



January 22, 2019

Steven Smith, Plant Manager
Cardinal FG - Winlock
545 Avery Road West
Winlock, WA 98596

Re: Final Air Operating Permit for Cardinal FG - Winlock

Dear Mr. Smith:

The Southwest Clean Air Agency (SWCAA) is issuing final Air Operating Permit SW08-14-R1 to Cardinal FG - Winlock. This is a renewal permit.

A copy of the final Air Operating Permit and associated Basis Statement are enclosed with this letter. Electronic copies of the final permit will be available on SWCAA's website at www.swcleanair.org. If you have any questions or comments, please contact me at (360) 574-3058 ext. 126.

Sincerely,

Wess Safford
AQ Engineer II

Enclosures



**Cardinal FG Winlock
Winlock, Washington**

**Air Operating Permit
SW08-14-R1**

Issued: January 22, 2019 (FINAL)

Southwest Clean Air Agency
11815 NE 99 Street, Suite 1294
Vancouver, WA 98682-2322
Telephone: (360) 574-3058



AIR OPERATING PERMIT #: SW08-14-R1

ISSUED TO: Cardinal FG Company 545 Avery Road W Winlock, WA 98596	PLANT SITE: Cardinal FG - Winlock 545 Avery Road W Winlock, WA 98596
--	---

NATURE OF BUSINESS: Flat Glass Manufacturing

SIC / NAICS CODE: 3211 / 327211

AIRS NUMBER: 53-041-00006

EFFECTIVE DATE: January 22, 2019

EXPIRATION DATE: January 22, 2024

RENEWAL APPLICATION DUE: January 22, 2023

PERMIT ENGINEER: *Wess Safford* 1/22/19
Date
Wess Safford, Air Quality Engineer

REVIEWED BY: *Paul T. Mairose* 1/22/19
Date
Paul T. Mairose, Chief Engineer



APPROVED BY: *Jri Papish* 1/22/19
Date
Jri Papish, Executive Director

TABLE OF CONTENTS

I.	Abbreviations	1
II.	Regulatory Basis.....	2
III.	Emissions Unit Identification.....	4
IV.	Permit Provisions	6
V.	General Terms and Conditions	10
VI.	Operating Terms and Conditions.....	13
VII.	Monitoring Terms and Conditions.....	24
VIII.	Recordkeeping Terms and Conditions.....	32
IX.	Reporting Terms and Conditions.....	33
X.	Non-applicable Terms and Conditions	37

Appendices

Appendix A	Glass Furnace – Emission Testing Requirements	A-1
Appendix B	Glass Furnace – Continuous Monitoring Requirements	B-1
Appendix C	Cullet Return Baghouse #1 – Emission Testing Requirements	C-1
Appendix D	Cullet Return Baghouse #2 – Emission Testing Requirements	D-1
Appendix E	EP Dust Baghouses – Emission Testing Requirements	E-1

I. ABBREVIATIONS

List of Common Abbreviations

ADP	Air Discharge Permit
AOP	Air Operating Permit
CAM	Compliance Assurance Monitoring
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CO	Carbon monoxide
EPA	U.S. Environmental Protection Agency
EU	Emission unit
EU#	Emission unit numbered "#"
FCAA	Federal Clean Air Act
G#	General term or condition numbered "#"
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous air pollutant
IEU	Insignificant emission unit
IEU#	Insignificant emission unit numbered "#"
K#	Recordkeeping term or condition numbered "#"
M#	Monitoring term or condition numbered "#"
MMBtu	Million British thermal units
MW	Megawatts
N#	Nonapplicable requirement numbered "#"
NH ₃	Ammonia
NO _x	Oxides of nitrogen
NSR	New Source Review
O ₂	Oxygen
P#	Refers to a specific permit provision numbered "#"
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in diameter
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
ppmvd	Parts per million by volume, dry
PTE	Potential to emit
R#	Refers to a specific reporting term or condition numbered "#"
RACT	Reasonably available control technology
RCW	Revised Code of Washington
Req-#	Refers to a specific applicable requirement numbered "#"
SO ₂	Sulfur dioxide
SIP	State implementation plan
SWCAA	Southwest Clean Air Agency
TAP	Toxic air pollutant
tpd	Tons per day
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations.

II. REGULATORY BASIS

This Air Operating Permit (AOP), hereafter referred to as the "Permit", is authorized under the procedures established in WAC 173-401 and Title V of the Federal Clean Air Act (FCAA). The terms and conditions of this permit describe the emissions limitations, operating requirements, ambient monitoring, recordkeeping requirements, and reporting frequencies for the permitted source. Permit terms and conditions are divided into the following categories: General Terms and Conditions, Operating Terms and Conditions, Monitoring Terms and Conditions, Recordkeeping Terms and Conditions, and Reporting Terms and Conditions. As used in this Permit, "term", "condition", "standard", and "requirement" have the same meaning as "applicable requirement" specified under 40 Code of Federal Regulations (CFR) 70.2 and WAC 173-401-200.

The Permit is intended to contain a comprehensive list of the local, state, and federal air pollution regulations and standards applicable to the Permittee's facility and to assure and provide for certification of compliance with those requirements. Sections V through IX describe the applicable requirements and cite the originating local, state, or federal regulation or requirement. Federal requirements may be direct (e.g., FCAA or CFR citation) or established under the Washington State Implementation Plan (SIP). Each citation in the table also includes one or two effective dates of the cited regulation. Where there are two dates for the same regulatory citation, the underlying requirement is substantially the same, but the date of the regulation used for enforcement purposes would be different (e.g., federally enforceable versus SWCAA enforceable).

SWCAA is the primary authority for enforcement of all requirements listed in the Permit (federal, state, and local). However, EPA and private citizens may also take enforcement actions under the Permit for those requirements that are federally enforceable; federal regulations, regulations that have a SIP date, and terms of ADPs are federally enforceable. Rules, regulations, and permits that are not SIP approved or federally promulgated are not federally enforceable.

The following table lists the title and effective dates of regulations applicable to the facility:

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
<i>Federal Regulations</i>			
40 CFR 51	7/1/2018	--	Not Delegated
40 CFR 52	7/1/2018	--	Not Delegated
40 CFR 60 Subpart A	7/1/2018	7/1/2015	Delegated
40 CFR 60 Subpart CC	7/1/2018	7/1/2015	Delegated
40 CFR 63 Subpart A	7/1/2018	7/1/2015	Delegated
40 CFR 63 Subpart ZZZZ	7/1/2018	7/1/2015	Delegated (Title V Sources Only)
40 CFR 68	7/1/2018	--	Not Delegated
40 CFR 82 Subpart F	7/1/2018	--	Not Delegated
<i>State Regulations</i>			
WAC 173-400-117	7/1/2016	7/1/2016	
WAC 173-400-171	7/1/2016	7/1/2016	
WAC 173-400-700	4/1/2011	7/1/2016	
WAC 173-401	--	3/5/2016	

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
WAC 173-441	--	3/1/2015	
WAC 173-476	7/1/2016	7/1/2016	
<i>Local Regulations</i>			
WAC 173-460	--	8/21/1998	Local version of previous state rule.
SWCAA 400-030	10/9/2016	6/18/2017	SIP approval excludes Sections (21) and (129)
SWCAA 400-036	10/9/2016	6/18/2017	
SWCAA 400-040	10/9/2016	6/18/2017	SIP approval excludes Sections (1)(c), (1)(d), (2), and (4)
SWCAA 400-050	10/9/2016	6/18/2017	SIP approval excludes Sections (3), (5) and (6)
SWCAA 400-060	10/9/2016	6/18/2017	
SWCAA 400-070	10/9/2016	6/18/2017	SIP approval excludes Sections (2)(a), (3)(b), (5), (6), (7), (8)(c), (9), (10), (11), (12), (14) and (15)(c)
SWCAA 400-072	10/9/2016	6/18/2017	SIP approval excludes Sections (5)(a)(ii)(B), (5)(d)(ii)(B), (5)(d)(iii)(A), (5)(d)(iii)(B)
SWCAA 400-075	--	6/18/2017	
SWCAA 400-076	--	6/18/2017	
SWCAA 400-081	10/9/2016	6/18/2017	
SWCAA 400-091	10/9/2016	6/18/2017	
SWCAA 400-100	--	6/18/2017	
SWCAA 400-101	--	6/18/2017	
SWCAA 400-103	--	6/18/2017	
SWCAA 400-105	10/9/2016	6/18/2017	
SWCAA 400-106	10/9/2016	6/18/2017	SIP approval excludes remainder of rule sections
Sections (1)(a), (1)(b), (1)(c)			
SWCAA 400-107	9/21/1995	6/18/2017	
SWCAA 400-109	10/9/2016	6/18/2017	SIP approval excludes Sections (3)(d), (3)(e)(ii) and (4)
SWCAA 400-110	10/9/2016	6/18/2017	SIP approval excludes Section (1)(d)
SWCAA 400-111	10/9/2016	6/18/2017	SIP approval excludes Section (7)
SWCAA 400-113	10/9/2016	6/18/2017	SIP approval excludes Section (5)
SWCAA 400-114	10/9/2016	6/18/2017	
SWCAA 400-115	--	6/18/2017	
SWCAA 400-116	10/9/2016	6/18/2017	
SWCAA 400-120	--	6/18/2017	
SWCAA 400-130	10/9/2016	6/18/2017	
SWCAA 400-131	10/9/2016	6/18/2017	
SWCAA 400-136	10/9/2016	6/18/2017	

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
SWCAA 400-151	10/9/2016	6/18/2017	
SWCAA 400-161	10/9/2016	6/18/2017	
SWCAA 400-171	10/9/2016	6/18/2017	SIP approval excludes Section (2)(a)(xii)
SWCAA 400-200	10/9/2016	6/18/2017	
SWCAA 400-205	10/9/2016	6/18/2017	
SWCAA 400-270	10/9/2016	6/18/2017	
SWCAA 425	--	6/18/2017	
SWCAA 476	--	7/14/2018	
SWCAA 400, Appendix A	10/9/2016	6/18/2017	
<i>PSD Permits</i>			
PSD-03-03-A2	--	12/13/2010	
<i>Air Discharge Permits</i>			
ADP 04-2568R2	--	12/16/2008	

III. EMISSIONS UNIT IDENTIFICATION

<u>ID No.</u>	<u>Unit Name</u>	<u>Unit Description</u>
EU1	Glass Furnace	<p><u>Melting Furnace.</u> One site-built float furnace with a regenerative, segregated side-port configuration. The furnace fires on natural gas at a maximum rate of 200 MMBTU/hr, and has a nominal rating of 650 tpd of glass. Exhaust gases from the furnace discharge to the ambient atmosphere through an 8' diameter stack at a height of 175' above ground level. The furnace is equipped with an integrated spray dryer-ESP system for control of SO₂ and filterable PM emissions. The proprietary <i>3R Process</i> is used for control of NO_x and CO emissions.</p> <p><u>Annealing Lehr.</u> One site built annealing lehr with direct SO₂ injection. The lehr does not have a dedicated exhaust stack. Lehr exhaust streams are captured by a collection hood that vents to the glass furnace combustion air header.</p>
EU2	Glass Cutting	Computer controlled cutting wheel assemblies installed on the main production line. The cutting wheels are used to size and trim the glass ribbon into usable lites. The glass cutting operation uses mineral spirits as a cutting lubricant.

<u>ID No.</u>	<u>Unit Name</u>	<u>Unit Description</u>
EU3	Cullet Return System #1	Cullet return system #1 conveys broken/reject lites and glass dust from the production line back to the cullet flat storage area at a maximum design rate of 650 tpd. A baghouse (Cullet Return Baghouse #1) is used in conjunction with equipment enclosure to control dust emissions from the portion of the glass return system operating at the production line. Cullet Return Baghouse #1 is a Donaldson model 324MBWS10 baghouse rated at 41,500 cfm with a total filtration area of 5,196 ft ² . Filter bag material is identified as 16.0 oz/yd ² Dura-Life Polyester. The unit is equipped with a pulse-jet cleaning system. Baghouse exhaust discharges vertically through a 2.83' diameter stack at approximately 100' above ground level.
EU4	Cullet Return System #2	Cullet return system #2 collects and conveys broken/reject glass and glass dust from packing lines approved in ADP 04-2568R2. A baghouse (Cullet Return Baghouse #2) is used in conjunction with equipment enclosure to control dust emissions from the portion of the glass return system operating at the production line. Cullet Return Baghouse #2 is a Carothers and Son model 195TR10HEI baghouse rated at 25,000 cfm with a total filtration area of 3,120 ft ² . Filter bag material is identified as 16 oz/yd ² polyester. This unit is equipped with a reverse airjet cleaning system. Baghouse exhaust discharges vertically through a 32" diameter stack at approximately 32' 6" above ground level.
EU5	EP Dust Baghouse #1	A pneumatic transfer system is used to convey material catch from the glass furnace ESP to the raw material storage silos. EP Dust Baghouse #1 controls emissions from the transfer system and an associated surge tank. The baghouse is a Nol-Tec model 238-84NT25 baghouse rated at 1,500 cfm with a total filtration area of 263 ft ² . Filter bag material is identified as 16 oz/yd ² polyester. This unit is equipped with a pulse-jet cleaning system. Baghouse exhaust discharges vertically through an 8" diameter outlet at ~100' above ground level.
EU6	EP Dust Baghouse #2	A pneumatic transfer system is used to convey material catch from the glass furnace ESP to the raw material storage silos. EP Dust Baghouse #2 controls emissions from the transfer system and an associated surge tank. The baghouse is a Nol-Tec model 238-84NT25 baghouse rated at 1,500 cfm with a total filtration area of 263 ft ² . Filter bag material is identified as 16 oz/yd ² polyester. This unit is equipped with a pulse-jet cleaning system. Baghouse exhaust discharges vertically through an 8" diameter outlet at ~100' above ground level.
EU7	Emergency Generator	One Caterpillar package generator (s/n 1HN00940) rated at 2,000 kW. The generator is powered by a Caterpillar model D3516 diesel engine rated at 2,885 horsepower (s/n GZS00700, mfg'd 2005). The Caterpillar engine has a specified fuel consumption of 146.6 gal/hr at 100% load. A Johnson Matthey model SCR-CG selective catalytic reduction (SCR) system is installed for the purposes of reducing NO _x emissions.

ID No. Unit Name Unit Description

Obsolete/Removed Equipment:

Material Elevator Dust Collectors

This equipment was disabled in place and removed from service effective September 30, 2013.

Raw Materials Elevator Dust Collector (Top). The raw materials elevator conveys material from the receiving pit to the top of the storage silos/bins at a maximum rate of 300 tph. The top dust collector is used in conjunction with equipment enclosure to control dust emissions from raw material transfer between the top of the elevator and the rotary distributor for the storage silos. The dust collector is a JBD model DF110R cartridge collector rated at 324 cfm with a total filtration area of 108 ft². Filter cartridge material is identified as 8 oz/yd² spun bond polyester. The unit is equipped with a pulse-jet cleaning system.

Cullet Elevator Dust Collector (Top). The cullet elevator conveys cullet from the base of the batch house to the cullet storage bins at a maximum rate of 150 tph. The top dust collector is used in conjunction with equipment enclosure to control dust emissions from cullet transfer between the top of the elevator and the batch house storage bins. The dust collector is a JBD model DF110R cartridge collector rated at 324 cfm with a total filtration area of 108 ft². Filter cartridge material is identified as 8 oz/yd² spun bond polyester. The unit is equipped with a pulse-jet cleaning system.

IV. PERMIT PROVISIONS

40 CFR 51.212

40 CFR 52.12, 40 CFR 52.33

40 CFR 60.11

P1. Credible Evidence

For the purposes of submitting compliance certifications or establishing whether a violation of any term or condition of this permit has occurred or is occurring, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether the permittee would have been in compliance with a specific term or condition if the appropriate performance or compliance test or procedure would have been performed.

P2. Insignificant Emission Unit - Restriction

WAC 173-401-530(6)

Any emissions unit or activity that qualifies as insignificant solely on the basis of provisions in WAC 173-401-530(1)(a) shall not exceed the emissions thresholds specified in WAC 173-401-530(4) until this permit is modified pursuant to WAC 173-401-725.

P3. Permit Duration

WAC 173-401-610

This permit shall be valid for a fixed term of 5 years.

WAC 173-401-500(5)

WAC 173-401-620(2)(e)

P4. Confidentiality of Records and Information

SWCAA 400-270

The permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to SWCAA. Requests for proprietary and confidential information shall be released only after legal opinion by SWCAA's legal counsel, and notice to the permittee of the intent to release or deny the release of information.

In the case where the permittee has submitted information to SWCAA under a claim of confidentiality, SWCAA may also require the source to submit a copy of such information directly to the EPA Administrator.

Upon request, the permittee shall also furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA Administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.

WAC 173-401-620(2)

SWCAA 400-103

P5. Standard Conditions

- (a) *Duty to comply.* The permittee must comply with all conditions of this Chapter 401 permit. Any permit noncompliance constitutes a violation of Revised Code of Washington (RCW) Chapter 70.94 and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
- (b) *Need to halt or reduce activity not a defense.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (c) *Permit actions.* This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- (d) *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.
- (e) *Duty to provide information.* The permittee shall furnish to the permitting authority, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.
- (f) *Permit fees.* The permittee shall pay fees in accordance with RCW 70.94.162 as a condition of this permit in accordance with the permitting authority's fee schedule. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as prescribed in RCW 70.94.430 and 70.94.431.
- (g) *Emission trading.* No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
- (h) *Severability.* If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.
- (i) *Permit appeals.* This permit or any conditions in it may be appealed only by filing an appeal with the Pollution Control Hearings Board and serving it on the permitting authority within thirty days of receipt of the permit pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under § 505(b) of the FCAA.

- (j) *Permit continuation.* This permit and all terms and conditions contained herein shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted.

P6. Federally Enforceable Requirements **WAC 173-401-625**

- (a) All terms and conditions in an air operating permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the FCAA, except as indicated in paragraph (b) below.
- (b) Any terms and conditions included in this permit that are not required under the FCAA or under any of its applicable requirements are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to the EPA and affected states review requirements of WAC 173-401-700 through WAC 173-401-820. Terms that are SWCAA enforceable only are marked as "local only".

P7. Permit Shield **WAC 173-401-640**

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements that are specifically identified in this permit as of the date of permit issuance. Nothing in this permit shall alter or affect the following:

- (a) The provisions of Section 303 of the FCAA (emergency orders), including the authority of the Administrator under that section;
- (b) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- (c) The applicable requirements of the acid rain program, consistent with Section 408(a) of the FCAA;
- (d) The ability of EPA to obtain information from a source pursuant to Section 114 of the FCAA; and
- (e) The ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as defined in RCW 70.94.

P8. Emergency Provision **WAC 173-401-645**

An "emergency" as defined in WAC 173-401-645(1) shall constitute an affirmative defense to an action brought for noncompliance with technology-based emission limitations. The burden of proof lies with the permittee. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (a) An emergency occurred and that the permittee can identify the causes(s) of the emergency;
- (b) The permitted facility was at the time being properly operated;
- (c) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (d) The permittee submitted notice of the emergency to the permitting authority within two working days of the time when emission limitations were exceeded due to the emergency or shorter periods of time specified in an applicable requirement. This notice fulfills the requirement of WAC 173-401-615(3)(b) unless the excess emissions represent a potential threat to human health and safety. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

P9. Permit Expiration – Application Shield **WAC 173-401-705(2)**
WAC 173-401-710(3)

Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with WAC 173-401-710(1) and WAC 173-401-500. All terms and

conditions of the permit shall remain in effect after the permit expires if a timely and complete permit application has been submitted. Operation under the terms and conditions of the expired permit will be allowed until SWCAA takes final action on the renewal application.

P10. Permit Revocation **WAC 173-401-710(4)**

The permitting authority may revoke a permit only upon the request of the permittee or for cause. The permitting authority shall provide at least thirty days written notice to the permittee prior to revocation of the permit or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee an opportunity to meet with the permitting authority prior to the authority's final decision. A revocation issued under this section may be issued conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date.

P11. Reopening for Cause **WAC 173-401-730**

This permit shall be reopened and revised under any of the following circumstances:

- (a) Additional applicable requirements become applicable to a major air operating permit source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);
- (b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit;
- (c) The permitting authority or Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
- (d) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings under this section shall not be initiated before a notice of such intent is provided to the AOP source by the permitting authority. Such notice shall be made at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

P12. Changes Not Requiring Permit Revision / Off Permit Changes **WAC 173-401-722**
WAC 173-401-724

The Permittee may make changes as described in WAC 173-401-722 and WAC 173-401-724 without revising this Permit, provided that the changes satisfy the criteria set forth in those sections, including the requirements to notify SWCAA and EPA. Changes made by the Permittee under WAC 173-401-724 do not qualify for a permit shield.

P13. Excess Emissions **SWCAA 400-107**

Excess emissions due to startup or shutdown conditions or due to scheduled maintenance shall be considered unavoidable provided the source reports as required under by SWCAA 400-107(1) and adequately demonstrates that the excess emissions could not have been prevented or avoided. This provision does not apply to federal standards.

Excess emissions due to upsets shall be considered unavoidable provided that the permittee reports as soon as possible but no later than 48 hours after discovery, and adequately demonstrates that:

- (a) The event was not caused by poor or inadequate design, operation, or maintenance, or any other reasonably preventable conditions;
- (b) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (c) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded; and
- (d) The owner or operator(s) actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence.

V. GENERAL TERMS AND CONDITIONS

G1. Certification of Submittals **WAC 173-401-520**

All application forms, reports, and compliance certifications must be certified by a responsible official. Certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information contained in the submittal are true, accurate, and complete.

G2. Duty to Supplement or Correct Application **WAC 173-401-500(6)**

The permittee, upon becoming aware that relevant facts were omitted or incorrect information was submitted in a permit application, shall promptly submit such supplementary facts or corrected information. In addition, the permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

G3. Inspection and Entry **WAC 173-401-630(2)** **SWCAA 400-105(2) & (3)**

The permittee shall allow inspection and entry, upon presentation of credentials and other documents as may be required by law, by the permitting authority or an authorized representative to perform the following:

- (a) Enter upon the permittee's premises where an air operating permit source is located, or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (d) As authorized by SWCAA 400-105 and the FCAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

WAC 173-401-510(2)(h)(iii)

G4. Schedule of Compliance

WAC 173-401-630(3)

The permittee shall continue to comply with all applicable requirements with which the source is currently in compliance, and meet on a timely basis any applicable requirements that become effective during the permit term.

G5. Permit Renewal

WAC 173-401-710(1)

The permittee shall submit a complete permit renewal application to SWCAA no later than the date established in the permit.

This permit expires on January 22, 2024. A renewal application is due on January 22, 2023. A complete renewal application is due no later than July 22, 2023.

G6. Transfer of Ownership or Operational Control

WAC 173-401-720(1)(d)

A change in permittee due to transfer of ownership or operational control of an affected source requires a request for administrative permit amendment as governed by WAC 173-401-720(1)(d).

G7. Misrepresentation and Tampering

SWCAA 400-105(5) & (6)

The permittee shall not make any false material statement, representation or certification in any form, notice, or report. The permittee shall not render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

WAC 173-400-117, WAC 173-400-700

WAC 173-460 (Effective 8/21/1998) (Local Only)

G8. New Source Review

SWCAA 400-109, SWCAA 400-800

The Permittee shall not construct or modify a source which is required to be reviewed under WAC 173-400-700, WAC 173-460 (effective 8/21/1998), SWCAA 400-109 or SWCAA 400-800 without first receiving an approval or permit under such provisions. Portable sources may be exempt from this requirement if they fulfill the criteria described in G9. This requirement is not applicable to emission units that comply with the provisions of SWCAA 400-072.

G9. Portable Sources

SWCAA 400-036, SWCAA 400-110(6)

Portable sources which locate temporarily at the site of an air operating permit source shall be allowed to operate at the temporary location without filing an Air Discharge Permit application provided that:

- (a) The source/emissions units are registered with SWCAA;
- (b) The source/emission units have an air discharge permit to operate as a portable source or have an approved permit that meets the requirements of SWCAA 400-036;
- (c) The owner(s) or operator(s) notifies SWCAA of the intent to operate at the new location at least ten business days prior to starting the operation; and
- (d) The owner(s) or operator(s) supplies sufficient information including production quantities and hours of operation, to enable SWCAA to determine that the operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards and, if in a nonattainment area, will not interfere with scheduled attainment of ambient standards.

Replacement or Substantial Alteration of Emission Control

G10. Technology at an Existing Stationary Source **SWCAA 400-114**

Prior to replacing or substantially altering emission control technology or equipment installed at an existing stationary source or emission unit, the permittee shall file an air discharge permit application with SWCAA. Construction shall not commence on a project subject to review until SWCAA issues a final air discharge permit or other regulatory order. However, any air discharge permit application filed under this section shall be deemed to be approved without conditions if the Agency takes no action within thirty (30) days of receipt of a complete application.

G11. Maintenance of Process Equipment **SWCAA 400-116(1)**

Any process equipment, including features, machines, and devices constituting parts of or called for by plans, specifications, or other information submitted for approval or required as part of an approval shall be maintained and operate in good working order. The Agency reserves the right to take any and all appropriate action to maintain compliance with approval conditions, including directing the facility to cease operations of defective or malfunctioning equipment until corrective action can be completed.

G12. Maintenance of Pollution Control Equipment **SWCAA 400-116(2) ADP 04-2568R2, Condition 10**

Any equipment that serves as air contaminant control or capture equipment shall be maintained and operated in good working order at all times in accordance with good operations and maintenance practices and in accordance with Agency approval conditions. The Agency reserves the right to take any and all appropriate action to maintain compliance with approval conditions, including directing the facility to cease operations of defective or malfunctioning equipment until corrective action can be completed.

G13. Outdoor Burning **SWCAA 425 (Local Only)**

The permittee is prohibited from conducting outdoor burning except as allowed by SWCAA 425.

G14. Asbestos **40 CFR 61, Subpart M SWCAA 476**

The permittee shall comply with the provisions of SWCAA 476 "Standards for Asbestos Control, Demolition and Renovation" when conducting any renovation, demolition or asbestos storage activities at the facility.

G15. Protection of Stratospheric Ozone **40 CFR 82, Subpart F**

The permittee shall comply with the standards for recycling and emissions reduction as provided in 40 CFR 82, Subpart F.

G16. Chemical Accident Prevention Program **40 CFR 68**

The permittee shall comply with the requirements of the Chemical Accident Prevention Provisions of 40 CFR 68 no later than the following dates:

- (a) Three years after the date on which a regulated substance, present above the threshold quantity, is first listed under 40 CFR 68.130; or
- (b) The date on which a regulated substance is first present above a threshold quantity in a process.

G17. Reporting of Emission of Greenhouse Gases **WAC 173-441 (State Only)**

WAC 173-441 requires owners and operators of affected facilities to quantify and report emissions of greenhouse gases from applicable source categories listed in WAC 173-441-120. This regulation applies to any facility located in Washington State with total greenhouse gas emissions of ten thousand metric tons CO₂e or more per calendar year. The permittee shall prepare and submit greenhouse gas reports to Ecology in accordance with the provisions of WAC 173-441-050 for each affected facility.

VI. OPERATING TERMS AND CONDITIONS

The following table lists all federal, state, and/or locally enforceable requirements applicable to the permittee. The effective date for each applicable requirement is listed in Section II of this Permit. The applicable legal authority is listed below each requirement. Applicable requirements identified as having "plantwide" applicability apply to both EUs and IEUs.

Some of the requirements have been partially adopted into the Washington State Implementation Plan (SIP). Only those parts adopted into the Washington SIP are federally enforceable. Requirements which are not required under the FCAA are denoted as state or local only. Monitoring requirements are intended to provide a reasonable assurance of compliance with the applicable requirements, and may or may not involve the use of a reference test method.

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 1	Permittee shall not cause or permit the emission of an air contaminant that exceeds 20% opacity for more than 3 minutes (aggregate), in any 1-hour period except as provided in SWCAA 400-040(1). Reference Method: SWCAA Method 9 [SWCAA 400-040(1)]	Plantwide	M1
Req 2	Permittee shall not cause or permit fallout of particulate matter beyond the source's property boundary in sufficient quantity to interfere unreasonably with use and enjoyment of the property on which the fallout occurs. [SWCAA 400-040(2) – <i>Local Only</i>]	Plantwide	M2 M3
Req 3	Permittee shall take reasonable precautions to prevent the release of air contaminants from any operation that emits fugitive emissions. [ADP 04-2568R2, Condition 8] [SWCAA 400-040(3)]	Plantwide	M2

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 4	<p>Operations that cause or contribute to a nuisance odor shall use recognized good practice and procedures to reduce these odors to a reasonable minimum.</p> <p>[SWCAA ADP 04-2568R2, Condition 9] [SWCAA 400-040(4)]</p>	Plantwide	M2 M3
Req 5	<p>Permittee shall not cause or permit the emission of any air contaminant detrimental to persons, property or business.</p> <p>[SWCAA 400-040(5)]</p>	Plantwide	M3
Req 6	<p>Permittee shall not cause or permit any emissions unit to emit a gas containing in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O₂ or 12% CO₂ as required by the applicable emission standard for combustion sources, and based on the average of sixty (60) consecutive minutes.</p> <p>Reference Method: 40 CFR 60, Appendix A, Method 6</p> <p>[SWCAA 400-040(6)]</p>	Plantwide	M7 M17
Req 7	<p>Permittee shall not cause or permit the installation or use of any means which conceals or masks an emission which would otherwise violate any provisions of SWCAA 400-040.</p> <p>[SWCAA 400-040(7)]</p>	Plantwide	M4
Req 8	<p>Permittee shall take reasonable precautions to prevent emissions of fugitive dust and operate the source to minimize emissions.</p> <p>[SWCAA 400-040(8)(a)]</p>	Plantwide	M2
Req 9	<p>Permittee shall not cause or permit emissions of particulate matter from a combustion or incineration emission unit in excess of 0.1 gr/dscf of exhaust gas corrected to appropriate oxygen level.</p> <p>Reference Method: 40 CFR 60, Appendix A, Method 5</p> <p>[SWCAA 400-050(1)]</p>	Plantwide	M2 M10
Req 10	<p>Permittee shall not cause or allow emissions of particulate matter from a general process unit in excess of 0.1 gr/dscf of exhaust gas.</p> <p>Reference Method: 40 CFR 60, Appendix A, Method 5</p> <p>[SWCAA 400-060]</p>	Plantwide	M2 M10 M14 M15 M16

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 11	<p>Permittee shall perform all abrasive blasting with sand inside a blasting booth, enclosure, or structure designed to capture fugitive particulate matter. Outdoor blasting shall be performed with either steel shot or abrasive containing less than 1% (by mass) material that will pass through a No. 200 sieve.</p> <p>[SWCAA 400-070(8)]</p>	Plantwide	M2
Req 12	<p>The glass furnace may burn only natural gas as defined in 40 CFR 60.41b.</p> <p>[PSD-03-03-A2, Condition 1]</p>	EU1	M4
Req 13	<p>Glass draw (24-hour average basis) shall not be greater than 1.11 times the lowest glass draw rate used in the most recent complete set of compliance monitoring tests required in condition M10.</p> <p>[PSD-03-03-A2, Condition 2]</p>	EU1	M5
Req 14	<p>Burnout maintenance of the glass furnace shall be conducted no more than twice in any twelve consecutive months. Each burnout maintenance shall not exceed fourteen days in length. Burnout maintenance shall be conducted only during the months of January, February, March, or September.</p> <p>[PSD-03-03-A2, Condition 3]</p>	EU1	M6
Req 15	<p>NO_x emissions from the glass furnace shall not exceed 4,550 pounds per continuous 24-hour period, exclusive of operation during furnace burnout-maintenance.</p> <p>[PSD-03-03-A2, Condition 4.1]</p>	EU1	M7
Req 16	<p>NO_x emissions from the glass furnace shall not exceed 7 pounds NO_x per ton glass draw (lb NO_x/T_G, 24-hour average basis), exclusive of operation during furnace burnout-maintenance.</p> <p>[PSD-03-03-A2, Condition 4.2]</p>	EU1	M5 M7
Req 17	<p>NO_x emissions from the glass furnace shall not exceed 882.2 tons in any consecutive twelve-month period.</p> <p>[PSD-03-03-A2, Condition 4.3]</p>	EU1	M7
Req 18	<p>NO_x emissions from the glass furnace during each burnout maintenance period shall not exceed 8,645 pounds NO_x per continuous 24-hour period.</p> <p>[PSD-03-03-A2, Condition 4.4]</p>	EU1	M6 M7

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 19	<p>NO_x emissions from the glass furnace during each burnout maintenance period shall not exceed 13.3 lb NO_x/T_G (averaged over each burnout-maintenance period).</p> <p>[PSD-03-03-A2, Condition 4.4]</p>	EU1	M5 M6 M7
Req 20	<p>NO_x emissions from the glass furnace shall be controlled using the 3R Process™ (excess fuel feed process). Cardinal shall provide written notice of intent to use the alternate control process to Ecology not less than 30 days before implementation. Within 60 days after implementation, Cardinal shall submit to Ecology an application for an amendment to this permit for appropriate modifications to Conditions 5.2 and 5.3.</p> <p>[PSD-03-03-A2, Condition 5.1]</p>	EU1	M4
Req 21	<p>CO emissions from the glass furnace shall not exceed 432 pounds per hour (lbs/hr) on a one-hour average basis.</p> <p>[PSD-03-03-A2, Condition 5.2]</p>	EU1	M7
Req 22	<p>CO emissions from the glass furnace shall not exceed 6.5 pounds CO per ton glass draw (lb CO/T_G) in any consecutive twelve-month period</p> <p>[PSD-03-03-A2, Condition 5.3]</p>	EU1	M5 M7
Req 23	<p>SO₂ emissions from the glass furnace shall not exceed 16.3 pounds per hour (lbs/hr) on a 3-hour average basis.</p> <p>[PSD-03-03-A2, Condition 6.1]</p>	EU1	M7
Req 24	<p>SO₂ emissions from the glass furnace shall not exceed 0.6 pounds SO₂ per ton glass draw (lb SO₂/T_G) on a 3-hour average basis.</p> <p>[PSD-03-03-A2, Condition 6.2]</p>	EU1	M5 M7
Req 25	<p>Filterable PM/PM₁₀ emissions from the glass furnace shall not exceed 2.44 lbs/hr on a 24-hour average basis. All PM shall be assumed to be PM₁₀.</p> <p>[PSD-03-03-A2, Condition 7.2]</p>	EU1	M9 M10
Req 26	<p>Filterable PM/PM₁₀ emissions from the glass furnace shall not exceed 0.09 pounds filterable PM/PM₁₀ per ton glass draw (lb PMF/T_G) on a 24-hour average basis. All PM shall be assumed to be PM₁₀.</p> <p>[PSD-03-03-A2, Condition 7.3] [40 CFR 60.292(a)]</p>	EU1	M5 M9 M10

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 27	Condensable PM/PM ₁₀ emissions from the glass furnace shall not exceed 23 lbs/hr on a 24-hour average basis. All PM shall be assumed to be PM ₁₀ . [PSD-03-03-A2, Condition 7.4]	EU1	M10
Req 28	Condensable PM/PM ₁₀ emissions from the glass furnace shall not exceed 0.85 lb condensable PM/PM ₁₀ per ton glass draw (PMC/T _G) on a 24-hour average basis. All PM shall be assumed to be PM ₁₀ . [PSD-03-03-A2, Condition 7.5]	EU1	M5 M10
Req 29	The spray dryer and ESP may be shut down for up to five days annually for routine maintenance with the process emissions they normally treat bypassed. The emission limits in Requirements 23 through 28 are relieved during this time. [PSD-03-03-A2, Condition 9.1] [40 CFR 60.292(e)]	EU1	M11
Req 30	SO ₂ emissions from the glass furnace during maintenance bypass of the spray dryer and ESP shall not exceed 90 pounds per hour (lb/hr) on a 3-hour average basis. [PSD-03-03-A2, Condition 9.2]	EU1	M7 M11
Req 31	VOC emissions from the glass furnace shall not exceed 2.7 lbs/hr measured as propane on a 1-hour average basis. [PSD-03-03-A2, Condition 8.1]	EU1	M10
Req 32	VOC emissions from the glass furnace shall not exceed 0.10 pounds VOCs measured as propane per ton glass draw (lb VOC/T _G) on a 24-hour average basis. [PSD-03-03-A2, Condition 8.2]	EU1	M5 M10
Req 33	Cardinal shall use no more than 0.25 pounds of SO ₂ per ton glass draw (lb SO ₂ /T _G), averaged monthly, in the lehr. [PSD-03-03-A2, Condition 10.1]	EU1	M5 M12
Req 34	Cardinal shall draw circulation air through the hood located between the tin bath and lehr at all times of glass production, and route said air to the glass furnace combustion air header and ultimately to the spray dryer ESP system used to control glass furnace emissions. [PSD-03-03-A2, Condition 10.2]	EU1	M12

Req. #	Applicable Requirement	Emission Point	Monitoring						
Req 35	<p>Emissions from the glass melting furnace exhaust stack shall not exceed the following:</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: left;"><u>Pollutant</u></td> <td style="text-align: left;"><u>Emission Limit</u></td> </tr> <tr> <td>Fluorides (total)</td> <td>2.9 tpy</td> </tr> <tr> <td>Sulfuric acid</td> <td>6.9 tpy</td> </tr> </table> <p style="text-align: center;">[SWCAA ADP 04-2568R2, Condition 1]</p>	<u>Pollutant</u>	<u>Emission Limit</u>	Fluorides (total)	2.9 tpy	Sulfuric acid	6.9 tpy	EU1	M10
<u>Pollutant</u>	<u>Emission Limit</u>								
Fluorides (total)	2.9 tpy								
Sulfuric acid	6.9 tpy								
Req 36	<p>Visible emissions from the glass melting furnace exhaust stack shall not exceed the values listed below for more than 3 minutes in any one-hour period as determined by a Certified Observer in accordance with SWCAA Method 9.</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: left;"><u>Operating Condition</u></td> <td style="text-align: left;"><u>Opacity Limit</u></td> </tr> <tr> <td>Normal operation</td> <td>10%</td> </tr> <tr> <td>Hot fan transition</td> <td>20%</td> </tr> </table> <p>Hot fan transition is intended to account for elevated dust loads that coincide with a change in lead fan status between the furnace's two hot fans. The transition period begins when a reduction in lead fan load is initiated and ends not more than 30 minutes after fan load adjustment ceases.</p> <p style="text-align: center;">[SWCAA ADP 04-2568R2, Condition 2]</p>	<u>Operating Condition</u>	<u>Opacity Limit</u>	Normal operation	10%	Hot fan transition	20%	EU1	M1 M8
<u>Operating Condition</u>	<u>Opacity Limit</u>								
Normal operation	10%								
Hot fan transition	20%								
Req 37	<p>Cutting lubricant used in glass cutting operations shall meet the specifications given in ASTM D-235 for Type 3C mineral spirits.</p> <p style="text-align: center;">[SWCAA ADP 04-2568R2, Condition 12]</p>	EU2	M13						
Req 38	<p>Lubricant used for glass cutting shall be mineral spirits containing less than 1% benzene by weight.</p> <p style="text-align: center;">[PSD-03-03-A2, Condition 12.1]</p>	EU2	M13						
Req 39	<p>No more than 7,317 pounds of glass cutting lubricant shall be used in any calendar month.</p> <p style="text-align: center;">[PSD-03-03-A2, Condition 12.2]</p>	EU2	M13						
Req 40	<p>All containers for VOC containing materials shall be kept securely closed with a lid in place except when in active use. Open containers for storage, transfer or disposal of VOC containing materials are prohibited. In addition, all VOC containing materials used to clean and/or flush spray equipment or lines during clean up shall be collected and stored in a closed container.</p> <p style="text-align: center;">[SWCAA ADP 04-2568R2, Condition 13]</p>	EU2	M4						

Req. #	Applicable Requirement	Emission Point	Monitoring						
Req 41	<p>Total PM/PM₁₀ emissions from cullet return baghouse #1 exhaust shall not exceed 1.9 lb/hr on a 24-hour average basis. All PM shall be assumed to be PM₁₀.</p> <p>[PSD-03-03-A2, Condition 11.3]</p>	EU3	M14						
Req 42	<p>Total PM/PM₁₀ emissions from cullet return baghouse #1 exhaust shall not exceed 0.005 gr/dscf @ 20.9 % O₂ on a 24-hour average basis. All PM shall be assumed to be PM₁₀.</p> <p>[PSD-03-03-A2, Condition 11.2]</p>	EU3	M14						
Req 43	<p>Combined emissions from cullet return baghouse #2 shall not exceed the following:</p> <table border="0" data-bbox="337 709 829 821"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>PM (filterable)</td> <td>0.005 gr/dscf</td> </tr> <tr> <td>PM₁₀ (filterable)</td> <td>4.69 tpy</td> </tr> </table> <p>Annual emissions shall be calculated from rated airflow, actual hours of operation, and maximum emission concentration consistent with the methodology in Section 6.a of the TSD for ADP 04-2568R2.</p> <p>[SWCAA ADP 04-2568R2, Condition 4]</p>	<u>Pollutant</u>	<u>Emission Limit</u>	PM (filterable)	0.005 gr/dscf	PM ₁₀ (filterable)	4.69 tpy	EU4	M15
<u>Pollutant</u>	<u>Emission Limit</u>								
PM (filterable)	0.005 gr/dscf								
PM ₁₀ (filterable)	4.69 tpy								
Req 44	<p>Visible emissions from approved dust collectors shall not exceed 0% for more than 3 minutes in any one-hour period as determined in accordance with SWCAA Method 9 (Appendix A of SWCAA 400).</p> <p>[SWCAA ADP 04-2568R2, Condition 3]</p>	EU4 EU5 EU6	M1						
Req 45	<p>A gauge shall be installed and maintained to monitor the differential pressure across filtration media in each approved dust collector.</p> <p>[SWCAA ADP 04-2568R2, Condition 14]</p>	EU4 EU5 EU6	M15 M16						

Req. #	Applicable Requirement	Emission Point	Monitoring								
Req 46	<p>Combined emissions from the EP Dust baghouses shall not exceed the following:</p> <table border="0" data-bbox="337 310 831 424"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>PM (filterable)</td> <td>0.005 gr/dscf</td> </tr> <tr> <td>PM₁₀ (filterable)</td> <td>0.56 tpy</td> </tr> </table> <p>Annual emissions shall be calculated from rated airflow, actual hours of operation, and maximum emission concentration consistent with the methodology in Section 6.a of the TSD for ADP 04-2568R2.</p> <p>[SWCAA ADP 04-2568R2, Condition 5]</p>	<u>Pollutant</u>	<u>Emission Limit</u>	PM (filterable)	0.005 gr/dscf	PM ₁₀ (filterable)	0.56 tpy	EU5 EU6	M16		
<u>Pollutant</u>	<u>Emission Limit</u>										
PM (filterable)	0.005 gr/dscf										
PM ₁₀ (filterable)	0.56 tpy										
Req 47	<p>Emissions from the emergency generator shall not exceed the following:</p> <table border="0" data-bbox="337 772 831 919"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>NO_x</td> <td>2.30 tpy</td> </tr> <tr> <td>CO</td> <td>0.42 tpy</td> </tr> <tr> <td>PM₁₀</td> <td>0.09 tpy</td> </tr> </table> <p>Annual emissions shall be calculated from actual hours of operation and applicable emission factors consistent with the methodology found in Section 6.d of the TSD for ADP 04-2568R2.</p> <p>[SWCAA ADP 04-2568R2, Condition 6]</p>	<u>Pollutant</u>	<u>Emission Limit</u>	NO _x	2.30 tpy	CO	0.42 tpy	PM ₁₀	0.09 tpy	EU7	M17
<u>Pollutant</u>	<u>Emission Limit</u>										
NO _x	2.30 tpy										
CO	0.42 tpy										
PM ₁₀	0.09 tpy										
Req 48	<p>Visible emissions from diesel engine exhaust shall not exceed 10% opacity for more than 3 minutes in any one-hour period as determined by a Certified Observer in accordance with SWCAA Method 9 (SWCAA 400, Appendix A). This limit does not apply during periods of cold start-up.</p> <p>[SWCAA ADP 04-2568R2, Condition 7]</p>	EU7	M1								
Req 49	<p>The Selective Catalytic Reduction (SCR) system shall be operated whenever the associated diesel engine is in operation and appropriate operating temperatures have been achieved by the system. The SCR system shall be operated and maintained in accordance with the manufacturer's specifications.</p> <p>[SWCAA ADP 04-2568R2, Condition 15]</p>	EU7	M17								
Req 50	<p>The diesel engine shall be fired on #2 diesel or better. Maximum fuel sulfur content shall not exceed 0.05% by weight. Any fuel other than #2 diesel shall be approved by SWCAA in writing prior to use.</p> <p>[SWCAA ADP 04-2568R2, Condition 16]</p>	EU7	M17								

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 51	<p>Operation of the Emergency Generator for the purpose of maintenance and testing shall not exceed 200 hr/yr. This limit does not apply to emergency service during actual power outages.</p> <p>[SWCAA ADP 04-2568R2, Condition 17] [40 CFR 63.6640(f)(1)]</p>	EU7	M17
Req 52	<p>The Emergency Generator shall be equipped with a non-resettable hour meter to record hours of operation.</p> <p>[40 CFR 63.6625(f)]</p>	EU7	M17
Req 53	<p>Operation of emergency engines for purposes other than those described below is prohibited.</p> <p>(a) Emergency engines may operate without limit in response to emergency situations.</p> <p>(b) Emergency engines may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. Operation for maintenance checks and readiness testing may not exceed 100 hours per calendar year.</p> <p>(c) Emergency engines may be operated for up to 50 hours per year in nonemergency situations, but such operation cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. Nonemergency operation is counted against the 100 hours per calendar year allowance for maintenance and readiness testing.</p> <p>[40 CFR 63.6640(f)]</p>	EU7	M17
Req 54	<p>The permittee shall minimize the time each emergency engine spends at idle and minimize each engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.</p> <p>[40 CFR 63.6625(h), Table 2c]</p>	EU7	M17

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 55	<p>Emergency engines shall be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.</p> <p>Emergency engines shall be operated and maintained according to the manufacturer's emission-related written instructions or a facility specific maintenance plan that provides for the maintenance and operation of the Emergency Generator in a manner consistent with good air pollution control practice for minimizing emissions.</p> <p style="text-align: center;">[40 CFR 63.6605(b), 63.6625(e)] [40 CFR 63.6640(a), Table 6]</p>	EU7	M17
Req 56	<p>The permittee shall conduct the following maintenance for each emergency engine:</p> <ul style="list-style-type: none"> (a) Change oil and filter every 500 hours of operation or annually, whichever comes first. An oil analysis program as described in 40 CFR 63.6625(i) may be utilized in lieu of the proscribed intervals. (b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. Replace as necessary. (c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first. Replace as necessary. <p style="text-align: center;">[40 CFR 63.6603(a), Table 2d] [40 CFR 63.6640(a)]</p>	EU7	M17

Req. #	Applicable Requirement	Emission Point	Monitoring
Req 57	<p>Operation and maintenance (O&M) manual. Within 90 days of startup, the permittee will identify operational parameters and practices for the glass furnace, lehr, SO₂ dry scrubber and electrostatic precipitator system, and cullet return, elevator bottom, elevator top, and batch mixer baghouses that constitute proper operation relative to compliance with the emission limitation conditions of this permit. The permittee will include the operational parameters and practices in the Winlock facility's O&M manual.</p> <p>As a minimum, and to the extent they relate to the emission limitations specified in the conditions of this PSD permit, the specified parameters and practices will include manufacturers' operating instructions and design specifications, normal operating parameters, and updates to reflect any modifications of the equipment or its operating procedures. The operational parameters and practices in the O&M manual shall be kept up-to-date to the extent that they relate to the emission limitations specified in the conditions of this PSD permit.</p> <p>The O&M manual shall be kept readily available at the Winlock facility for review by state, federal, and local agencies. Within 30 days of request from Ecology or SWCAA, the permittee shall submit the O&M manual to the requesting agency for approval of any elements relevant to the emission limitations specified in the conditions of PSD 03-03-A2.</p> <p>[PSD-03-03-A2, Condition 16]</p>	EU1 EU2 EU3	M4
Req 58	<p>The permittee will provide safe access and sampling ports for source testing of each exhaust stack after the final pollution control device. Safe access will consist of permanently constructed platforms on the stacks. The sampling ports will meet the requirements of 40 CFR, Part 60, Appendix A Method 1. Other arrangements may be acceptable if approved by the permitting authority prior to installation.</p> <p>[PSD-03-03-A2, Condition 14]</p>	EU1 EU2 EU3	M4
Req 59	<p>Permittee shall maintain and operate equipment in a manner consistent with good air pollution control practices for minimizing emissions.</p> <p>[40 CFR 60.11(d)] [SWCAA 400-115]</p>	EU1	M4

VII. MONITORING TERMS AND CONDITIONS

To assure compliance with all applicable requirements, the permittee shall perform the monitoring program specified below. Specified monitoring is not required whenever an emission unit is not operated during a time period equal to or greater than the designated monitoring period. For these periods, the permittee shall record and report the reason why and the length of time the emission unit was not operated. Pursuant to WAC 173-401-530(2)(c), monitoring requirements are not applicable to IEUs unless specified below.

The permittee shall make a record of all required monitoring activities as described in Sections K1 and K2 of this permit.

General

M1. Visible Emissions Monitoring **WAC 173-401-615(1)**

This monitoring requirement applies to Reqs 1, 36, 44, 48

This monitoring requirement is applicable to both EU's and IEUs.

On a monthly basis, the permittee shall perform a brief qualitative observation of affected emission units during daylight hours for the purpose of identifying potential visible emissions violations. Based upon the qualitative observation, the permittee shall take one or more of the following actions:

- (a) If no visible emissions are observed, the permittee shall make a record of the observation, and no further action is necessary.
- (b) If visible emissions are observed, the permittee shall identify the source of the emissions, and confirm whether or not the pertinent equipment is experiencing a malfunction and that all relevant air pollution control equipment is operating properly. The permittee shall take corrective action to resolve the problem within 24 hours of initial discovery, and shall notify SWCAA regarding its progress in resolving the problem.
- (c) Subsequent to taking corrective action, the permittee shall perform a second qualitative observation of affected emission units. If no visible emissions are observed, then no further action is necessary. If visible emissions are still observed, the permittee shall demonstrate compliance with applicable visible emission limits by conducting a visible emissions evaluation in accordance with SWCAA Method 9 within 72 hours of initial discovery. For visible emissions in compliance with applicable visible emission limits, no further action is necessary.

If observed visible emissions are demonstrated to be out of compliance with applicable visible emissions limits, the permittee shall report an excess emission as described in Section R1 and make a record of the event. Additional adjustments, repairs, and/or maintenance shall be performed as soon as practical to reduce the visible emissions to a level at or below the applicable opacity limit.

Implementation of corrective action does not shield the permittee from enforcement action by SWCAA or from the obligation of reporting permit deviations as specified in WAC 173-401-615(3).

General**M2. Fugitive Emissions/Particulate Matter Monitoring WAC 173-401-615(1)**

This monitoring requirement applies to Reqs 2-4, 8-11

This monitoring requirement is applicable to both EU's and IEUs.

On a monthly basis, or in response to a complaint, the permittee shall perform an inspection of affected emission units during daylight hours for the purpose of identifying fugitive emissions, odors, fallout and potential violations of applicable particulate matter emission limits. Based upon results of the inspection, the permittee shall take one or more of the following actions:

- (a) If no visible emissions, odor or fallout are observed, affected emission units are assumed to be in compliance with applicable emission limits. The permittee shall make a record of the observation and no further action is necessary.
- (b) If visible emissions, odor or fallout are observed during an inspection, the permittee shall verify the emission unit or process that is the source of emissions and any associated air pollution control equipment are operating properly. If the equipment is not operating properly, the permittee shall resolve the problem no later than 24 hours after initial discovery, or notify SWCAA by the next business day of the progress made in resolving the problem. Subsequent to resolving the problem, a second inspection shall be made. If visible emissions, odor or fallout are still observed, the permittee shall continue to make adjustments and/or repairs until such time as the affected emission unit is demonstrated to be in compliance. Reasonable precautions and good work practices shall be employed to minimize emissions for the duration of the event.

Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3).

General**M3. Complaint Monitoring WAC 173-401-615(1)**

This monitoring requirement applies to Reqs 2, 4-5

This monitoring requirement is applicable to both EU's and IEUs.

The permittee shall record, and maintain record of, any air quality related complaints received by the facility. All complaints shall be investigated no later than 1 work day after the permittee has been notified.

The permittee shall determine the validity of each complaint and the cause of any emissions that may have prompted the complaint, and initiate appropriate corrective action in response to the complaint. Within 24 hours of notification and investigation, permittee shall resolve the subject of the complaint, or notify SWCAA by the next working day of progress made in resolving the complaint.

General**M4. Compliance Certification WAC 173-401-615(1)(b)
PSD-03-03-A2, Condition 15.3.4**

This monitoring requirement applies to Reqs 7, 12, 20, 40, 57-59

The permittee shall certify the following in each quarterly report:

- (a) Installed equipment did not conceal or mask any emissions which are otherwise in violation of general standards;
- (b) The glass furnace burned only natural gas during the reporting period;
- (c) The *3R Process* was in use for control of NO_x emissions from the glass furnace;
- (d) All containers for VOC containing materials were kept securely closed when not in active use and all VOC containing materials used to clean/flush equipment were collected and stored in a closed container;

- (e) The O&M manual required by PSD-03-03-A2, Condition 16 was regularly updated and readily available for review at the Winlock facility;
- (f) Safe access and sampling ports were provided for source testing located after the final control device of each affected exhaust stack; and
- (g) The glass furnace was maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions.

WAC 173-401-615(1)(b)

PSD-03-03-A2, Conditions 4.6, 4.7, 5.6, 5.7, 6.4, 6.5

PSD-03-03-A2, Conditions 7.8, 7.9, 8.4, 9.3, 9.4, 15.4

ADP 04-2568R2, Conditions 17, 20-23

Glass Furnace

M5. Operations Monitoring

This monitoring requirement applies to Reqs 13, 16, 19, 22, 24, 26, 28, 32-33

The permittee shall monitor and record the operational parameters/events described below. Each record shall include the date on which the data was recorded. The permittee shall provide a copy of records for any time period within the last 5 years to Ecology and/or SWCAA within 10 working days of such a request.

- (a) Weight of glass draw for each hour of furnace operation (tph);
- (b) Average hourly exhaust stack flowrate (scfm);
- (c) Glass furnace hot fan transitions;
- (d) Excess emissions, deviations from permit conditions, CAM excursions, and upset conditions;
- (e) Glass furnace startup and shutdown periods;
- (f) Maintenance and repair activities; and
- (g) CEMS calibration and audit results.

Glass Furnace

WAC 173-401-615(1)(b)

M6. Burnout Maintenance Monitoring

PSD-03-03-A2, Condition 4.9

This monitoring requirement applies to Req 14, 18-19

The permittee shall monitor and record the following operational parameters during each burnout maintenance period for the glass furnace:

- (a) Date and duration of each burnout maintenance period;
- (b) Weight of glass draw for each burnout maintenance period (T_G);
- (c) Emission of NO_x for each 24-hr period during burnout maintenance (lbs) as determined by the NO_x CERMS; and
- (d) Emission rate of NO_x on a production basis (lb/T_G) for each burnout maintenance period.

Dept Ecology – Memo (3/13/06)

PSD-03-03-A2, Conditions 4.5, 4.6, 4.7, 4.8

PSD-03-03-A2, Conditions 5.5, 5.6, 5.7

Glass Furnace

M7. NO_x , CO and SO_2 Emission Monitoring

PSD-03-03-A2, Conditions 6.4, 6.5, 13

This monitoring requirement applies to Reqs 6, 15-19, 21-24, 30

The permittee shall install and maintain a continuous emission rate monitoring and data acquisition and handling system (CERMS/DAHS) to monitor the emission rate of NO_x , CO and SO_2 from the exhaust stack of the glass furnace. Each CERMS shall be installed and maintained in accordance with the requirements and specifications identified in Appendix B of this permit. Each CERMS shall be certified and in use during glass furnace operation.

Hourly emission rates shall be calculated based on monitored emission concentration and exhaust flowrate. Hourly emission averages shall be based on discrete clock hours (block average). 3-hr average emission concentrations shall be defined as the average emission concentration during each of the most recent 3 operating hours excluding startup/shutdown periods. 24-hr average emission concentrations shall be defined as the average emission concentration during each of the most recent 24 operating hours excluding startup/shutdown periods. Production basis emission rates shall be determined by dividing the mass of monitored emissions by the monitored weight of glass draw.

The permittee shall record the data elements listed below. The permittee shall provide a copy of records for any time period within the last 5 years to Ecology and/or SWCAA within 10 working days of such a request.

- (a) Hourly emission rate of NO_x, CO, and SO₂ for all periods of furnace operation (lb/hr);
- (b) Emission rate of NO_x on a production basis (lb/T_G) for each 24-hour period of furnace operation;
- (c) Emission rate of CO on a production basis (lb/T_G) for each consecutive 12-month period of furnace operation; and
- (d) Emission rate of SO₂ on a production basis (lb/T_G) for each 3-hour period of furnace operation.

Glass Furnace

M8. Opacity Monitoring

WAC 173-401-615(1)(b)

This monitoring requirement applies to Req 36

On a monthly basis, the permittee shall monitor and record visible emissions from the exhaust stack of the glass furnace in accordance with SWCAA Method 9. Visible emissions data shall be collected for a minimum of 20 minutes. For visible emissions in compliance with applicable visible emission limits, no further action is necessary. If observed visible emissions are demonstrated to be out of compliance with applicable visible emissions limits, the permittee shall report an excess emission as described in condition R1 and make a record of the event. Additional adjustments, repairs, and/or maintenance shall be performed as soon as practical to reduce the visible emissions to a level at or below the applicable opacity limit.

Implementation of corrective action does not shield the permittee from enforcement action by SWCAA or from the obligation of reporting permit deviations as specified in WAC 173-401-615(3).

Glass Furnace

40 CFR 64.6(c), 64.7(a), 64.7(c)

M9. Filterable PM Compliance Assurance Monitoring

WAC 173-401-615(1)(b)

This monitoring requirement applies to Reqs 25-26

The permittee shall implement a compliance assurance monitoring (CAM) plan for filterable PM emissions from the glass furnace consistent with the requirements of 40 CFR 64.

- a) Monitored Parameters. The permittee shall continuously monitor primary voltage and current for each field of the glass furnace ESP. Hourly average values for each parameter shall be derived from a minimum of four data values evenly spaced over each operating hour. Monitored hourly average values for primary voltage and primary current shall be used to calculate total ESP field power for the corresponding hour. The permittee shall record total ESP field power for each hour of glass furnace operation.

- b) Monitoring Exemptions. The permittee is temporarily exempted from the monitoring requirements of this section when the associated monitoring system is inoperable either due to an unavoidable breakdown or malfunction, or due to a routine scheduled repair or calibration check. In determining whether a monitoring system malfunction or breakdown was unavoidable, the following criteria shall be considered:
- i) Whether the malfunction was caused by poor or inadequate operation, maintenance, or any other reasonably preventable condition;
 - ii) Whether the malfunction was of a recurring pattern indicative of inadequate operation or maintenance; and
 - iii) Whether the permittee took appropriate action as expeditiously as practicable to correct the malfunction.
- c) Minimum Data Recovery. For any parameter requiring hourly or more frequent monitoring under this section, the permittee shall recover valid monitoring data for at least 90% of the time the glass furnace is required to be monitored. Data recorded during monitoring system malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of assessing the operation of the control device being monitored.
- d) Compliance Assurance. Compliance with applicable filterable PM emission limits is considered to be assured during all periods in which total ESP field power is equal to, or greater than, 20 kW.
- e) Excursions. Any period during which total ESP field power falls below 20 kW and cannot be brought back into conformance within 6-hours from the time the out-of-range condition was first noted or recorded shall constitute an excursion. Each such period shall be reported as a deviation in accordance with Section R1 of this permit. Startup or shutdown events and periods of ESP maintenance are not considered to be excursions. Operation of the ESP with only 3 collection fields shall not be considered an excursion provided total ESP field power does not fall below 20kW.

Glass Furnace

PSD-03-03-A2, Conditions 7.8, 7.9, 8.4

M10. Emission Testing

ADP 04-2568R2, Condition 24 & App A

This monitoring requirement applies to Reqs 9-10, 25-28, 31-32, 35

The glass furnace shall be emission tested for PM/PM₁₀ within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup. Periodic emission testing for PM/PM₁₀ shall be performed at least once every 12 months thereafter.

The glass furnace shall be emission tested for VOC within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup. Periodic emission testing for VOC shall be performed at least once every 12 months thereafter. Any time that 3 consecutive emission tests demonstrate compliance with applicable emission limits, emission testing frequency may be reduced to at least once every 36 months. Emission testing frequency shall return to at least once every 12 months subsequent to any test that demonstrates noncompliance.

The glass furnace shall be emission tested for total fluoride and sulfuric acid within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup.

All testing shall be conducted in accordance with the protocol found in Appendix A of this permit. Emission test reports shall be submitted to SWCAA as described in reporting requirement R9 of this permit. Emission test results shall be reported in units that correspond to applicable emission limitations contained in this permit.

Emissions of PM/PM₁₀, VOC, total fluoride, and sulfuric acid from the glass furnace shall be calculated from recorded glass draw and the most recent emission test data.

Glass Furnace

M11. Spray Dryer/ESP Emission Monitoring PSD-03-03-A2, Conditions 9.3, 9.4

This monitoring requirement applies to Reqs 29-30

The permittee shall record the following parameters for each glass furnace spray dryer/ESP maintenance period:

- (a) Date and duration of each spray dryer/ESP maintenance period;
- (b) Emission rate of SO₂ for each 3-hour period. SO₂ emission rates shall be determined using contemporaneous CERMS data; and
- (c) Emission rate of filterable/condensable PM/PM₁₀. PM/PM₁₀ emission rates shall be determined using approved emission factors for uncontrolled emissions.

SO₂ and PM/PM₁₀ emissions during the maintenance period shall be counted toward annual emissions.

Glass Furnace Lehr

M12. Emission Monitoring PSD-03-03-A2, Conditions 10.3, 10.6

This monitoring requirement applies to Reqs 33-34

The permittee shall record the following parameters for the glass furnace lehr:

- (a) Beginning and ending weights of each SO₂ gas cylinder (lbs);
- (b) Monthly net consumption of SO₂ in the lehr (lb/mth);
- (c) Consumption rate of SO₂ in the lehr on a production basis (lb/T_G) for each month of operation; and
- (d) Date and duration of each instance when the lehr hood was not exhausted to the glass furnace combustion air header and ultimately to the spray dryer/ESP system.

Glass Cutting

M13. Emission Monitoring WAC 173-401-615(1)(b)

This monitoring requirement applies to Reqs 37-39

The permittee shall record the following information for glass cutting operations:

- (a) Type and ASTM classification of each glass cutting lubricant used;
- (b) Vendor certification of composition for each type of glass cutting lubricant used;
- (c) Benzene content of each type of glass cutting lubricant used; and
- (d) Monthly consumption of each type of glass cutting lubricant.

Cullet Return Baghouse #1**Dept Ecology - Email (2/24/09)****Dept Ecology – Ltr (12/18/11)****PSD-03-03-A2, Condition 11.6****M14. Emission Monitoring/Testing**

This monitoring requirement applies to Reqs 10, 41-42

Cullet return baghouse #1 shall be emission tested for PM/PM₁₀ at least once every 12 months in accordance with the protocol found in Appendix C of this permit. Any time that 3 consecutive emission tests demonstrate compliance with applicable emission limits, emission testing frequency may be reduced to at least once every 36 months. Emission testing frequency returns to at least once every 12 months subsequent to any test that demonstrates noncompliance. Emission test reports shall be submitted to SWCAA as described in condition R9 of this permit. Emission test results shall be reported in units that correspond to applicable emission limits contained in this permit.

The permittee shall record annual hours of operation for cullet return baghouse #1. Hourly PM/PM₁₀ emissions shall be calculated from the most recently tested emission concentration and exhaust flowrate. Annual PM/PM₁₀ emissions shall be calculated from recorded hours of operation and the most recently tested hourly emission rate.

Cullet Return Baghouse #2**ADP 04-2568R2, Conditions 14, 22, 25****M15. Emission Monitoring/Testing****ADP 04-2568R2, App C**

This monitoring requirement applies to Reqs 10, 43, 45

The permittee shall install and maintain a pressure gauge capable of continuously monitoring the differential pressure in the cullet return baghouse #2. Differential pressure in the baghouse shall be recorded at least once per week. Each instance of maintenance and/or repair to the baghouses shall be recorded.

Cullet return baghouse #2 shall be emission tested within 60 days of commencing operation and at least once every 60 months thereafter in accordance with the protocol found in Appendix D of this permit. Emission test reports shall be submitted to SWCAA as described in condition R9 of this permit. Emission test results shall be reported in units that correspond to applicable emission limits contained in this permit.

The permittee shall record annual hours of operation for cullet return baghouse #2. Annual PM/PM₁₀ emissions shall be calculated from recorded hours of operation, exhaust flowrate, and the most recently tested emission concentration.

EP Dust Baghouses**WAC 173-401-615(1)(b)****ADP 04-2568R2, Conditions 14, 22, 26****M16. Emission Monitoring/Testing****ADP 04-2568R2, App B**

This monitoring requirement applies to Reqs 10, 45-46

The permittee shall install and maintain a pressure gauge capable of continuously monitoring the differential pressure in each of the EP Dust Baghouses. Differential pressure in each baghouse shall be recorded at least once per week. Each instance of maintenance and/or repair to the baghouses shall be recorded. The EP Dust Baghouses are subject to the general visible emissions monitoring pursuant to condition M1 of this permit.

If a Notice of Correction/Violation is issued for excess visible emissions from an EP Dust Baghouse, the affected baghouse may subsequently be required to perform an emission test and/or periodic emission testing. If such emission testing is required, the affected baghouse shall be emission tested no later than 60 days following the permittee's receipt of the citation. Under this provision, periodic emission testing of the affected baghouse is limited to a maximum frequency of once every 60 months. All emission testing shall be conducted in accordance with Appendix E of this Permit. Emission test reports shall be submitted to SWCAA as described in condition R9 of this permit. All emission test results shall be reported in units that correspond to applicable emission limitations contained in this permit.

The permittee shall record annual hours of operation for each EP Dust Baghouse. Hourly PM/PM₁₀ emissions shall be calculated from the maximum allowable emission concentration and nominal exhaust flowrate. Annual PM/PM₁₀ emissions shall be calculated from recorded hours of operation and the calculated hourly emission rate.

WAC 173-401-615(1)(b)
40 CFR 63.6655 & Table 6
ADP 04-2568R2, Condition 23

Emergency Generator
M17. Emission Monitoring

This monitoring requirement applies to Reqs 6, 47, 49-56

The permittee shall install and maintain a nonresettable hourmeter for the purposes of recording Emergency Generator engine operation.

The permittee shall monitor and record the following parameters for the Emergency Generator:

- (a) Hours of diesel engine operation in each calendar year. The permittee shall document how many hours are spent for emergency and nonemergency operation, including what classified the operation as emergency;
- (b) Number of hours during which the selective catalytic reduction system operated;
- (c) Sulfur content of fuel oil fired in the engine. Fuel supplier certifications may be used to comply with this requirement; and
- (d) Each incidence of maintenance and repairs conducted according to the manufacturer's emission related operation and maintenance instructions or the facility developed maintenance plan. Activities to be documented include, but are not limited to, oil and oil filter changes, air cleaner inspections, and inspection of hoses and belts.

Emissions from the Emergency Generator shall be calculated from recorded hours of operation and the following emission factors:

<u>Pollutant</u>	<u>Emission Rate</u>	
	<u>Uncontrolled</u>	<u>Controlled (SCR)</u>
NO _x	41.71 lb/hr	4.17 lb/hr
CO	4.15 lb/hr	4.15 lb/hr
VOC	1.09 lb/hr	1.09 lb/hr
PM/PM ₁₀ /PM _{2.5}	0.91 lb/hr	0.91 lb/hr
SO ₂	1.035 lb/hr	1.035 lb/hr

VIII. RECORDKEEPING TERMS AND CONDITIONS

The permittee shall maintain files of all information, including all reports and notifications, recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Pursuant to WAC 173-401-530(2)(c), recordkeeping requirements are not applicable to IEUs unless specified below.

WAC 173-401-615(2)

K1. General Recordkeeping

ADP 04-2568R2, Conditions 19-23

Permittee is required to keep the following records as applicable:

- (a) Inspections and Certifications
 - (1) Date and time of the inspection or certification;
 - (2) Name and title of the person who conducted the inspection or certification;
 - (3) Identification of the unit or activity being inspected or certified;
 - (4) Operating conditions of the unit or the type of activity occurring at the time of the inspection or certification;
 - (5) Compliance status of each monitored requirement as described in Sections V and VII of this Permit; and
 - (6) Description of corrective action (if any) taken in response to a discovered permit deviation, excess emission, upset condition, or malfunction, as applicable.

- (b) Complaints
 - (1) Date and time of complaint;
 - (2) Name of the complainant;
 - (3) The nature of the complaint;
 - (4) Date and time of follow-up inspection;
 - (5) The name and title of the person who conducted the inspection or certification; and
 - (6) Description of corrective action (if any) taken in response to complaint.

- (c) Sampling and Emissions Testing
 - (1) Date sampling was performed;
 - (2) Entity that performed the sampling;
 - (3) Name and title of the person or the entity that performed the sampling or testing;
 - (4) Analytical techniques used to take the sample;
 - (5) Operating conditions existing at the time of sampling or measurement to include, as a minimum for emission point source testing:
 - (A) Heat input (million Btu/hr) (EU-1 and EU-2);
 - (B) Fuel consumption rate (EU-1 and EU-2);
 - (C) Air discharge flowrate (dry standard cubic feet);
 - (D) Exhaust temperature of emissions out the stack (EU-1 and EU-2);
 - (E) Unit load on an hourly basis (EU-1);
 - (6) Date analytical analyses (if any) were performed;
 - (7) Entity that performed the analyses;
 - (8) Analytical techniques or methods used;
 - (9) Results of such analyses;
 - (10) Compliance status of each monitored requirement as described in Section V and VII of this permit; and

- (11) Description of corrective action taken in response to permit deviations and when action was initiated.
- (d) Periodic Monitoring and Emissions Records
- (1) Date and time of parameter observation or emission calculation;
 - (2) Name of parameter observed or emission calculated;
 - (3) Observed parameter value or calculated emission value with appropriate units; and
 - (4) Periods that data was unavailable.
- (e) Excess Emissions and Upset Conditions
- (1) Date and time of excess emission or upset condition occurred;
 - (2) Nature of the excess emission or upset condition and an identification of the affected unit, process, or activity; and
 - (3) Description of corrective action taken in response to a discovered permit deviation, excess emission, upset condition, or malfunction, as applicable.
- (f) Maintenance Activities
- (1) Date and time of the maintenance activity;
 - (2) Name of the person who performed the maintenance;
 - (3) Identification of the unit or activity being maintained; and
 - (4) Description of the maintenance being conducted.

PSD-03-03-A2, Conditions 4.6, 4.7, 5.6, 5.7
PSD-03-03-A2, Conditions 6.4, 6.5, 9.3, 15.4

K2. Continuous Emission Data Recordkeeping **WAC 173-401-615(2)**

The permittee shall maintain a file for the glass furnace CERMS containing the measurements, data, reports, and general information identified below. The file shall be maintained at the source in a readily accessible form suitable for inspection for at least 5 years from the date of each record. The file shall include the following information for each hour of unit operating time for the glass furnace:

- (a) Date and hour;
- (b) Weight of glass draw (tons);
- (c) Exhaust stack flowrate (scfm);
- (d) Emission rate of NO_x, CO, and SO₂ (lb/hr); and
- (e) Emission rate of NO_x, CO, and SO₂ on a production basis (lb/T_G).

IX. REPORTING TERMS AND CONDITIONS

All required reports must be certified by a responsible official consistent with WAC 173-401-520. Where an applicable requirement requires reporting more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification. Where a reporting schedule is specified (e.g. quarterly, semi-annual, or annual), compliance with the reporting frequency is met when reports are submitted more frequently than required. Pursuant to WAC 173-401-530(2)(c), reporting requirements are not applicable to IEUs unless specified below.

Reports shall be submitted to the following addresses, unless otherwise instructed:

Control Officer
Southwest Clean Air Agency
11815 NE 99 Street, Suite 1294
Vancouver, WA 98682

Clean Air Act Compliance Manager
U.S. EPA Region 10, Mail Stop: OCE-101
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Department of Ecology
Air Quality Program
PO Box 47600
Olympia, WA 98504-7600

40 CFR 63.10(e)(3)
WAC 173-401-615(3)(b)
SWCAA 400-107
PSD-03-03-A2, Condition 15.3.5
ADP 04-2568R2, Conditions 28, 29

R1. Deviations from Permit Conditions

The permittee shall report deviations from permit conditions to SWCAA no later than thirty days after the end of the month during which the deviation is discovered. Excursion events as described in condition M9 shall be considered deviations for the purposes of reporting.

Deviations that represent a potential threat to human health or safety shall be reported as soon as possible but no later than twelve hours after the deviation is discovered.

Excess emissions shall be reported as soon as possible. In accordance with SWCAA 400-107(1), excess emissions that the permittee wishes to be considered unavoidable must be reported no later than 48 hours after discovery.

All deviation reports shall be submitted in writing (e.g. e-mail, facsimile or letter). Each report shall include the following information:

- (a) Identification of the emission unit(s) involved;
- (b) Duration of the event including the beginning and end times;
- (c) Description of the event, including:
 - (1) Whether or not the deviation was due to an upset condition, and
 - (2) Probable cause of the deviations;
- (d) Estimate of the quantity of excess emissions for exceedances of non-opacity emission limits;
- (e) Description of corrective action taken in response to the event (if any); and
- (f) Preventive measures taken or planned to minimize future recurrence.

R2. Complaint Reports

WAC 173-401-615(3)

The permittee shall report all air pollution related complaints to SWCAA within 3 business days of receipt.

Complaint reports shall include the following information:

- (a) Date and time of the complaint;
- (b) Name of the complainant;
- (c) Nature of the complaint; and
- (d) Description of corrective action taken in response to complaint (if any).

Glass Furnace**R3. Spray Dryer/ESP Maintenance Report 40 CFR 60.292(e)**

The permittee shall provide written notification to SWCAA at least 10 days prior to initiation of spray dryer/ESP maintenance for the glass furnace.

Notification shall, at a minimum, include the following information:

- (a) Date spray dryer/ESP maintenance is to commence;
- (b) Schedule of planned maintenance activity; and
- (c) List of measures employed to minimize emissions.

Glass Furnace**PSD-03-03-A2, Conditions 4.8.6, 4.9.6****R4. Burnout Maintenance Report ADP 04-2568R2, Condition 33**

The permittee shall provide written notification to SWCAA at least 30 days prior to initiation of burnout maintenance for the glass furnace.

Notification shall, at a minimum, include the following information:

- (a) Date burnout maintenance is to commence; and
- (b) Anticipated duration of burnout maintenance.

PSD-03-03-A2, Condition 15.3.3**R5. Quarterly Reports ADP 04-2568R2, Conditions 32, 34, 36**

The permittee shall submit quarterly reports to SWCAA no later than 30 days after the end of each quarter of the calendar year. Each report must be certified by a responsible official consistent with WAC 173-401-520.

Each report shall contain, at a minimum, the following information:

- (a) Certification by the responsible official of each element cited in monitoring condition M4;
- (b) Records of all required monitoring and inspections as described in monitoring conditions M1 thru M3 of this permit. A copy of the relevant opacity certification(s) shall be submitted with the report for all EPA Method 9 and/or SWCAA Method 9 monitoring conducted during the reporting period;
- (c) A summary of all deviations and/or excursions that occurred during the reporting period;
- (d) A summary of all excess emission events that occurred during the reporting period;
- (e) Glass furnace CERMS/DAHS values for each hour of operation;
- (f) Glass furnace visual survey results for each monthly monitoring;
- (g) Glass furnace total ESP field power for each hour of operation;
- (h) Glass furnace heat input for each hour of operation;
- (i) Daily glass draw;
- (j) Daily salt cake consumption;
- (k) Hours of operation for each dust collector during the reporting period;
- (l) Hours of operation for the emergency generator during the reporting period;
- (m) Results of all CERMS calibrations and audits conducted during the reporting period;
- (n) Identification of any periods during which required CERMS or CAM data is not available and an explanation of why the data is missing; and
- (o) Summary of air pollutant emissions from each emission unit for the reporting period and the preceding 12-month period in terms consistent with applicable emission limits.

40 CFR 63.6650(f)**R6. Semi-Annual Reports****WAC 173-401-615(3)(a)**

Consistent with WAC 173-401-615(3) the permittee shall submit to SWCAA by September 15th and March 15th for the six-month periods January through June and July through December respectively, a report on the status of all monitoring requirements. All instances of deviation from permit requirements shall be clearly identified. If no deviations occurred, then a statement to that effect shall be submitted.

The semi-annual report shall contain a certification of all reports previously submitted during the semi-annual period that have not already been certified. The certification shall be consistent with WAC 173-401-520.

Separate semi-annual reports are not necessary if the permittee elects to provide the above information and certification with each quarterly report.

SWCAA 400-105(1)**R7. Emission Inventory Reports****ADP 04-2568R2, Condition 27**

The permittee shall submit an inventory of annual emissions for each calendar year to SWCAA by March 15th of the following year in accordance with SWCAA 400-105, unless an alternate date is approved by SWCAA.

The emission inventory shall include stack and fugitive emissions of NO_x, SO₂, CO, VOC, PM, PM₁₀, PM_{2.5}, HAP, and TAP as defined in WAC 173-460 (*effective 8/21/98*). TAP emissions shall be calculated consistent with the emission factors and methodology presented in the Technical Support Document for ADP 04-2568R2.

R8. Annual Compliance Certification**WAC 173-401-630(5)**

The permittee shall submit to SWCAA and EPA a certification of compliance with all terms and conditions of this permit by March 15th for the previous calendar year in accordance with WAC 173-401-630(5)(d).

The certification of compliance shall include the following information:

- (a) Identification of each term or condition of the permit that is the basis of the certification;
- (b) Statement of compliance status;
- (c) Whether compliance was continuous or intermittent;
- (d) Method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with WAC 173-401-615;
- (e) Such other facts as SWCAA may require to determine the compliance status of the source; and
- (f) Such additional requirements as may be specified pursuant to Sections 114(a)(3) and 504(b) of the FCAA.

PSD-03-03-A2, Conditions 7.8.5, 7.9.5, 8.4.5**PSD-03-03-A2, Conditions 11.6.5, 11.7.5, 15.3.2****R9. Emission Test Reports****ADP 04-2568R2, Condition 35**

The permittee shall do the following for each emission test conducted pursuant to this permit:

- (a) Submit a comprehensive test plan to SWCAA for review and approval at least ten business days prior to any periodic testing;
- (b) Notify SWCAA at least five business days in advance of any periodic testing so that SWCAA personnel may be present during testing;
- (c) Report a summary of operating conditions during each emission test;

- (d) Report required test results to SWCAA within 45 days of test completion. Emissions data shall be corrected to units that correspond to the applicable standard. Each required source test report shall include:
- (1) A description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
 - (2) Time and date of the test and identification and qualifications of the personnel involved,
 - (3) A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit,
 - (4) A summary of control system or equipment operating conditions,
 - (5) A summary of production related parameters,
 - (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
 - (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
 - (8) Copies of field data and example calculations,
 - (9) Chain of custody information,
 - (10) Calibration documentation,
 - (11) Discussion of any abnormalities associated with the results, and
 - (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

X. NON-APPLICABLE TERMS AND CONDITIONS

The following lists all federal, state, and/or local requirements that might reasonably apply to the permittee, but are deemed nonapplicable after review by SWCAA. In accordance with WAC 173-401-640, the permittee is provided a permit shield for not complying with the requirements listed below where they have been identified to be non-applicable to specific emission units.

Standards of Performance for Stationary Compression

40 CFR 60, Subpart III

N1. Ignition Internal Combustion Engines

SWCAA 400-115

Subpart III establishes performance standards for applicable to operators of stationary compression ignition (CI) internal combustion engines (ICE) that are manufactured after April 1, 2006 (except a fire pump engine), manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006, or modified/reconstructed after July 11, 2005. This facility has one compression ignition internal combustion engine (Emergency Generator) that was manufactured prior to April 1, 2006 and has not been modified or reconstructed since that time. Therefore, this regulation is not applicable.

National Emission Standards for Hazardous Air Pollutants

40 CFR 63, Subpart Q

N2. for Industrial Process Cooling Towers

SWCAA 400-075

Subpart Q establishes performance standards for all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals on or after September 8, 1994. The cooling tower at this facility do not use chromium-based water treatment chemicals, therefore, this requirement is not applicable.

National Emission Standards for Hazardous Air Pollutants 40 CFR 63, Subpart SSSSSS

N3. for Glass Manufacturing Area Sources SWCAA 400-075

Subpart SSSSSS establishes performance standards for all new and existing glass manufacturing facilities that are an area source of HAP and meet the criteria listed in 40 CFR 63.11448. This facility is a glass manufacturing facility and is an area source of HAP emissions. The glass formulations in use at this facility do not contain any of the glass manufacturing metal HAP compounds so the applicability criterion contained in 40 CFR 63.11448(c) is not met. Therefore, this regulation is not applicable.

N4. Mandatory Greenhouse Gas Reporting (Federal) 40 CFR 98

40 CFR 98 establishes mandatory reporting requirements for greenhouse gas (GHG) emissions from selected stationary source categories in the United States. Pursuant to 40 CFR 89.3, facilities subject to this regulation must submit GHG emissions reports to the Administrator, as specified in paragraphs (a) through (g) of that section, for calendar year 2010 and each subsequent calendar year. This regulation was proposed on April 10, 2009 (74FR16609) and finalized on September 22, 2009. In the preamble of the final promulgation, EPA responded to a question regarding whether the reporting requirements constitute an applicable requirement for the purposes of Title V. The response indicates that they are not.

As currently written, the definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today's action, which is promulgated under CAA sections 114(a)(1) and 208.

N5. Compliance Assurance Monitoring 40 CFR 64

40 CFR 64 establishes criteria that define what monitoring should be conducted by a source owner or operator to provide a reasonable assurance there is compliance with emission limits and standards in order to certify compliance under the Title V operating permit program.

Based on estimates of uncontrolled potential to emit, emissions of selected pollutants from the glass furnace (NO_x, CO, SO₂, and filterable PM) are subject to this regulation. The glass furnace is equipped with a continuous compliance determination method for NO_x, CO, and SO₂ (CERMS) so these pollutants are exempt from 40 CFR 64 requirements pursuant to 40 CFR 64.2(b)(1)(iii) and 64.2(b)(1)(vi). The glass furnace is not equipped with a continuous compliance determination method for filterable PM emissions so that pollutant is still subject to 40 CFR 64 requirements.

Estimated uncontrolled potential to emit from other emission units at the facility is not large enough to be subject to this regulation.

N6. Source Registration Program SWCAA 400-100

SWCAA 400-100 implements SWCAA's source registration program. Pursuant to SWCAA 400-100(1)(b) sources subject to the Air Operating Permit program (WAC 173-401) are exempt from the registration program.

N7. Requirements for Sources in a Maintenance Plan Area SWCAA 400-111

The permittee is not located in a maintenance plan area for any criteria pollutant, so this regulation is not applicable.

N8. Requirements for New Sources in Nonattainment Areas SWCAA 400-112

The permittee is not located in a nonattainment area for any criteria pollutant, so this regulation is not applicable.

N9. Bubble Rules**SWCAA 400-120**

The permittee has not requested an emission bubble for any regulated pollutant, so this regulation is not applicable.

SWCAA 400-130**SWCAA 400-131****N10. Emission Reduction Credits****SWCAA 400-136**

The cited rule sections govern the creation, maintenance, and use of emission reduction credits within the Agency's jurisdiction. Conditions for the issuance of credits are detailed in SWCAA 400-131(3). Allowed uses for emission reduction credits are detailed in SWCAA 400-130(2). The permittee has not requested to create or use any emission reduction credits (ERCs) so this regulation is not applicable.

APPENDIX A
GLASS FURNACE – EMISSION TESTING REQUIREMENTS

1. Introduction:

The purpose of this testing is to quantify emissions of PM, VOC, and TAPs from the glass furnace exhaust stack and to demonstrate compliance with the requirements of this permit.

2. Testing Requirements:

- a. **Test Schedule.** Emission testing to quantify emissions from the exhaust stack of the glass melting furnace shall be conducted on the following schedule:

<u>Constituent</u>	<u>Test Schedule</u>
Filterable PM/PM ₁₀	Initial test conducted within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup. Periodic testing conducted every 12 months thereafter beginning on the date of the initial performance test.
Condensable PM/PM ₁₀	Initial test conducted within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup. Periodic testing conducted every 12 months thereafter beginning on the date of the initial performance test.
VOC	Initial test conducted within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup. Periodic testing conducted every 12 months thereafter beginning on the date of the initial performance test. Any time that 3 consecutive emission tests demonstrate compliance with applicable emission limits, emission testing frequency may be reduced to at least once every 36 months. Emission testing frequency returns to at least once every 12 months subsequent to any test that demonstrates noncompliance.
Sulfuric acid	Initial test conducted within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup.
Total fluoride	Initial test conducted within 60 days of achieving maximum fire rate, but not later than 180 days after initial startup.

- b. **Test Methods.** At least three (3) test runs of the specified minimum duration shall be performed for each constituent listed below. Compliance shall be demonstrated by averaging the results of the individual sampling runs. The sampling methods identified below shall be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Test Method or Equivalent</u>	<u>Minimum Test Duration</u>
Stack gas velocity	EPA Methods 1 and 2	N/A
O ₂ and CO ₂	EPA Method 3 or 3A	N/A
Moisture	EPA Method 4	60 minutes
Filterable PM/PM ₁₀	EPA Method 5 or 201A	Sample >100 dscf
Condensable PM/PM ₁₀	EPA Method 202	Sample >100 dscf
VOC	EPA Method 25 or 25A or 25B	60 minutes
Sulfuric acid	EPA Method 8 or NCASI 8A	60 minutes
Total fluoride	EPA Method 26A or	60 minutes

- c. **Test Plan.** The permittee shall propose a test date and submit a comprehensive test plan to SWCAA for review and approval at least 30 days prior to testing.

3. Source Operation:

Production related parameters and equipment operating conditions shall be recorded during emissions testing to correlate operating conditions with emissions. All recorded production parameters shall be documented in the test results report. Recorded parameters shall, at a minimum, include the following:

- Furnace heat input
- Weight of glass draw
- Field power in each field of the glass furnace ESP
- Contemporaneous furnace adjustments

4. Reporting Requirements:

- a. **Test Report.** A final emission test report shall be prepared and submitted to SWCAA within 45 calendar days of test completion in accordance with condition R9 of this permit. The test report shall, at a minimum, contain the following information:

- (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
- (2) Time and date of the test and identification and qualifications of the personnel involved,
- (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit,
- (4) Summary of control system or equipment operating conditions,
- (5) Summary of production related parameters,
- (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
- (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
- (8) Copies of field data and example calculations,
- (9) Chain of custody information,
- (10) Calibration documentation,
- (11) Discussion of any abnormalities associated with the results, and
- (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

- b. **Reported Units.** All test results shall be presented in units of pounds per hour (lb/hr) and pounds per ton of glass draw (lb/TG). VOC results shall be reported on an "as propane" basis.

APPENDIX B
GLASS FURNACE – CONTINUOUS MONITORING REQUIREMENTS

1. Introduction:

The purpose of the following requirements is to demonstrate the accuracy and proper operation of the CERMS for NO_x, CO, and SO₂.

2. Performance Requirements:

CERMS in use at the facility must satisfy the requirements of the performance specifications listed below. The Relative Accuracy Test Audit (RATA) required for each CERMS shall be conducted during simultaneous test periods.

- a. **NO_x.** The continuous monitoring system for the emission rate of NO_x from the exhaust stack of the glass furnace shall be installed and maintained in accordance with the requirements and specifications found in the following regulations:
 - 40 CFR 60 Appendix B, Performance Specification 6
 - 40 CFR 60 Appendix F
- b. **CO.** The continuous monitoring system for the emission rate of CO from the exhaust stack of the glass furnace shall be installed and maintained in accordance with the requirements and specifications found in the following regulations:
 - 40 CFR 60 Appendix B, Performance Specification 6
 - 40 CFR 60 Appendix F
- c. **SO₂.** The continuous monitoring system for the emission rate of SO₂ from the exhaust stack of the glass furnace shall be installed and maintained in accordance with the requirements and specifications found in the following regulations:
 - 40 CFR 60 Appendix B, Performance Specification 6
 - 40 CFR 60 Appendix F
- d. **RATA/RAA/Audit Reports.** Quarterly audit results shall be submitted to SWCAA as part of the facility's quarterly report in accordance with condition R5 of this permit. RATA results shall be submitted to SWCAA within 45 days of test completion in accordance with condition R9 of this permit.

APPENDIX C
Cullet Return Baghouse #1 – Emission Testing Requirements

1. Introduction:

The purpose of this testing is to quantify emissions from cullet return baghouse #2, and demonstrate compliance with the requirements of this permit.

2. Testing Requirements:

- a. **Test Schedule.** Cullet return baghouse #1 shall be emission tested within 60 days of achieving maximum fire rate in the glass furnace, but not later than 180 days after initial startup. Periodic testing shall be conducted every 12 months thereafter beginning on the date of the initial performance test. Any time that 3 consecutive emission tests demonstrate compliance with applicable emission limits, emission testing frequency may be reduced to at least once every 36 months. Emission testing frequency returns to at least once every 12 months subsequent to any test that demonstrates noncompliance.
- b. **Test Methods.** A minimum of 3 test runs shall be performed for each constituent listed below to ensure the data are representative. Compliance shall be demonstrated by averaging the results of the individual sampling runs. The sampling methods identified below shall be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Test Method or Equivalent</u>	<u>Minimum Test Duration</u>
Flow rate, temperature	EPA Method 1 and 2	N/A
O ₂ , CO ₂ content	EPA Method 3 or 3A	60 minutes
Moisture content	EPA Method 4	60 minutes
Filterable PM/PM ₁₀	EPA Method 5 or 201A	Sample >100 dscf

- c. **Test Plan.** The permittee shall propose a test date and submit a comprehensive test plan to SWCAA for review and approval at least 30 days prior to testing.

3. Source Operation:

- a. **Operating Capacity.** Source operations during the emissions test must be representative of maximum intended operating conditions.
- b. **Record of production parameters.** Production related parameters and equipment operating conditions shall be recorded during emissions testing to correlate operating conditions with emissions. All recorded production parameters shall be documented in the test results report. Recorded parameters shall, at a minimum, include the following:
- Process startups and shutdowns
 - Weight of glass draw during testing

4. Reporting Requirements:

- a. **Test Report.** A final emission test report shall be prepared and submitted to SWCAA within 45 calendar days of test completion in accordance with condition R9 of this permit. The test report shall, at a minimum, contain the following information:
- (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
 - (2) Time and date of the test and identification and qualifications of the personnel involved,
 - (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit,
 - (4) Summary of control system or equipment operating conditions,
 - (5) Summary of production related parameters,
 - (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
 - (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
 - (8) Copies of field data and example calculations,
 - (9) Chain of custody information,
 - (10) Calibration documentation,
 - (11) Discussion of any abnormalities associated with the results, and
 - (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.
- b. **Reported Units.** Test results shall be presented in units of pounds per hour (lb/hr) and grains per dry standard cubic feet (gr/dscf).

APPENDIX D
Cullet Return Baghouse #2 – Emission Testing Requirements

1. Introduction:

The purpose of this testing is to quantify emissions from cullet return baghouse #2, and demonstrate compliance with the requirements of this permit.

2. Testing Requirements:

- a. **Testing Schedule.** Cullet return baghouse #2 shall be emission tested no later than 90 days after commencing initial operation. Subsequent emission testing shall be conducted every 60 months thereafter, no later than the month in which the initial test was performed. Alternate testing schedules may be implemented if approved in writing by SWCAA in advance of the regularly scheduled test.
- b. **Test Methods.** A minimum of three (3) test runs shall be performed for each constituent listed below to ensure the data are representative. Compliance shall be demonstrated by averaging the results of the individual sampling runs. The sampling methods identified below shall be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Reference Test Method</u>	<u>Minimum Test Duration</u>
Flow rate, temperature	EPA Method 1 and 2	N/A
O ₂ , CO ₂	EPA Method 3 or 3A	60 minutes
Moisture	EPA Method 4	60 minutes
PM/PM ₁₀	EPA Method 5 or 17	60 minutes
Opacity	SWCAA Method 9	20 minutes

- c. **Test plan.** A comprehensive test plan shall be submitted to SWCAA for review and approval at least 10 business days prior to each test. SWCAA personnel shall be informed at least 5 business days prior to testing so that a representative may be present during testing.

3. Source Operation:

- a. **Operating Capacity.** Source operations during the emissions test must be representative of maximum intended operating capacity.
- b. **Record of production parameters.** Production related parameters and equipment operating conditions shall be recorded during emissions testing to correlate operating conditions with emissions. All recorded production parameters shall be documented in the test results report. Recorded parameters shall, at a minimum, include the following:
- Process startups and shutdowns
 - Process rate during testing

4. Reporting Requirements:

- a. **Test Report.** A final emission test report shall be prepared and submitted to SWCAA within 45 calendar days of test completion in accordance with condition R9 of this permit. The test report shall, at a minimum, contain the following information:
- (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
 - (2) Time and date of the test and identification and qualifications of the personnel involved,
 - (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit,
 - (4) Summary of control system or equipment operating conditions,
 - (5) Summary of production related parameters,
 - (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
 - (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
 - (8) Copies of field data and example calculations,
 - (9) Chain of custody information,
 - (10) Calibration documentation,
 - (11) Discussion of any abnormalities associated with the results, and
 - (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.
- b. **Reported Units.** Test results shall be presented in units of pounds per hour (lb/hr) and grains per dry standard cubic feet (gr/dscf).

APPENDIX E
EP Dust Baghouses – Emission Testing Requirements

1. Introduction:

The purpose of this testing is to quantify emissions from EP Dust baghouses with identified excess visible emissions, and demonstrate compliance with the requirements of this Permit.

2. Testing Requirements:

- a. **Testing schedule.** Each affected baghouse required by SWCAA to emission test due to excess visible emissions, shall be emission tested no later than 60 days following the source's receipt of the associated Notice of Violation. Periodic emission testing may also be required with a frequency not to exceed once every 60 months. Alternate testing schedules may be implemented if approved in writing by SWCAA in advance of the regularly scheduled test.
- b. **Test runs/Reference test methods.** A minimum of three (3) test runs shall be performed for each constituent listed below to ensure the data are representative. Compliance shall be demonstrated by averaging the results of the individual sampling runs. The sampling methods identified below shall be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Reference Test Method</u>	<u>Minimum Test Run Duration</u>
Stack gas velocity, flow rate	EPA Methods 1 and 2	N/A
O ₂ , CO ₂	EPA Method 3 or 3A	60 minutes
Moisture	EPA Method 4	60 minutes
PM/PM ₁₀	EPA Method 5 or 17	60 minutes
Opacity	SWCAA Method 9	20 minutes

- c. **Test plan.** A comprehensive test plan shall be submitted to SWCAA for review and approval at least 10 business days prior to each test. SWCAA personnel shall be informed at least five business days prior to testing so that a representative may be present during testing.

3. Source Operation:

- a. **Source operations.** Source operations during the emissions test must be representative of maximum intended operating conditions.
- b. **Record of production parameters.** Production related parameters and equipment operating conditions shall be recorded during emissions testing to correlate operating conditions with emissions. All recorded production parameters shall be documented in the test results report. Recorded parameters shall, at a minimum, include the following:
- Process startups and shutdowns
 - Process rate during testing
 - Material type handled during testing.

4. Reporting Requirements:

- a. **Test Report.** A final emission test report shall be prepared and submitted to SWCAA within 45 calendar days of test completion in accordance with condition R9 of this permit. The test report shall, at a minimum, contain the following information:
- (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
 - (2) Time and date of the test and identification and qualifications of the personnel involved,
 - (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit,
 - (4) Summary of control system or equipment operating conditions,
 - (5) Summary of production related parameters,
 - (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
 - (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
 - (8) Copies of field data and example calculations,
 - (9) Chain of custody information,
 - (10) Calibration documentation,
 - (11) Discussion of any abnormalities associated with the results, and
 - (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.
- b. All test results shall be presented in units of pounds per hour (lb/hr) and grains per dry standard cubic feet (gr/dscf).