage by the hours of operation for the month and the annual natural gas usage rate will be calculated based on a 12-month rolling total. To demonstrate compliance with the 5.1.3 hourly and annual emission limits, the permittee will use the calculated hourly and annual natural gas usage rates along with stack test data, emission factors, or engineering calculations previously approved by the DAQ. In addition to the monthly natural gas usage records, condition 5.2.2 requires the permittee to conduct periodic maintenance checks per the manufacturer's recommendations.

#### R13-2376C Requirements

The R13-2376C requirements for the Preheat Furnace (006P120) are as follows: 5.1.4 limits the furnace to a maximum design heat input of 40.0 MMBtu/hr and only allows for the combustion of natural gas; 5.1.5 limits the hourly and annual TSP, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, and VOC emissions; 5.1.6 limits the annual natural gas consumption; and 5.1.7 limits the NO<sub>x</sub> emission rate to 0.097 lbs/MMBtu. To demonstrate compliance with 5.1.4 maximum design heat input limit, the 5.1.5 hourly and annual emissions limits, and the 5.1.6 annual natural gas usage limit, the permittee will be required to maintain records of the amount of natural gas consumed on a monthly basis in accordance with Condition 5.4.3. These monthly natural gas usage records will be used to calculate a 12-month rolling total natural gas usage rate in order to demonstrate compliance with the 5.1.6 annual natural gas limit. To demonstrate compliance with the hourly and annual emission limits in Condition 5.1.5, an hourly natural gas usage rate will be calculated by dividing the monthly natural gas usage by the hours of operation for the month and then will be used along with the 12-month rolling total natural gas usage rate and stack test data, emission factors, or engineering calculations previously approved by the DAQ, to calculate hourly and annual emission rates. Compliance with the 5.1.4 limit on the design heat input can be verified using the calculated hourly natural gas usage rate and the BTU content of the natural gas.

To demonstrate compliance with the NO<sub>x</sub> emission limit in Condition 5.1.7, the permittee is required by Condition 5.3.1 to conduct testing upon the request of the Director in accordance with Condition 4.3.21. The Condition 5.1.4 requirement that only natural gas can be combusted in the furnace can be verified upon inspection of the Preheat Furnace (006P120).

## ***Section 6.0 – Cold Line Rolling***

### **45CSR7 Requirements**

The 72 Inch Single Stand Cold Mill 384 (007P101), 72 Inch Tandem Stand Cold Mill 382 (007P102), 130 Inch Single Stand Cold Mill 386 (007P103), 5 Stand Cold Mill 381 (007P105), and Cold Roll Annealing Furnaces (007P107) are subject to the particulate matter emission limits of 45CSR§7-4.1. Emission limits are calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. Particulate emissions from the 72 Inch Single Stand Cold Mill 384 (007P101) and the 72 Inch Tandem Stand Cold Mill 382 (007P102) are required to be controlled by Demisters 007C101 and 007C102, respectively (Condition 6.1.2 and R13-0383). Particulate emissions from the 5 Stand Cold Mill 381 (007P105) and the 130 Inch Single Stand Cold Mill 386 (007P103) are controlled by Demister 007C103 and Cyclone 007C104, respectively. To demonstrate compliance with the hourly 45CSR§7-4.1 particulate matter emission limit for the 72 Inch Single Stand Cold Mill 384 (007P101), 72 Inch Tandem Stand Cold Mill 382 (007P102), 5-Stand Cold Mill 381 (007P105), and the 130 Inch Single Stand Cold Mill 386 (007P103), the permittee is required by 6.2.1 to maintain proper operation of the Demisters 007C101, 007C102, and 007C103, and Cyclone 007C104 and to conduct visible emission checks in accordance with Condition 3.2.1. In addition, ARP is also required to perform annual inspection and maintenance on the Demisters 007C101, 007C102, and 007C103, and Cyclone 007C104 in accordance with 6.4.2. Records of these inspections, as well as any other major maintenance performed on the control devices is required to be maintained in accordance with Condition 3.4.2.

Compliance with the 45CSR§7-4.1 hourly particulate matter emission limit for the Cold Roll Annealing Furnaces (007P107), shall be demonstrated by operating and maintaining the furnaces in accordance with the manufacturer's recommendations and specifications and by burning only natural gas which meets the FERC limit as specified in Condition 6.2.2. Also, the permittee is required by Condition 6.4.1 to maintain records of the amount of natural gas consumed on a monthly basis and to calculate an hourly particulate matter emission rate using stack test data, emission factors, or engineering calculations previously approved by the DAQ, the monthly natural gas consumption, and the number of hours in the month.

## ***Section 7.0 – Plate Department***

### **45CSR7 Requirements**

The Salem 12 Zone Heat Treat Furnace 373 (008P102), 120 Foot Aging Furnace 340 (008P104), 60 Foot Aging Furnace (008P105), Horizontal Heat Treat Furnace (008P110), Horizontal Heat Treat Furnace Addition (008P112), Horizontal Heat Treat Furnace Addition #2 (008P113), Aging Furnace (008P111), and Aging Furnace #2 (008P114) are subject to the particulate matter emission limits of 45CSR§7-4.1. Emission limits are calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. Compliance with the hourly TSP emission limits from Condition 7.1.3 for the Heat-Treat Furnace Addition (008P112) and Aging Furnace (008P111) and the hourly Total PM emission limit from Condition 7.1.7 for the Horizontal Heat Treat Furnace (008P110) shall demonstrate compliance with the less stringent hourly 45CSR§7-4.1 particulate matter emission limit.

Compliance with the 45CSR§7-4.1 hourly particulate matter emission limit for the Salem 12 Zone Heat Treat Furnace 373 (008P102), 120 Foot Aging Furnace 340 (008P104), 60 Foot Aging Furnace (008P105), Horizontal Heat Treat Furnace Addition #2 (008P113), and Aging Furnace #2 (008P114) shall be demonstrated by operating and maintaining the furnaces in accordance with the manufacturer's recommendations and specifications and by burning only natural gas which meets the FERC limit as specified in Condition 7.2.1. Also, the permittee is required by Condition 7.4.1 to maintain records of the amount of natural gas consumed on a monthly basis and to calculate an hourly particulate matter emission rate for the month using stack test data, emission factors, or engineering calculations previously approved by the DAQ, the monthly natural gas consumption, and the number of hours in the month.

### R13-2102 Requirements

Condition 7.1.6 limits the hourly and annual consumption of natural gas in the Horizontal Heat Treat Furnace (008P110) and Condition 7.1.7 provides hourly and annual CO, NO<sub>x</sub>, SO<sub>2</sub>, Total PM, and VOC emission limits. For the purpose of demonstrating compliance with the hourly and annual natural gas consumption limits of 7.1.6 and the hourly and annual emission limits of 7.1.7, the permittee is required by Condition 7.4.2 to maintain records of the amount of natural gas consumed on a monthly basis, using a recordkeeping form similar to the one provided in Appendix B. The monthly natural gas usage records will be used to calculate hourly and annual natural gas usage rates. The hourly usage rate will be calculated by dividing the monthly natural gas usage by the hours of operation for the month and the annual natural gas usage rate will be calculated based on a 12-month rolling total. To demonstrate compliance with the 7.1.7 hourly and annual emission limits, the permittee shall use the calculated hourly and annual natural gas usage rates along with stack test data, emission factors, or engineering calculations previously approved by the DAQ to calculate CO, NO<sub>x</sub>, SO<sub>2</sub>, Total PM, and VOC hourly and annual emissions. In addition to the monthly natural gas usage records, condition 7.2.3 requires the permittee to conduct periodic maintenance checks on the Horizontal Heat Treat Furnace (008P110) per the manufacturer's recommendations.

### R13-2376C Requirements

The R13-2376C requirements for the Heat Treat Furnace Addition (008P112) and Aging Furnace (008P111) are as follows: 7.1.2 limits the furnaces to a maximum design heat input of 19.44 and 7.68 MMBtu/hr, respectively, and only allows for the combustion of natural gas; 7.1.3 limits the hourly and annual TSP, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, and VOC emissions; 7.1.4 limits the annual natural gas consumption; and 7.1.5 limits the NO<sub>x</sub> emission rate to 0.100 lbs/MMBtu. To demonstrate compliance with 7.1.2 maximum design heat input limits, the 7.1.3 hourly and annual emissions limits, and the 7.1.4 annual natural gas usage limits, the permittee will be required to maintain records of the amount of natural gas consumed on a monthly basis in accordance with Condition 7.4.3. The monthly natural gas usage records shall be used to calculate a 12-month rolling total natural gas usage rate in order to demonstrate compliance with the 7.1.4 annual limit. To demonstrate compliance with the hourly and annual emission limits in Condition 7.1.3, the permittee shall calculate an hourly natural gas usage rate by dividing the monthly natural gas usage by the hours of operation for the month and then use the hourly and 12-month rolling total natural gas usage rates along with stack test data, emission factors, or engineering calculations previously approved by the DAQ, to calculate TSP, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, and VOC hourly and annual emissions. Compliance with the 7.1.2 limit on the design heat input can be verified using the calculated hourly natural gas usage rate and the BTU content of the natural gas.

To demonstrate compliance with the NO<sub>x</sub> emission limit in Condition 7.1.5, the permittee is required by Condition 7.3.1 to conduct testing upon the request of the Director in accordance with Condition 4.3.21. The Condition 7.1.2 requirement that only natural gas can be combusted in the furnace can be verified upon inspection of the Heat Treat Furnace Addition (008P112) and Aging Furnace (008P111).

## ***Section 8.0 – Finishing Department***

### 45CSR7 Requirements

The Coil Annealing Furnaces 413 (009P103) and Coil Annealing Furnaces 521 (009P104) are subject to the particulate matter emission limits of 45CSR§7-4.1. Emission limits are calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. Compliance with the 45CSR§7-4.1 hourly particulate matter emission limits for Coil Annealing Furnaces 413 (009P103) and Coil Annealing Furnaces 521 (009P104), shall be demonstrated by operating and maintaining the furnaces in accordance with the manufacturer's recommendations and specifications and by burning only natural gas which meets the FERC limit as specified in Condition 8.2.1. Also, the permittee is required by Condition 8.4.1 to maintain records of the amount of natural gas consumed on a monthly basis and to calculate an hourly particulate matter emission rate for the month using stack test data, emission factors, or engineering calculations previously approved by the DAQ, the monthly natural gas consumption, and the number of hours in the month.

## ***Section 9.0 – Miscellaneous Sources***

### **45CSR7 Requirements**

The Dust Handling System (010P201) is subject to a 45CSR§7-4.1 hourly particulate matter emission limit. The emission limit is calculated from Table 45-7A based on the maximum hourly process weight rate for the appropriate source category. To demonstrate compliance with the hourly 45CSR§7-4.1 particulate matter emission limit for the Dust Handling System (010P201), the permittee is required to calculate the hourly particulate matter emission rate and maintain records in accordance with Condition 9.4.1.

### ***40 C.F.R. 64 - Compliance Assurance Monitoring (CAM)***

A review of the applicability to 40 C.F.R. 64 – “Compliance Assurance Monitoring” (CAM) was required since this is the first renewal. According to 40 C.F.R. §64.2(a), CAM applies to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria: 1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under 40 C.F.R. §64.2(b)(1); 2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and 3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

Baghouse 1 (005C101) and Baghouse 2 (005C102) are used to control particulate matter emissions from Induction Furnace East (005P104) and Induction Furnace West (005P105). The Induction Furnace East (005P104) and Induction Furnace West (005P105) are subject to the 45CSR§7-4.1 hourly particulate matter emission limits, but Baghouses 1 and 2 (005C101 and 005C102) are not subject to the requirements under CAM because the potential pre-control device emissions are less than 100 tons per year.

Baghouse 3 (005C103) controls particulate matter emissions from the Dross Cooler/Breaker (005P106). Baghouse 3 (005C103) is exempt from the requirements of 40 C.F.R. 64 because, as specified in 40 C.F.R. §64.2(b)(1)(i), the Dross Cooler/Breaker (005P106) is subject to the particulate matter emission limits and standards of 40 C.F.R. 63, Subpart RRR.

Baghouse 4 (005C105) controls particulate matter and HCl emissions from Holding Furnace 5 (005P121), Holding Furnace 7 (005P123), Holding Furnace 8 (005P124), Holding Furnace 9 (005P125), Holding Furnace 10 (005P141); and Baghouse 5 (005C108) controls particulate matter and HCl emissions from the Rotary Furnace (005P142). Since the above furnaces are subject to the particulate matter and HCl emission limits and standards of 40 C.F.R. 63, Subpart RRR, Baghouses 4 and 5 (005C105 and 005C108) are not subject to CAM as specified in the 40 C.F.R. 64.2(b)(1)(i) exemption.

Baghouse (005C109) controls particulate matter emissions from the Paste Mixer (005P138) which is subject to a 45CSR§7-4.1 hourly particulate matter emission limit. Baghouse (005C109) is not subject to CAM because the pre-control device emissions from the Paste Mixer (005P138) are less than 100 tons per year.

Demister (007C101), Demister (007C103), and Cyclone (007C104) control oil mist (particulate matter) emissions from the 72 Inch Single Stand Cold Mill 384 (007P101), 5-Stand Cold Mill 381 (007P105), and 130 Inch Single Stand Cold Mill 386 (007P103), respectively. The 72 Inch Single Stand Cold Mill 384 (007P101), 5-Stand Cold Mill 381 (007P105), and 130 Inch Single Stand Cold Mill 386 (007P103) are subject to 45CSR§7-4.1 hourly particulate matter emission limits of 35.4 lb/hr (007P101), 33.8 lb/hr (007P105), and 38.2 lb/hr (007P103). According to information submitted by ARP, uncontrolled emissions from each of these emission units are 32.6 lb/hr. Although the uncontrolled annual particulate matter emissions are in excess of 100 tons per year, ARP determined that CAM is not required because use of the control devices is not necessary to achieve compliance with the 45CSR§7-4.1 hourly particulate matter emission limits. As specified in 40 C.F.R. §64.2(a)(2), a unit has to use the control device to achieve compliance with an emission limit or standard in order to be subject to CAM.

Demister (007C102) controls oil mist (particulate matter) emissions from the 72 Inch Tandem Stand Cold Mill 382 (007P102) and is subject to the CAM requirements because of the following: 1) the 72 Inch Tandem Stand Cold Mill 382 (007P102) is subject to a 45CSR§7-4.1 hourly particulate matter emission limit; 2) use of Demister (007C102) is necessary to achieve compliance with the 45CSR§7-4.1 hourly particulate matter emission limit; and 3) the annual pre-control device particulate matter emissions from the 72 Inch Tandem Stand Cold Mill 382 (007P102) are greater than 100 tons per year. Currently the 72 Inch Tandem Stand Cold Mill 382 (007P102) and Demister (007C102) are not being operated and ARP has no plans in the near future of operating this equipment. Due to this fact, ARP has not submitted a CAM Plan for the Demister (007C102) on the 72 Inch Tandem Stand Cold Mill 382 (007P102). If ARP decides to operate the 72 Inch Tandem Stand Cold Mill 382 (007P102), they will be required to develop, submit, and have an approved CAM plan prior to restart.

Baghouse R-2 (010C201) is used to control particulate matter emissions from the Dust Transfer Station (010P201) which is subject to a 45CSR§7-4.1 hourly particulate matter emission limit. The Baghouse R-2 (010C201) is not subject to the CAM requirements because pre-control device emissions are less than 100 tons per year.

### **Non-Applicability Determinations**

The following requirements have been determined not to be applicable to the subject facility due to the following:

- a. 40 C.F.R. 60, Subpart Dc – “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.” The facility does not operate any boilers. All steam is purchased from the adjacent facility; therefore, 40 C.F.R. 60, Subpart Dc does not apply.
- b. 40 C.F.R. 60, Subpart Kb – “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. 40 C.F.R. 60, Subpart Kb, as amended on October 15, 2003, applies to each storage vessel with a capacity greater than or equal to 75 m<sup>3</sup> that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. All tanks at this facility which store volatile organic liquid were either installed before July 23, 1984 or have a storage capacity of less than 75 m<sup>3</sup>.
- c. 40 C.F.R. 63, Subpart LL – “National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants.” The facility is adjacent to a primary aluminum smelter and previously the entire facility was an integrated facility. However, another corporation now owns all primary aluminum operations and ARP only has secondary aluminum operations.
- d. 40 C.F.R. 63, Subpart DDDDD – “National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters.” On July 30, 2007, the United States Court of Appeals for the District of Columbia Circuit vacated and remanded the Boiler MACT. As a result of the court’s decision, a MACT for this source category will have to be implemented via a 112(j) case-by-case MACT determination or a subsequent 40 C.F.R. 63 proposal. Per DAQ’s “Interim Guidance for Existing Sources – Boiler and Process Heater MACT Vacature,” dated September 7, 2007, the DAQ does not intend to implement the provisions of the Boiler and Process Heater MACT for existing sources at this time. US EPA will be issuing guidance regarding the 112(j) case-by-case MACT determination of equivalent emission limitation in the future. Due to these facts, no requirements for 40 C.F.R. 63, Subpart DDDDD have been included.

- e. 45CSR10 – “To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.” 45CSR§10-4.1.e exempts manufacturing process source operations from the 45CSR§10-4.1 sulfur dioxide concentration limit of 2,000 ppm, if the potential to emit from the manufacturing process source operation is less than 500 pounds per year of sulfur oxides. All manufacturing process source operations at ARP have the potential to emit less than 500 lbs/year of sulfur oxides.

### **Request for Variances or Alternatives**

None.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: June 19, 2008  
Ending Date: July 21, 2008

All written comments should be addressed to the following individual and office:

Carrie McCumbers  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Point of Contact**

Carrie McCumbers  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1226 • Fax: 304/926-0478

### **Response to Comments (Statement of Basis)**

In a letter dated August 4, 2008, ARP requested that we revise the Plantwide Potential VOC Emissions in the Fact Sheet’s Emissions Summary Table from 242 TPY to 665 TPY. ARP stated in the letter that during their review of emissions data used for the 2007 Air Emissions Inventory (AEI), new information became available through the Purchasing Department that provided more detailed and up-to-date past material usage rates. This new information was used to recalculate the potential VOC emissions for the facility. The new VOC potential to emit was based on the maximum design heat input for natural gas combustion sources, estimated worst case usage for major solvents, and past maximum annual usage rates on all other oils/lubricants with a 50% safety factor applied.

The requested change to the Plantwide Potential VOC Emissions has no effect on the Title V Permit or any other sections of this Fact Sheet. No limitations or standards, monitoring, testing, recordkeeping, or reporting requirements were affected by this change.