

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division  
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2000 Aluminum Drive  
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The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

<b>Facility Compliance Requirements</b>	Yes	No	Comments
Source Tests Required	X		Method 5, 9, 13B, 315, 14
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		
Monthly Reporting Required		X	
Quarterly Reporting Required	X		
<b>Applicable Air Quality Programs</b>			
ARM Subchapter 7 – Montana Air Quality Permit (MAQP)	X		
New Source Performance Standards (NSPS)		X	
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		40 CFR, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart LL, 40 CFR 63, Subpart RRR, and 40 CFR 63, Subpart DDDDD
Major New Source Review (NSR) – includes Prevention of Significant Deterioration (PSD) and/or Non-attainment Area (NAA) NSR	X		
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
Compliance Assurance Monitoring (CAM)	X		Appendix K of #OP2655-05
State Implementation Plan (SIP)	X		

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## SECTION I. GENERAL INFORMATION

### A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emissions units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the application submitted by Columbia Falls Aluminum Company, LLC (CFAC), on February 16, 2006, and additional information submitted on February 21, 2006, September 01, 2006, July 23, 2008, July 30, 2009, January 18, 2011, July 5, 2012, September 14, 2012, and May 7, 2013.

### B. Facility Location

The CFAC facility is located in Section 3, Township 30 North, Range 20 West, Flathead County, Montana. The UTM coordinates for the facility are 712.2 km Easting, 5363.8 km Northing (Zone 11). The elevation of the plant is 3,108 feet, with the nearest significant complex terrain, Teakettle Mountain, rising approximately 2,000 additional feet above the valley floor and CFAC.

The facility is adjacent to the community of Columbia Falls, and the Flathead River passes South of CFAC's main complex. There are two PSD Class 1 Airsheds nearby the facility, the closest being Glacier National Park whose boundary is approximately 8 miles East of CFAC. The other Class 1 Airshed is the Bob Marshall Wilderness, and it is within approximately 25 miles of Columbia Falls.

### C. Facility Background Information

CFAC operates five Vertical Stud Soderberg potlines at the Columbia Falls plant. Each potline has 120 individual cells that produce aluminum by the Hall-Heroult process. Annual operating capacity is approximately 185,000 tons of Aluminum based on an average current efficiency of 90.5%. The Anaconda Company initially constructed two potlines (53-55), with startup occurring in 1955 (West Plant). A third potline was constructed and its startup occurred in 1965; the final two potlines were constructed shortly after the third, with startup occurring in 1968 (East Plant).

The Hall-Heroult process consists of passing an electric current through aluminum oxide ore, or alumina ( $\text{Al}_2\text{O}_3$ ), dissolved in molten cryolite. The reduction process is accomplished in a Vertical Stud Soderberg style pot. Soderberg technology describes the type of consumable carbon anode used in the process. CFAC Soderberg pots (cells) have 60-ton anodes (Positive Electrode) and 100-ton cathodes (negative electrode).

The cells or "pots" are housed in buildings called potrooms. Two potrooms are connected electrically in series to form one potline. Therefore, at CFAC there are 10 potrooms that comprise the five potlines. Emissions from each pot are divided into two categories: primary emissions and secondary emissions. Primary emissions are captured at the pots and routed to the primary air pollution control system, the A398 dry alumina scrubbers. Secondary emissions are fugitive emissions from the pots that are vented out the roofline of the potrooms

Alumina is fed into a molten bath of cryolite, and heated to about 1740°F (949°C). Through the electrochemical process, electricity passes from the anode to the cathode, causing the aluminum to be reduced. The aluminum metal sinks below the cryolite bath to form a molten aluminum "pad". The remaining oxygen atoms bond with the carbon from the anode of the cell to form carbon dioxide, which is vented from the pot to the primary emission control system. Carbon Monoxide is also generated, and is

combusted at the cell. Other emissions from the process include both particulate fluoride and gaseous hydrogen fluoride as well as hydrocarbon emissions containing polycyclic organic matter. The aluminum metal is siphoned from the pot every 48 hours and transported to the casting Department, where it is cast into ingots of various sizes, shapes, and alloys. Typically each pot produces approximately 1700 pounds of aluminum per day. Each pot is tapped every other day, which results in a pot operational cycle of 48 hours.

The facility underwent significant improvements between 1976 and 1980, when all aluminum reduction cells and potline operation were converted to Sumitomo Technology. Sumitomo Technology was adopted by the Anaconda Company in an effort to reduce particulate and fluoride emissions from the facility, and to show compliance with Montana's Fluoride Standard. The Sumitomo Technology, purchased by AAC from the Sumitomo Chemical Company LTD, is a combination of engineering (structural) changes to the aluminum reduction cells, operational, and process changes, and raw material changes, for Soderberg aluminum reduction cells and potlines.

Other benefits, besides reduced power consumption and reduced emissions (power consumption, as claimed by the Sumitomo Company, could easily be reduced by 15-20%, and emissions of hydrocarbon smoke and fluoride could be reduced by 50%...), realized by AAC when adopting the Sumitomo Technology were a dramatic increase in cell operating lifespan and a reduction in man-hours required to operate and maintain the facility.

During that same time period (1976-1980), the Anaconda Company also converted the Columbia Falls facility from multiclones and wet scrubbers to Alcoa A398 Dry Alumina Scrubbers as its primary emission control device, and installed ten dry scrubbers operating in two groups: four dry scrubbers for the West Plant and six dry scrubbers for the East Plant. Dry Alumina Scrubbers are designated as appropriate primary pollution control devices for purposes of the Aluminum MACT.

Today, CFAC is currently not operating. On July 18, 2008, CFAC shut down potline 3 (potrooms 5 and 6), potroom 8 and the north-half of potroom 10. Potrooms 7, 9, and the south half of potroom 10 remained in operation. All aluminum production potlines and the paste plant at CFAC were shut down October 30, 2009. Some emissions remain from operation of natural gas heaters, and those emissions are reported on annual emissions inventories to the State.

#### **D. Current Permit Action**

On July 10, 2012, the Department of Environmental Quality (Department) received a request from CFAC to renew the Title V Operating Permit. On September 14, 2012, the Department received additional information regarding any requested changes from the existing Title V Permit. The request was assigned OP2655-05, to recognize two previous requests. On January 24, 2008, the Department received a de minimis request to add a crucible cleaner to remove cryolite bath and aluminum metal from crucibles used for the transport of molten metal and cryolite bath. Additional information was received on March 27, 2008, and the Department approved the new emissions unit in a letter dated April 22, 2008. The emissions from the crucible cleaner are controlled with a baghouse. This request was assigned OP2655-03. On January 18, 2011, the Department received a request from CFAC to remove the Fluoride Ambient Monitoring Requirement from the Operating Permit. The request was received again on June 15, 2011 and approved. The request was assigned OP2655-04. As this action incorporates those previously requested changes residing in the Department's database, the current permit number for this renewal action is OP2655-05.

## E. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
XX		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	XX	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	XX	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	XX	4. Does the action deprive the owner of all economically viable uses of the property?
	XX	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	XX	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	XX	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	XX	7a. Is the impact of government action direct, peculiar, and significant?
	XX	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	XX	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	XX	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

## F. Compliance Designation

The Department conducted a full compliance evaluation for the period of March 21, 2006, to April 17, 2008. The facility appeared to be in compliance with all of the applicable conditions and limitations contained in CFAC's air quality permits during inspection. On September 11, 2007, CFAC performed a maintenance event to remove and replace an expansion joint. Later that day, the newly replaced expansion joint had to be replaced. The main scrubbing system at CFAC was bypassed during both of the events. The Department issued violation letter #VLRAG07-30 to CFAC on December 20, 2007. The non-compliance issue and CFAC response were reviewed by the Department and a determination was made to take no enforcement against CFAC.

The Department conducted a full compliance evaluation for the period of April 17, 2008 to February 19, 2010. The facility appeared to be in compliance with all of the applicable conditions and limitations contained in CFAC's air quality permits during inspection. During the reporting period on March 12, 2009, the Department issued Warning Letter #WLRAG09-08 to CFAC for not maintaining and not operating emission controls in a manner consistent with good air pollution control practices for minimizing emissions while bypassing the exhaust gases past the emission control equipment. However, the Department made the determination not to pursue enforcement.

Also, during the reporting period on November 19, 2009, the Department issued Violation Letter #VLRAG09-21 to CFAC for exceeding the permitted limit of 2.6 pounds of Fluoride/ton of Aluminum produced for Fluoride emissions in July 2009. Other than violation letter #VLRAG09-21, the Department found CFAC in compliance with the applicable requirements contained in CFAC's air quality permits based upon the information gathered at the time of the facility inspection, the observations made during the inspection, and the review of reports and compliance certifications submitted by CFAC during the review period.

The Department conducted a full compliance evaluation for the period of February 19, 2010, through April 5, 2012. Based upon the information gathered at the time of the facility inspection, the observations made during the inspection, the review of the reports submitted by the facility during the review period, and the compliance certifications submitted by CFAC during the review period, CFAC appeared in compliance with the applicable requirements with MAQP #2655-05 and Operating Permit #OP2655-02. It was noted in the report that there had been no maintenance conducted on the scrubbing system during the curtailment, but that there would be significant maintenance conducted prior to a startup of the facility, if that should take place.

## SECTION II. SUMMARY OF EMISSION UNITS

### A. Facility Process Description

Petroleum Coke and Coal Tar Pitch are transported to CFAC for the production of anode briquettes. The coke is pulverized by ball mills prior to being mixed with the heated Pitch. The mixture is then extruded into a water bath, and then transported by conveyor to individual storage locations for the West Plant potlines and East Plant potlines. The anode briquettes are then loaded into trucks that feed to the top of each of the Soderberg anodes once every 48 hours. Unreacted Alumina is brought by rail to the East and West Plant unloader and storage silo systems. From those unloading and storage locations, the alumina is conveyed (air slides) to the West and East Plant dry scrubbing system silos prior to being injected into the Alcoa A398 reactors. The reacted alumina is then fed to storage silos, and ultimately to oreing trucks that feed the reacted ore to the pots once every 3 hours.

The five potlines at CFAC each have two potrooms, and each potroom has 60 reduction cells, or pots, for a total of 600 pots for the production of aluminum. The reduction process occurs when the 120 pots that comprise one potline are subjected to a continuous (direct) current in excess of 100,000 amps (100 KA). The pots are connected in series, with the voltage drop across each pot close to, but typically greater than, four volts. This very high electrical current produces a pot environment of approximately 950°C.

Pots are tapped once every 48 hours, with the metal then going to one of 6 casting furnaces. The molten aluminum can then either be sent directly to casting, or fluxed and alloyed prior to casting. Casting of molten aluminum can occur in any of 6 casting pits. The T-ingots and Sheet ingots from casting are then sent to saws for cutting to length, and then stacked in a storage yard for shipment to CFAC customers.

Other necessary potline activities to maintain the reduction cells (pots) are: Pin Pulling, Jack Slipping, Anode Blowdown, Crust Breaking, Skirt Changes, Burner Cleaning, and Floor Sweeping. Ancillary activities necessary for CFAC to maintain aluminum production are: pin cleaning and pot rebuilding, to name only two.

### B. Emission Units and Pollution Control Device Identification

The emission units regulated by this permit are the following (ARM 17.8.1211).

Emission Unit ID	Emission Unit Description	Pollution Control Device or Practice
EU001	Ball Mill North - MH01	Baghouse
EU002	Ball Mill South - MH02	Baghouse
EU003	Coke Silo - MH04	Baghouse
EU004	East Alumina Elevator - MH06	Baghouse
EU005	East Alumina Unloading - MH07	Baghouse
EU006	East Conveyor Storage - MH08	Baghouse
EU007	West Alumina Unloading - MH09	Baghouse
EU008	Anode Dust Control System - MH03(1) & MH03(2)	Baghouse
EU009	Coke Unloading - MH05	Baghouse
EU010	West Conveyor Storage - MH10	Baghouse
EU011	Potline Sweeping - AR04	Baghouse
EU012	Treatment of Aluminum Crucibles (TAC) Operations - CO10	Baghouse
EU013	Pin Cleaning - West Plant – CR07	Baghouse
EU014	Pin Cleaning - East Plant – CR07a	Baghouse
EU015	Paste Plant Extruder - PP01	Procedair Dry Coke Scrubber (Baghouse)
EU016	Paste Plant Mixer - PP02	Procedair Dry Coke Scrubber (Baghouse)
EU017	Pinhole Past Drying - PP03	Baghouse
EU018	Pitch Storage Tank Vents - PP04	None
EU019	Paste Plant Oil Heating System - PP05	None

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Pollution Control Device or Practice</b>
EU020	East Plant Dry Scrubber Alumina Transfer (North) - AR01	Baghouse
EU021	East Plant Dry Scrubber Alumina Transfer (South) - AR02	Baghouse
EU022	West Plant Dry Scrubber Alumina Transfer (North) - AR06	Baghouse
EU023	West Plant Dry Scrubber Alumina Transfer (South) - AR07	Baghouse
EU024	Primary Gas Collection System - West Plant (Potlines 1 & 2) - AR05	Alcoa A398 Dry Alumina Scrubber #1 (Reactor #1 & Baghouse)
EU025	Primary Gas Collection System - West Plant (Potlines 1 & 2) - AR05	Alcoa A398 Dry Alumina Scrubber #2 (Reactor #2 & Baghouse)
EU026	Primary Gas Collection System - West Plant (Potlines 1 & 2) - AR05	Alcoa A398 Dry Alumina Scrubber #3 (Reactor #3 & Baghouse)
EU027	Primary Gas Collection System - West Plant (Potlines 1 & 2) - AR05	Alcoa A398 Dry Alumina Scrubber #4 (Reactor #4 & Baghouse)
EU028	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #5 (Reactor #5 & Baghouse)
EU029	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #6 (Reactor #6 & Baghouse)
EU030	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #7 (Reactor #7 & Baghouse)
EU031	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #8 (Reactor #8 & Baghouse)
EU032	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #9 (Reactor #9 & Baghouse)
EU033	Primary Gas Collection System - East Plant (Potlines 3, 4, & 5) - AR05	Alcoa A398 Dry Alumina Scrubber #10 (Reactor #10 & Baghouse)
EU034	Potline #1 Roof Vent, West Plant - AR03	None
EU035	Potline #2 Roof Vent, West Plant - AR03	None
EU036	Potline #3 Roof Vent, East Plant - AR03	None
EU037	Potline #4 Roof Vent, East Plant - AR03	None
EU038	Potline #5 Roof Vent, East Plant - AR03	None
EU039	Casting Furnace #3 - CO01	None
EU040	Casting Furnace #4 - CO02	None
EU041	Casting Furnace #6 - CO03	None
EU042	Casting Furnace #7 - CO04	None
EU043	Casting Furnace #8 & #9 - CO05	None
EU044	Casting Pit #3 - CO06	None
EU045	Casting Pit #4 - CO06	None
EU046	Casting Pit #6 & #7 - CO06	None
EU047	Casting Pit #8 & #9 - CO06	None
EU048	Dross Handling - CO07	None
EU049	Sheet Ingot Saw - CO08	Target Box and Cyclone
EU050	T-Ingot Saw - CO09	Target Box and Cyclone
EU051	Sandblasting Activities - CR01	None
EU052	Lectromelt Furnace - CR03	Wet Scrubber
EU053	Rod Mill / Material Storage - CR04	Baghouse
EU054	Change House Boiler #1 - MP01	None
EU055	Change House Boiler #2 - MP02	None
EU056	Lab Boiler #1 - MP07	None
EU057	Machine Shop Boiler #1 - MP08	None
EU058	Machine Shop Boiler #2 - MP09	None
EU059	Paste Plant Boiler #1 - MP11	None
EU060	Paste Plant Boiler #2 - MP12	None
EU061	Warehouse Boiler #1 - MP16	None
EU062	Warehouse Boiler #2 - MP17	None
EU063	Haul Road Emissions - MP05	None
EU064	Gasoline Storage Tank - MP04	None
EU065	Sow Casting Line	None
EU066	Crucible Cleaner	Baghouse



### C. Categorically Insignificant Sources/Activities

Emission Unit ID	Description
IEU03	Collector Bar Shotblasting - CR02
IEU04	Anode Debris Storage - CR05
IEU05	Anode Abrader - CR06
IEU06	Shed 11 Pot Rebuild / Masonry Mixer - CR08
IEU07	Diesel Storage Tanks - MP03
IEU09	Open Burning - MP10
IEU10	Plantsite Sanitary Landfill - MP13
IEU11	Propane Storage - MP14
IEU12	Waste Oil Heat Recovery - MP18
IEU13	MSDS Chemicals / Plantwide Usage - MP19
IEU14	Crucible Cleaner – MH99

### SECTION III. PERMIT CONDITIONS

#### A. Emission Limits and Standards

The Aluminum MACT allows CFAC to select potline emission limits, applicable to EU024-EU038, based upon the following guidelines:

	lb TF / Ton Al produced	lb POM / Ton Al produced
Single Potline (Single Potline)	2.6*	3.6
Two-Potline Avg. (West Plant)	2.6	3.2
Three-Potline Avg. (East Plant)	2.5	3.0
Five-Potline Avg. (Entire Plant)	2.4	2.9

\*Plant-Wide Emission Limits for the above sources are based upon the tons of aluminum produced (TAP).

CFAC had indicated that for total fluoride (TF) the facility will comply with the five-potline emission limit, and for polycyclic organic matter (POM) they have selected the single-potline emission limit. CFAC may elect to satisfy an alternative scheme identified by the above table (Table C of the MACT Quick Reference Guide (Appendix F)), and request to change their Implementation Plan (IP) to reflect their new choice of emission limits. IP changes must be submitted to the Department for approval prior to implementation.

On June 14, 2000, CFAC faxed a notification to the Department that they would like to change from the single potline emission limit for POM, to the five-potline emission limit, or 2.9 lb/TAP, for POM. CFAC will be required to submit an updated IP, indicating their new POM emission limit selection, for approval, to the Department.

The IP (CFAC's MACT Implementation Plan (Appendix E)), described above, includes a testing plan that CFAC will be employing to demonstrate compliance with the above MACT emission limits, as well as the emission control device operating parameters that are to be monitored.

Permit #2655-05 imposes the following additional emission limitations:

1. 2.6-lb TF / TAP single-potline emission limit (as opposed to the 2.7 MACT single-line requirement);
2. 20% opacity limit for the Primary Control System (Dry Alumina Scrubbers), EU024-EU033; the potroom/potline roof monitors, EU034-EU038, are subject to a 10% opacity limit;
3. 0.02 gr/dscf requirement for EU008 through EU014; and
4. POM emissions controlled from EU015 and EU016 by a Dry Coke Scrubber.

EU024-EU038 are expressly excluded from the Process Weight Rule by ARM 17.8.310(3)(a).

All remaining emission units (EU's), at a minimum, are subject to Generally Applicable Requirements: ARM 17.8.304, 17.8.308, 17.8.309, 17.8.310, 17.8.322, 17.8.324, 17.8.1212, and 17.8.1207.

## **B. Monitoring Requirements**

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance do not require the permit to impose the same level of rigor for all emissions units. Furthermore, they do not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

## **C. Test Methods and Procedures**

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

## **D. Recordkeeping Requirements**

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least five years following the date of the generation of the record.

## **E. Reporting Requirements**

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

## **F. Public Notice**

In accordance with ARM 17.8.1232, a public notice was published in the *Daily Inter Lake*, a newspaper in general circulation in Kalispell, on or before August 29<sup>th</sup>. The Department provided a 30-day public comment period on the draft operating permit from August 29, 2013, to September 30, 2013. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process. The comments and issues received by September 30, 2013, will be summarized, along with the Department's responses, in the following table. All comments received during the public comment period will be promptly forwarded to CFAC so they may have an opportunity to respond to these comments as well.

## Summary of Public Comments

Person/Group Commenting	Comment	Department Response

### G. Draft Permit Comments

#### Summary of Permittee Comments

Permit Reference	Permittee Comment (paraphrased)	Department Response
Section III.L.2	The particulate matter emission limitation for sources EU039-EU043 incorrectly applies the Process Weight Rule. The ARM 17.8.309 rule applicable to existing fuel burning equipment is requested.	The Department agrees. Section III.L.2 has been updated to the appropriate standard for Particulate Matter for Fuel Burning Equipment.
Section III.W	The EU066 Crucible Cleaner is included as a significant emitting unit. This source meets the definition of an insignificant emitting unit.	The Department is not aware of emissions factors for lead or HAP for crucible cleaning emissions. At CFAC's request, this unit has been categorized as an insignificant emitting unit. All applicable standards are within the facility wide conditions of the Title V.
Section III.W	The uncontrolled potential to emit of the Crucible Cleaner is less than 100 TPY. This source is not subject to Compliance Assurance Monitoring	See above response
Table II of Appendix K	Appendix K Table II references 'differential pressure transducers'. This term is unnecessarily specific. CFAC requests that this language be changed to read "differential pressure gauges".	The Department has incorporated the requested change.
Table of Contents	The Table of Contents omits sources EU044 through EU047 and includes an undefined bookmark for Appendix A	The Department has updated the Table of Contents
Section III.A.17	The Asbestos Abatement Annual Permit is expired and the reference to this permit number should be removed.	The Department has removed the reference to the permit number.
Section III.J and III.K	CFAC is subject to 40 CFR Part 63 Subpart LL. The rule includes updated emission standards for the facility which will go into effect on March 14, 2014. It is requested that any specific requirements based on this rule be updated to generally refer to this rule, instead of identifying specific requirements and emissions limits.	Some specific limitations are based on ARM 17.8.331. However, the Department has clarified that CFAC shall comply with 40 CFR 63, Subpart LL, if/when standards within this Subpart are more stringent.
TRD	The Draft Technical Review Document includes requirements of the Best Achievable Retrofit Technology program that apply to CFAC. These BART requirements should be included in the Facility Wide Permit Conditions of the Permit	The Department has placed BART notification and timeline requirements into the Facility Wide portion of the permit.

#### Summary of EPA Comments

Permit Reference	EPA Comment	Department Response

#### **SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS**

No non-applicable requirements are presented; therefore, this section is intentionally left blank.

## SECTION V. FUTURE PERMIT CONSIDERATIONS

### A. MACT Standards

On May 7, 2013, the Department received notification from CFAC regarding applicability of Subpart DDDDD to the natural gas fired boiler units (EU054 through EU062). This MACT was included as an applicable requirement in the relevant section of the Operating Permit. No permitting actions have been received or required by the Department as a result of this applicability.

EPA proposed changes to 40 CFR Part 63 Subpart LL on December 6, 2011. The proposed changes include stricter emission limits that would apply to CFAC. On September 21, 2012, EPA extended the implementation date of this rule until March 14, 2014. CFAC is subject to the current requirements of 40 CFR 63, Subpart LL – National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants, and 40 CFR 63, Subpart RRR. CFAC would be subject to stricter Subpart LL standards at such time they become stricter. Inspection notes from an inspection conducted on March 21, 2012, indicate that CFAC might need to change their operations procedures on the pitch tanks as new MACT regulations call for 95% removal of HAPs for the emitting units. CFAC may possibly need to add a coke dry scrubber to remove emissions from the pitch tanks.

### B. NESHAP Standards

As of the date of issuance of this permit, the only NESHAP standard that this facility is subject to is 40 CFR Part 61, Subpart M – National Emission Standards for Hazardous Air Pollutants for Demolition and Renovation. This standard is applicable to any asbestos project.

### C. NSPS Standards

CFAC was constructed prior to promulgation of 40 CFR Part 60, Subpart S – Standards of Performance for Primary Aluminum Reduction Plants; therefore, no NSPS Standards are currently applicable.

### D. Risk Management Plan

The Department is not aware of the storage of any applicable materials which exceed the minimum threshold quantities listed in 40 CFR 68.115.

Within three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or the date on which a regulated substance is first present in more than a threshold quantity, CFAC must comply with the requirements of 40 CFR 68.

### E. CAM Applicability

An emitting unit located at a Title V facility that meets the following criteria listed in ARM 17.8.1503 is subject to Subchapter 15 and must develop a CAM Plan for that unit:

- The emitting unit is subject to an emission limitation or standard for the applicable regulated air pollutant (unless the limitation or standard that is exempt under ARM 17.8.1503(2));
- The emitting unit uses a control device to achieve compliance with such limit; and
- The emitting unit has potential pre-control device emission of the applicable regulated air pollutant that is greater than major source thresholds.

CFAC has several units which meet the criteria. The following table summarizes the applicable units and pollution control device, and applicable limitation.

<b>Title V Permit Emitting Unit</b>	<b>Description</b>	<b>Control</b>	<b>Emissions Limitation</b>
EU001	Ball Mill North Baghouse	Fabric Filter	Particulate Matter, Industrial Processes (ARM 17.8.310)
EU002	Ball Mill South Baghouse	Fabric Filter	Particulate Matter, Industrial Processes
EU003	Coke Silo	Fabric Filter	Particulate Matter, Industrial Processes
EU004	East Alumina Elevator	Fabric Filter	Particulate Matter, Industrial Processes
EU005	East Alumina Unloading	Fabric Filter	Particulate Matter, Industrial Processes
EU006	East Conveyor Storage	Fabric Filter	Particulate Matter, Industrial Processes
EU007	West Alumina Unloading	Fabric Filter	Particulate Matter, Industrial Processes
EU008	Anode Dust Control System	Fabric Filter	Particulate Matter, Industrial Processes
EU009	Coke Unloading	Fabric Filter	Particulate Matter, Industrial Processes
EU010	West Conveyor Storage	Fabric Filter	Particulate Matter, Industrial Processes
EU011	Potline Sweepings	Fabric Filter	Particulate Matter, Industrial Processes
EU013	West Plant Pin Cleaner	Fabric Filter	Particulate Matter, Industrial Processes
EU014	East Plant Pin Cleaner	Fabric Filter	Particulate Matter, Industrial Processes
EU015	Paste Plant Extruder	Water Suppression	Particulate Matter, Industrial Processes
EU017	Pinhole Paste Drying	Fabric Filter	Particulate Matter, Industrial Processes
EU020	East Plant Dry Scrubber Alumina Transfer (North)	Fabric Filter	Particulate Matter, Industrial Processes
EU021	East Plant Dry Scrubber Alumina Transfer (South)	Fabric Filter	Particulate Matter, Industrial Processes
EU022	West Plant Dry Scrubber Alumina Transfer (North)	Fabric Filter	Particulate Matter, Industrial Processes
EU023	West Plant Dry Scrubber Alumina Transfer (South)	Fabric Filter	Particulate Matter, Industrial Processes
EU053	Rod Mill - Material Storage	Fabric Filter	Particulate Matter, Industrial Processes

A CAM plan is included as Appendix K of the Operating Permit. Pursuant to ARM 17.8.1508(4), if the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring for purposes of this subchapter, the owner or operator shall include an implementation plan and schedule for completing these or any other appropriate activities prior to use of the monitoring. Pressure transducers would be required for monitoring the baghouse differential pressure for use as an indicator; however, they have not yet been installed on the baghouses. The CAM plan includes an implementation plan and schedule for verification of the indicator values and ranges.

## **F. PSD and Title V Greenhouse Gas Tailoring Rule**

On May 7, 2010, EPA published the “light duty vehicle rule” (Docket # EPA-HQ-OAR- 2009-0472, 75 FR 25324) controlling greenhouse gas (GHG) emissions from mobile sources, whereby GHG became a pollutant subject to regulation under the Federal and Montana Clean Air Act(s). On June 3, 2010, EPA promulgated the GHG “Tailoring Rule” (Docket # EPA-HQ-OAR-2009-0517, 75 FR 31514) which modified 40 CFR Parts 51, 52, 70, and 71 to specify which facilities are subject to GHG permitting requirements and when such facilities become subject to regulation for GHG under the PSD and Title V programs.

Under the Tailoring Rule, any PSD action (either a new major stationary source or a major modification at a major stationary source) taken for a pollutant or pollutants other than GHG that would become final on or after January 2, 2011, would be subject to PSD permitting requirements for GHG if the GHG increases associated with that action were at or above 75,000 TPY of carbon dioxide equivalent (CO<sub>2</sub>e) and greater than 0 TPY on a mass basis. Similarly, if such action were taken, any resulting requirements would be subject to inclusion in the Title V Operating Permit. Facilities which hold Title V permits due to criteria pollutant emissions over 100 TPY would need to incorporate any GHG applicable requirements into their operating permits for any Title V action that would have a final decision occurring on or after January 2, 2011.

Starting on July 1, 2011, PSD permitting requirements would be triggered for modifications that were determined to be major under PSD based on GHG emissions alone, even if no other pollutant triggered a major modification. In addition, sources that are not considered PSD major sources based on criteria pollutant emissions would become subject to PSD review if their facility-wide potential emissions equaled or exceeded 100,000 TPY of CO<sub>2</sub>e and 100 or 250 TPY of GHG on a mass basis depending on their listed status in ARM 17.8.801(22) and they undertook a permitting action with increases of 75,000 TPY or more of CO<sub>2</sub>e and greater than 0 TPY of GHG on a mass basis. With respect to Title V, sources not currently holding a Title V permit that have potential facility-wide emissions equal to or exceeding 100,000 TPY of CO<sub>2</sub>e and 100 TPY of GHG on a mass basis would be required to obtain a Title V Operating Permit.

CFAC is a listed source with potential emissions of criteria pollutants greater than 100 TPY; therefore, the facility is a major stationary source with respect to the PSD program. Since CFAC is an existing major stationary source, any permitting action should address GHG emissions as part of a complete PSD applicability analysis.

## **G. Regional Haze**

CFAC shall notify EPA 60 days in advance of resuming operation to the Director, Air Program, US Environmental Protection Agency, Region 8. If CFAC notifies EPA that it intends to resume operation, EPA will initiate and complete a Best Available Retrofit Technology (BART) determination after notification and revise the FIP as necessary in accordance with regional haze requirements, including the BART provisions in 40 CFR 51.308(e). CFAC will be required to install any controls that are required as soon as practicable, but in no case later than five years following the effective date of this rule (77 FR 57864 at 57919).