San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 0 3 2012

Mr. Christopher Savage
Gallo Glass Company
PO Box 1230
Modesto, CA 95353

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-1662
Project # N-1120773

Dear Mr. Savage:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification is to rebrick glass melting furnace number 4.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Mark Schonhoff, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 0 3 2012

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-1662
Project # N-1120773

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Gallo Glass Company at 605 South Santa Cruz Avenue in Modesto, which has been issued a Title V permit. Gallo Glass Company is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The modification is to rebrick glass melting furnace number 4.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # N-1662-4-15 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Mark Schonhoff, Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 0 3 2012

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-1662
Project # N-1120773

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification is to rebrick glass melting furnace number 4.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # N-1662-4-15 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Mark Schonhoff, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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Modesto Bee

**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of Gallo Glass Company for its Container glass manufacturing plant. at 605 South Santa Cruz Avenue in Modesto, California. The modification is to rebrick glass melting furnace number 4.

The District's analysis of the legal and factual basis for this proposed action, project #N-1120773, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. There are no emission increases associated with this proposed action. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.

Authority to Construct
Application Review

Facility Name:	Gallo Glass Company	Date: July 26, 2012
Mailing Address:	PO Box 1230 Modesto, CA 95353	
Contact Person:	Christopher Savage	
Telephone:	(209) 341-3111	
Engineer:	Mark Schonhoff	
Application #:	N-1662-4-15	
Project #:	N-1120773	
Deemed Complete:	June 6, 2012	

I. Proposal

Gallo Glass Company is proposing to receive an Authority-to-Construct (ATC) permit authorizing the rebricking of furnace #4 and the replacement of the electric heating elements. During rebricking, the furnace footprint will be increased. The footprint increase will not allow the furnace to operate at a throughput higher than currently authorized nor will it result in an increase in emissions. The configuration change is solely to increase the quality of glass that is produced.

Following the receipt of this application, applications for Authorities to Construct authorizing the installation of a ceramic filter type dust collector were received. Those applications were submitted under Project N-1121288. Gallo Glass expects that once it is fully functional, the baghouse will allow more comfortable compliance with the 144 hour per year Rule 4354 based control device by-pass limit (maintenance provision).

Gallo's current plan is to install and test the dust collector as allowed by the ATC's received under that project and then implement those ATC's prior to implementing the ATC proposed under this project. Since that ATC will be previously implemented, this ATC must reflect all applicable dust collector requirements.

Ceramic filter type dust collectors are experimental in nature for glass melting furnaces but Gallo Glass is reasonably certain that the test will be successful and that it will be retained. However, they have requested that this ATC reflect the possibility that it will not be retained. Therefore, the ATC proposed under this project will include the following condition:

In the event that Authorities to Construct N-1662-1-14, N-1662-2-15, N-1662-3-15 and N-1662-4-16 are not previously implemented, the equipment description of this Authority to Construct Permit shall be modified to remove reference to the ceramic filter dust

collector and all conditions related to the ceramic dust collector shall be modified or removed as appropriate.

This permitting action is an SB-288 Major Modification and is therefore a Significant Modification to the Title V permit. The applicant has proposed to receive the ATC with a Certificate of Conformity. Therefore, the required 45-day EPA notice will be conducted prior to the issuance of the ATC's.

II. Applicable Rules

2201 New and Modified Stationary Source Review Rule (4/21/11)
2520 Federally Mandated Operating Permits (6/21/01)
4001 New Source Performance Standards (4/14/99)
40 CFR Part 60.290 - Standards of Performance for Glass Manufacturing Plants
4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
40 CFR Part 63 Subpart SSSSSS – National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources
4101 Visible Emissions (2/17/05)
4102 Nuisance (12/17/92)
4201 Particulate Matter Concentration (12/17/92)
4354 Glass Melting Furnaces (5/19/11)
4801 Sulfur Compounds (12/17/92)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines
40 CFR Part 64 - Compliance Assurance Monitoring
CH&SC 41700
CH&SC 42301.6

III. Project Location

605 S. Santa Cruz Avenue
Modesto, CA

The equipment is not located within 1,000 feet of a K-12 school.

IV. Process Description

The furnace burns natural gas or LPG to melt cullet (crushed, recycled glass), sand, soda ash, limestone, and other raw materials. To assist in maintaining the melt, subsurface electrical heating elements are utilized. The molten glass is pulled from the furnace and used to form bottles.

V. Equipment Listing

Premodification Equipment Listing:

GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED ELECTROSTATIC PRECIPITATOR AND SOX SCRUBBER.

Post modification Equipment Listing:

GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.

In the event that Authorities to Construct N-1662-1-14, N-1662-2-15, N-1662-3-15 and N-1662-4-16 are not implemented (as explained in Section I of this document), the premodification equipment will be retained.

VI. Emission Control Technology Evaluation

The furnace is equipped with emission control technology for NOx, SOx and PM10. NOx is controlled utilizing oxy-fuel firing, SOx is controlled utilizing a scrubber and PM10 is currently controlled utilizing an electrostatic precipitator (ESP). As explained above, a ceramic filter type dust collector will also be used for PM10 control.

Oxy-Fuel Firing:

Oxy-fuel firing is utilized to control NO_x emissions. In oxy-fuel firing, oxygen is generated and replaces air in the combustion process. The absence of nitrogen-containing-air prevents the formation of thermal NO_x.

SOx Scrubber:

Gallo Glass utilizes a scrubber for SOx control followed by an Electrostatic Precipitator (ESP) for SOx/particulate matter control.

From the furnace, the SOx contaminated airstream travels through a scrubber. Inside of the scrubber, SOx is absorbed by the reagent (lime, trona, etc.) which then exits the scrubber in the form of particulate matter. The contaminated airstream (sulfur contaminated scrubber reagent and the particulate matter generated in the furnace) then enters the ESP. The ESP causes the influent particulate matter to be charged and captured on oppositely charged plates.

Electrostatic Precipitator:

An electrostatic precipitator (ESP) is utilized to control the particulate matter emissions generated in the glass melting process and from the SOx scrubber. The contaminated air stream is passed through positively or negatively charged electrodes that place a charge on the particulate matter. The contaminated air stream, including the charged particles, is then passed through oppositely charged electrodes that attract and collect the particulate matter.

Ceramic Filter Type Dust Collector:

A ceramic type dust collector may also be installed as described in Section I of this document. Such units are experimental in nature for glass melting furnaces, therefore, Gallo Glass will conduct an evaluation during the testing period. The evaluation will include source testing and monitoring of the appropriate operating parameters.

VII. General Calculations

A. Assumptions

Assumptions will be stated as they are made.

B. Emission Factors

Premodification Emission Factors:

NOx, CO and VOC:

The applicant has proposed to limit the NOx, CO and VOC limits to levels already being met. Therefore, in accordance with District policy APR 1110 (Use of Generally Accepted Emission Factors), the premodification emission factors for those pollutants will be set to those levels also.

PM10:

There are two main operating modes; normal mode and by-pass mode.

Normal Mode:
In this mode, the contaminated airstream will pass through the ESP or the dust collector or through the ESP and the dust collector (operating in parallel). The applicant has proposed to limit the PM10 emissions during operation in this mode to 0.45 lb/ton of glass pulled. This limit is already being met, therefore, in accordance with District policy APR 1110 (Use of Generally Accepted Emission Factors) the premodification emission limit during operation in this mode will be set to this level also.

By-Pass mode:
In this mode, the contaminated airstream is by-passing the ESP and the dust collector as allowed under the maintenance provisions of the permit. No change to this emission limit is proposed.

Premodification Emission Factor Summary:

Permit Number	Emission Factors (lb/ton of glass produced)						
				SOx		PM10	
	NOx	CO	VOC	< 25.0 Mixed Color Cullet	≥ 25.0 Mixed Color Cullet	Normal Mode	ESP By-Pass Mode
N-1662-4-12	1.3	0.20	0.2	0.81	0.99	0.45	0.71

Postmodification Emission Factors:

No changes to the emission factors will occur.

Permit Number	Emission Factors (lb/ton of glass produced)						
				SOx		PM10	
	NOx	CO	VOC	< 25.0 Mixed Color Cullet	≥ 25.0 Mixed Color Cullet	Normal Mode	ESP By-Pass Mode
N-1662-4-15	1.3	0.20	0.2	0.81	0.99	0.45	0.71

C. Potential to Emit (PE)

1. Potential to Emit

Premodification:

Rated Throughput: 637.9 tons/day (current PTO)

PE_{NOx} = (1.3 lb/ton)(637.9 tons/day) = 829.3 lb/day
PE_{NOx} = (1.3 lb/ton)(637.9 tons/day)(365 days/yr) = 302,684 lb/yr

PE_{CO} = (0.20 lb/ton)(637.9 tons/day) = 127.6 lb/day
PE_{CO} = (0.20 lb/ton)(637.9 tons/day)(365 days/yr) = 46,567 lb/yr

PE_{VOC} = (0.2 lb/ton)(637.9 tons/day) = 127.6 lb/day
PE_{VOC} = (0.2 lb/ton)(637.9 tons/day)(365 days/yr) = 46,567 lb/yr

PE_{SOx} = (0.99 lb/ton)(637.9 tons/day) = 631.5 lb/day
PE_{SOx} = (0.99 lb/ton)(637.9 tons/day)(365 days/yr) = 230,505 lb/yr

The maximum permitted amount of ESP by-pass time is 144 hr/yr (6 days/yr). Therefore, the maximum daily emission will occur when the furnace is operated in

the ESP by-pass mode and the maximum annual emissions would occur if the unit operated 6 days in ESP by-pass mode and 359 days in normal mode.

PE_{PM10} = (0.71 lb/ton)(637.9 tons/day) = 452.9 lb/day

PE_{PM10} = (0.45 lb/ton)(637.9 tons/day)(359 days/yr)
+ (0.71 lb/ton)(637.9 tons/day)(6 days/yr) = 105,770 lb/yr

Postmodification:

No Change.

D. Increase in Permitted Emissions (IPE)

1. Quarterly IPE

As shown above, there will be no changes in Potential to Emit. Therefore, the IPE is zero for each pollutant.

The emission profile for this ATC will include the following:

	NOx (lb)	SOx (lb)	PM10 (lb)	CO (lb)	VOC (lb)
Annual PE	302,684	230,505	105,770	46,567	46,567
Daily PE	829.3	631.5	452.9	127.6	127.6
Δ PE (Qtr 1)	0	0	0	0	0
Δ PE (Qtr 2)	0	0	0	0	0
Δ PE (Qtr 3)	0	0	0	0	0
Δ PE (Qtr 4)	0	0	0	0	0

2. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine whether or not Best Available Control Technology (BACT) is required for modified units.

AIPE = PE2 – HAPE

Where: PE2 is the post project PE, in lb/day
HAPE is the Historically Adjusted Potential to Emit, in lb/day.

Where: HAPE = PE1(EF2/EF1)

Where: PE1 is the pre-project PE, in lb/day
EF1is the pre-project emission factor
EF2 is the post-project emission factor

Note: If EF2 is greater than EF1, then EF2/EF1 is set to 1

As previously shown, there will not be an increase in the potential to emit or in the emission factor for any pollutant. Therefore, AIPE is zero for all pollutants.

E. Facility Emissions

1. Pre Project Stationary Source Potential to Emit (SSPE1)

The SSPE1 contributions, except for the Emission Reduction Credit (ERC) contributions and the contributions for the unit currently under consideration (N-1662-4-12), are from the Application Review document for Project N-1103820. Until now, the SSPE balance of each pollutant, excluding Emission Reduction Credits (ERC's) has been in excess of its respective Major Source threshold, therefore, inclusion of the ERC quantities has not been necessary. However, as a result of the emission factor change for CO (per District Policy 1110, Use of Generally Accepted Emission Factors) the SSPE balance for CO (excluding ERC's) has dropped to below its Major Source threshold. To ensure that NSR requirements triggered for facilities with SSPE balances of greater than or equal to Major Source thresholds, the CO ERC's must now be included. The facility has also banked ERC's for onsite NOx and PM10 reductions, therefore, their contributions will be included at this time also. ERC contribution calculations are shown in Appendix D of this document. The SSPE contributions for unit N-1662-4-12 is from section VII.C.1 of this document.

SSPE1 (lb/yr)					
Permit #	NOx	CO	VOC	SOx	PM10
N-1662-1-10	423,192	7,593	47,457	187,938	93,016
N-1662-2-11	529,086	128,509	32,127	127,231	62,970
N-1662-3-11	473,698	1,285	32,127	127,231	62,970
N-1662-4-12	302,684	46,567	46,567	230,505	105,770
N-1662-5-3	0	0	0	0	1,840
N-1662-6-6	0	0	0	0	27,156
N-1662-7-3	0	0	0	0	114
N-1662-8-7	1,199	1,890	78	1,552	11,570
N-1662-10-3	5,994	1,297	488	2	171
N-1662-11-3	5,994	1,297	488	2	171
N-1662-12-3	5,994	1,297	488	2	171
N-1662-14-4	0	0	0	0	112,524
N-1662-15-2	324	1,350	27	26	108
Total w/o ERC's	1,748,165	191,085	159,847	674,489	478,551
ERC N-3-2	379,472	---	---	---	---
ERC N-54-2	85,737	---	---	---	---
ERC N-56-2	305,681	---	---	---	---
ERC N-107-2	326,978	---	---	---	---
ERC N-3-3	---	3,417	---	---	---
ERC N-56-3	---	2,044	---	---	---
ERC N-161-4	---	---	---	---	92,898
SSPE1	2,846,033	196,546	159,847	674,489	571,449

2. Post Project Stationary Source Potential to Emit (SSPE2)

SSPE2 (lb/yr)					
Permit #	NOx	CO	VOC	SOx	PM10
N-1662-1-10	423,192	7,593	47,457	187,938	93,016
N-1662-2-11	529,086	128,509	32,127	127,231	62,970
N-1662-3-11	473,698	1,285	32,127	127,231	62,970
N-1662-4-15	302,684	46,567	46,567	230,505	105,770
N-1662-5-3	0	0	0	0	1,840
N-1662-6-6	0	0	0	0	27,156
N-1662-7-3	0	0	0	0	114
N-1662-8-7	1,199	1,890	78	1,552	11,570
N-1662-10-3	5,994	1,297	488	2	171
N-1662-11-3	5,994	1,297	488	2	171
N-1662-12-3	5,994	1,297	488	2	171
N-1662-14-4	0	0	0	0	112,524
N-1662-15-2	324	1,350	27	26	108
Total w/o ERC's	1,748,165	191,085	159,847	674,489	478,551
ERC N-3-2	379,472	---	---	---	---
ERC N-54-2	85,737	---	---	---	---
ERC N-56-2	305,681	---	---	---	---
ERC N-107-2	326,978	---	---	---	---
ERC N-3-3	---	3,417	---	---	---
ERC N-56-3	---	2,044	---	---	---
ERC N-161-4	---	---	---	---	92,898
SSPE2	2,846,033	196,546	159,847	674,489	571,449

3. Stationary Source Increase in Permitted Emissions (SSIPE)

SSIPE = SSPE2 – SSPE1

The SSPE1 and SSPE2 balances are from sections VII.E.1 and VII.E.2 of this document.

Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NOx	2,846,033	2,846,033	0
CO	196,546	196,546	0
VOC	159,847	159,847	0
SOx	674,489	674,489	0
PM10	571,449	571,449	0

4. Baseline Emissions

The furnace meets the Achieved-in-Practice BACT level for each pollutant, therefore it is a Clean Emission unit as defined in section 3.13 of District Rule 2201. Per section 3.8.1.4 of Rule 2201, the Baseline Emissions for Clean Emission Units are equal to the premodification potential to emit. The Baseline Emissions are shown in the following table. Refer to Appendix C of this document for a Clean Emission Unit determination.

NOx (lb/yr)	CO (lb/yr)	VOC (lb/yr)	SOx (lb/yr)	PM10 (lb/yr)
302,684	46,567	46,567	230,505	105,770

F. Major Source Determination

The Major Source thresholds, the facility potentials to emit and whether or not the facility is a Major Source are shown on the following table. The Major Source thresholds are from Section 3.24.1 and the exclusion of the ERCs is per section 3.24.2. The facility PE's are from section VII.E.2 of this document.

Pollutant	Threshold (lb/yr)	Facility PE (lb/yr)	Major Source
NOx	20,000	1,748,165	Yes
CO	200,000	191,085	No
VOC	20,000	159,847	Yes
SOx	140,000	674,489	Yes
PM10	140,000	478,551	Yes

G. Major Modification Determination

SB-288 Major Modification:

The purpose of SB-288 Major Modification calculations is to determine the following:

If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, §4.1.3); and

If a public notification is triggered (District Rule 2201, §5.4.1).

The SB-288 Major Modification Thresholds from section 3.36 of District Rule 2201 are shown on the following table:

Pollutant	Threshold (lNEI, b/yr)
NOx	50,000
VOC	50,000
SOx	80,000
PM10	30,000

NEI = PE2 – BAE

Where: PE2 is the postmodification potential to emit (section VII.C)
BAE is the Baseline Actual Emissions (Appendix F)

The table below shows the Baseline Actual Emissions (BAE), the postmodification potential to emit (PE2), the Net Emission Increase (NEI) and whether or not an SB-288 Major Modification is triggered. The BAE were provided by the applicant and are tabulated in appendix F of this document. The PE2 values are from Section VII.C.1 of this document.

Pollutant	PE2 (lb/yr)	BAE (lb/yr)	NEI (lb/yr)	SB-288 Major Modification
NOx	302,684	162,800	139,884	Yes
VOC	46,567	1,400	45,167	No
SOx	230,505	162,200	68,305	No
PM10	105,770	23,400	82,370	Yes

This permitting action is an SB-288 Major Modification for NOx and PM10.

Federal Major Modification:

As shown in section VII.F of this document, the facility is a Major Source for NOx, VOC, SOx and PM10. Therefore, the proposed permitting action may be a Federal Major Modification. The Federal Major Modification thresholds are:

Pollutant	Threshold (lb/yr)
NOx	0
VOC	0
SOx	80,000
PM10	30,000
PM2.5	20,000 of direct PM2.5 or
	80,000 of SO_2 or
	80,000 of NOx

The District draft policy titled "Implementation of Rule 2201 (as amended on 12/18/08 and approved by EPA on 6/10/10) for SB 288 Major Modifications and Federal Major Modifications (9/28/10)" is referenced to determine the emissions increase. Case 2 in the draft policy states "If the proposed modification does not result in an increase in design capacity or potential to emit, and it does not allow the emission unit to operate at a higher utilization rate, then the unused baseline capacity emissions can also be excluded from the emission increase (EI).

Neither the rating or the utilization rate of the furnace will increase, therefore, the above referenced draft policy allows the unused baseline capacity to be included in the EI calculation. EI is as follows:

EI = PAE – BAE – unused baseline capacity, where

PAE = post-project projected actual emissions
BAE = pre-project baseline actual emissions
unused baseline capacity = PE1 – BAE

EI = PE2 – BAE – (PE1 – BAE)
= PE2 – BAE – PE1 + BAE
= PE2 – PE1

As shown in section VII.C of this document, PE2 will not exceed PE1 for any pollutant. Therefore, this permitting action is not a Federal Major Modification.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. BACT

1. BACT Applicability

New or Relocated Units:

Except for CO, BACT is required for each pollutant with a PE of greater than 2.0 pounds per day. For CO, BACT is required if the PE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds per year or greater.

The unit currently under consideration is neither new or relocated, therefore, this BACT trigger does not apply.

Modified Units:

Except for CO, BACT is required for each pollutant with an AIPE of greater than 2.0 pounds per day. For CO, BACT is required if the AIPE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds or greater.

As shown in section VII.D.2 of this document, the AIPE for each pollutant is zero, therefore, BACT is not required on an AIPE basis.

Major Modifications:

BACT is required for the pollutants for which an SB-288 or a Federal Major Modification is triggered.

As shown in Section VII.G of this document is not a Federal Major Modification for any pollutant. However, it is an SB-288 Major Modification for NOx and PM10. Therefore, BACT is required for NOx and PM10.

BACT Analysis:

NOx:

As shown in the Top-Down BACT Analysis that is in Appendix E of this document, BACT for NOx is:

Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.3 lb/ton of glass pulled.

The furnace will include the necessary control technology and will meet the NOx requirement of 1.3 lb/ton of glass pulled. Therefore, BACT will be satisfied.

PM10:

As shown in the Top-Down BACT Analysis that is in Appendix E of this document, BACT for PM10 is:

> Natural gas fired oxy-fuel furnace with an electrostatic precipitator in series with a semi dry scrubber, using LPG backup fuel and PM10 emissions of equal to or less than 0.45 lb/ton of glass pulled.

The furnace will include the necessary control technology and will meet the PM10 requirement of 0.45 lb/ton of glass pulled. Therefore, BACT will be satisfied.

B. OFFSETS

1. Offset Applicability

Per Section 4.5.3 of Rule 2201, offsets are examined on a pollutant by pollutant basis. The following table shows the offset thresholds, the facility SSPE2 and whether or not offsets are triggered.

Pollutant	Offset Threshold (SSPE2, lb/yr)	Facility SSPE2 (lb/yr)	Offsets Triggered
NOx	20,000	2,846,033	Yes
CO (in CO attainment areas)	200,000	196,546	No
VOC	20,000	159,847	Yes
SOx	54,750	674,489	Yes
PM10	29,200	571,449	Yes

2. Quantity of Offsets Required

As shown above, offsets are triggered for NOx, VOC, SOx and PM10. The SSPE2 of each of these pollutants is in excess of its offset threshold, therefore, per section 4.7.1 of District Rule 2201, the quantity of offsets required is the difference between the PE2 of the new and modified units and the BE of the new and modified units. The table below shows these quantities as well as the quantity of offsets required:

Pollutant	PE2 (lb/yr)	BE (lb/yr)	Offset Quantity (lb/yr)
NOx	302,684	302,684	0
VOC	46,567	46,567	0
SOx	230,505	230,505	0
PM10	105,770	105,770	0

C. PUBLIC NOTIFICATION

1. Applicability

Section 5.4 of District Rule 2201 requires a public notification for the affected pollutants from the following types of projects:

a. New Major Sources
b. Major Modifications
c. New emission units with a PE > 100 lb/day of any one pollutant (IPE Notifications)
d. Modifications with SSPE1 below an offset threshold and SSPE 2 above an offset threshold on a pollutant by pollutant basis (Existing Facility Offset Threshold Exceedence Notification)
e. New stationary sources with SSPE2 exceeding offset thresholds (New Facility Offset Threshold Exceedence Notification)
f. Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant. (SSIPE Notice)

a. New Major Source Notice Determination:

The facility is not new, therefore, a New Major Source Determination notice is not required.

b. Major Modification Notice:

As shown in section VIII.G of this document, this permitting action is an SB-288 Major Modification for NOx and PM10. Therefore a notification is required.

c. PE Notification:

A notification is required for each new emission unit with the potential to emit more than 100 pounds per day of any one affected pollutant.

This project does not include any new emission units, therefore, a public notice is not required.

d. Existing Facility Offset Threshold Exceedence Notification

The SSPE of no pollutant will go from below to above an offset threshold. Therefore, a public notification is not required.

e. New Facility Offset Threshold Exceedence Notification

This is an existing facility. This section does not require a public notification.

f. SSIPE Notification:

A notification is required for any permitting action that results in an SSIPE of more than 20,000 lb/yr of any affected pollutant. As shown in section VII.E.3 of this document, the SSIPE of each pollutant will be less than 20,000 pounds per year. An SSIPE notification is not required.

2. Public Notice

As shown above, a public notification is required because this permitting action is an SB-288 Major Modification.

D. DAILY EMISSION LIMITS

N-1662-4-15

The amount of glass produced shall not exceed 637.9 tons during any one day.

The NOx emissions shall not exceed 1.3 lb/ton of glass produced. This performance based limit is to enforce the NOx emission reductions granted by emission reduction credit certificate N-107-2.

The CO emissions shall not exceed 0.20 lb/ton of glass produced.

The VOC emissions shall not exceed 0.2 lb/ton of glass produced.

The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average).

The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced.

The PM10 emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced.

The PM10 emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced.

The current Permit to Operate includes emission limits to enforce the idling emission limits of Rule 4354. Although the applicant has proposed to accept an NSR based NOx limit that is less than the Tier 3 NOx limit of Rule 4354 at this time, the rule does not require compliance with that NOx level until January 1, 2014. Therefore, the idling emission limits, which are to be determined based on the applicable Rule 4354 limits and were determined previously, will not be changed.

During furnace idling, NOx emissions shall not exceed 1,888.0 pounds in any one day.

During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day.

During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day.

During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day while producing glass with equal to or greater than 25% by weight mixed color cullet.

During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day while producing glass with less than 25% by weight mixed color cullet.

During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day.

E. Air Quality Impact Analysis:

Section 4.14 of this rule requires that an ambient air quality analysis (AAQA) be conducted to determine whether operation of the proposed equipment will cause or make worse a violation of an air quality standard. This permitting action will not authorize an increase in the emissions of any air contaminant, therefore, an AAQA is not necessary.

F. Alternative Siting Analysis

Section 21002 of the Public Resources Code states that projects should not be approved as proposed if there are feasible alternatives or feasible mitigation measures that would substantially lessen the environmental impacts associated with that project. This section also states that in the event of specific economic, social or other conditions would make such a project infeasible then the project may be approved in spite of the significant effects.

The glass manufacturing plant includes a large amount of processing equipment and infrastructure, therefore, requiring its relocation would cause a significant economic impact. Per § 21002 of the Public Resources Code, relocation of the equipment is not required.

G. Compliance by Other Owned, Operated or Controlled Sources

Section 4.15.2 of this rule requires that the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance with all applicable emission limitations and standards. The facility is not a new Major Source and this permitting action is not a Federal Major Modification. Therefore, this section does not apply.

H. Reconstructed Stationary Source Determination

Per section 3.25.2 of this rule, a reconstructed Stationary Source shall be treated as a new Stationary Source and not as a modification. To ensure that the requirements of Rule 2201 are properly applied, a reconstructed Stationary Source determination is necessary. For the purpose of this analysis, the section 3.34 definition of Reconstructed Source will be used. The definition of Reconstructed Source is:

> *any Stationary Source undergoing reconstruction where the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable, entirely new Stationary Source. Fixed capital cost is the capital needed to provide depreciable components. Reconstructed Source cost shall include only the cost of all emission-producing equipment and associated integral activities at the stationary source. A reconstructed Stationary Source shall be considered a new Stationary Source and not as a modification of an existing Stationary Source.*

The Stationary Source includes numerous pieces of emission producing equipment and related infrastructure. To make a reconstructed stationary source determination, only the gas fired glass melting furnaces need be considered. Counting the furnace currently under consideration, the facility includes four such units. All are of similar size and are similarly equipped, therefore, it is reasonable to assume that each is valued at about 25% of the total. Taking into consideration all of the emission producing equipment and related infrastructure at the stationary source, the furnace currently under consideration is valued at much less than 50% of the value of the entire Stationary Source (including only the emission producing equipment and associated infrastructure). Therefore, the facility is not a reconstructed Stationary Source.

I. Compliance Assurance

1. Source Testing

The facility showed compliance with all of the emission limits that will be included on these Authorities to Construct during the previous source test (5/13/2011), therefore, an initial source test is not required. Annual NOx, CO, VOC, SOx and PM10 testing may continue on its current schedule.

Note: By the time this ATC is implemented, all necessary baghouse source testing will have occurred and it may or may not remain at the facility (as explained in section I of this document). If after this testing, the required PM10 testing is no longer synchronized with the NOx, CO, VOC and SOx testing, that will be addressed by the District compliance division (source test department), not the permit.

2. Monitoring

The current Permit to Operate includes all necessary Rule 4354 and 40 CFR Part 64 monitoring requirements for the equipment that is in place at this time. As previously stated, a baghouse may be installed to operate in parallel with, or in place of the electrostatic precipitator. That installation will trigger Compliance Assurance Monitoring (CAM) requirements under 40 CFR Part 64 and will trigger further PM10 monitoring under District Rule 4354. As previously stated, the baghouse is being considered under project N-1121288 and the application review document for that project will includes a full explanation of the monitoring requirements. Refer to section VIII (Rule 4354 and 40 CFR Part 64 compliance) for a brief discussion of the additional monitoring requirements.

3. Record Keeping

The current Permit to Operate includes the necessary Rule 2201, 4354 and 40 CFR Part 64 record keeping requirements for the equipment that is in place at this time. As previously stated, a baghouse may be installed to operate in parallel with, or in place of the electrostatic precipitator. That installation will trigger further CAM record keeping requirements under 40 CFR Part 64 and will trigger further PM10 monitoring and record keeping under District Rule 4354. As previously stated, the baghouse is being considered under project N-1121288 and the application review document for that project includes a full explanation of the additional record keeping requirements. Refer to section VIII (Rule 4354 and 40 CFR Part 64 compliance) for a brief discussion of the additional monitoring requirements.

To verify compliance with the throughput limits of this permit, records of the daily throughputs will be required.

4. Reporting

The current Permit to Operate includes the necessary Rule 40 CFR Part 64 reporting requirements for the equipment that is in place at this time. As previously stated, a baghouse may be installed to operate in parallel with, or in place of the electrostatic precipitator. That installation will trigger further CAM reporting requirements under 40 CFR Part 64. As previously stated, the baghouse is being considered under project N-1121288 and the application review document for that project includes a full explanation of the additional reporting requirements. Refer to section VIII (40 CFR Part 64 compliance) for a brief discussion of the additional reporting requirements.

Rule 2520 Federally Mandated Operating Permits

The proposed permitting action is an SB-288 Major Modification and per sections 3.20.5 and 3.29 of this rule is a Significant Modification to the Title V permit. The applicant has proposed to receive the ATC with a Certificate of Conformity in accordance with the requirements of 40 CFR 70.6(c), 70.7 and 70.8. Therefore,

the 45-day EPA comment period will be satisfied prior to the issuance of the ATC. The following federally enforceable conditions will be placed on the Authorities to Construct:

This Authority to Construct serves as a written Certificate of Conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c).

Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an administrative amendment to its Title V permit, in accordance with District Rule 2520, Section 11.4.2.

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (appendix A) and
- Certification by a responsible official (appendix G) that the proposed modification meets the criteria for use of significant permit modification procedures and a request that such procedures be used.

Per section 5.3.2 of this rule, the applicant must submit an application for an Administrative Amendment to the Title V permit prior to operating with the requested changes.

Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart CC Section 60.290(b) states that the requirements of this subpart apply to any facility that commenced construction or underwent a modification after June 15, 1979. The unit was installed prior to June 15, 1979 and has not undergone modifications as defined in section 60.2 since installation.

The unit has undergone cold rebricking since installation but per section 60.14, such repairs are not considered modifications.

The furnace currently under consideration is not subject to this subpart.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR Part 63 Subpart SSSSSS – National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources

Compliance with the requirements of this subpart was determined during the processing of the applications for project N-1103820. A re-evaluation is not necessary.

Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

The particulate matter control equipment may include a ceramic filter type dust collector that is expected to provide 99% or greater PM10 control. District Policy SSP 1005 requires that the visible emissions from the dust collector be limited to less than 5% opacity for a period or periods aggregating more than three minutes in any one hour. To enforce the requirements of this policy, the following condition will be placed on the ATC.

Visible emissions from the ceramic filter dust collector shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour.

Rule 4102 Nuisance

A. California Health & Safety Code 41700 (Risk Management Review)

There will not be an increase in glass production, fuel usage or in any emission limit. Therefore, no increase in the emissions of hazardous air pollutant (HAP) emissions will occur and there will not be an increase in health risk. A Risk Management Review is not required.

B. Toxics BACT (T-BACT)

There will not be an increase in HAP emissions, therefore, T-BACT is not required.

Rule 4201 Particulate Matter Concentration

This rule limits the particulate matter concentration to 0.1 gr/dscf.

The worst case particulate matter emission concentration will occur during operation with the ESP by-passed. Compliance with the requirements of this rule was shown during the processing of the applications for project N-1052540 utilizing source test data. Continued compliance is expected.

Rule 4202 Particulate Matter – Emission Rate

The purpose of this rule is to limit the TSP emission rate based on the throughput of the operation. The equation used to calculate the maximum allowable emission rate is:

$E_{max} = 17.31P^{0.16}$, where $P > 30$ tons/hr
$E_{max} = 3.59P^{0.62}$, where $P \leq 30$ tons/hr

Where: E = Maximum allowable emissions in lb/hr
P = Process weight in tons/hr

Compliance with this rule was addressed during the processing of the applications for project N-1103820 and although the dust collector described previously may be installed, no increase in the PM10 emission limit is proposed. Therefore, a re-evaluation is not necessary.

Rule 4354 Glass Melting Furnaces

Compliance with this rule was determined during the processing of the applications for Project N-1103820.

Emission Limits:

The applicant is now proposing to reduce emissions as shown on the following table. Except as noted below, no further re-analysis is required. Although compliance with the Tier 3 NOx limit is not required until January 1, 2014, it is being proposed at this time.

Pollutant	Proposed Permit Limit (lb/ton glass produced)	Rule 4354 Compliance Level
NOx	1.3	Table 1, Tier 3
CO	0.20	Table 2
VOC	0.2	Table 2
SOx (< 25% Mixed Color Cullet)	0.81	Table 3
SOx (≥ 25% Mixed Color Cullet)	0.99	
PM10	0.45	Table 4

Emission Monitoring:

The furnace currently includes an electrostatic precipitator and may include the ceramic filter type dust collector proposed under project N-1121288. The applicant is currently in compliance with the PM10 monitoring requirements of this rule for the electrostatic precipitator.

The PM monitoring requirements for the ceramic filter type dust collector (determined under project N-1121288) will be included on this Authority to Construct. The conditions, which may be removed as explained in section I of this document, are as follows:

The dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location.

The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates.

During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column.

Furnace Start-up:

This rule allows a start-up period for container glass furnaces of up to 70 days, during which, the emission limits of this rule would not apply. The rule further states that before such a start-up period may be granted, the District, CARB and the EPA must approve the duration. The following start-up period schedule was proposed by the applicant and was approved by all three agencies during the processing of the application for the previous furnace rebrick:

Obtain Operating Temperature:	5 days
Fill Furnace and Establish Glass Pull:	5 days
Hot Seal Furnace and Tune Combustion System:	8 days

During the start-up period, the rule requires the following:

5.5.5 During the start-up period, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

5.5.6 The emission control systems shall be in operation as soon as technologically feasible during start-up to minimize emissions.

5.5.7 Notifications shall be performed and records kept in accordance with Section 6.7.

To enforce the start-up requirements, the ATC will include the following conditions:

The unit is exempt from the NOx, CO and VOC emission limits of District Rule 4354 (Glass Melting Furnaces) during the furnace rebuild start-up period. The start-up period shall not exceed 18 days and shall start upon activation of the primary combustion system.

During the furnace rebuild start-up period, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% excess oxygen, as calculated from

the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

The emission control system shall be in operation as soon as technologically feasible following the commencement of the furnace rebuild start-up to minimize emissions.

A record of the post-rebuild start-up duration and of the dates of the start-up period activities shall be kept. The records shall be maintained for a period of at last five years and shall be made available to the District upon request.

40 CFR Part 64 Compliance Assurance monitoring

NOx, CO, VOC and SOx:

Compliance Assurance Monitoring (CAM) for these pollutants was addressed during the processing of the applications for project N-1103820. No changes to the CAM requirements or compliance method will occur, therefore, a re-analysis is not required.

PM10:

The particulate matter generated is currently controlled utilizing an electrostatic precipitator (ESP). As explained in section I of this document, Gallo Glass has submitted applications for ATC's authorizing the installation of a ceramic filter type dust collector to be installed in parallel with the ESP (Project N-1121288). If those ATC's are implemented then CAM will be required for the baghouse. A CAM analysis was conducted during the processing of the ATC applications for that project and the baghouse CAM requirements will be enforced with the conditions listed below. However, as explained in section I of this document, the baghouse may not be retained, and in that case the ATC's issued under project N-1121288 will not be converted to Permits to Operate. This ATC will allow for that possibility with a condition stating that all reference to the baghouse may be removed from the permit equipment description and the permit conditions.

The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location.

The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates.

During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

California Health & Safety Code 42301.6 (School Notice)

The equipment will not be located within 1,000 feet of a K-12 school, therefore, a school notice is not required.

IX. Recommendation

Issue an Authority to Construct with the conditions on the attached draft Authority to Construct after successful completion of the required COC notice and the required public notice.

X. Billing Information

Premodification:

Permit #	Description	Fee Schedule
N-1662-4-12	90 MMBtu/hr	3020-2-H

Post modification:

No Change.

Appendices

Appendix A: Draft ATC
Appendix B: Current PTO
Appendix C: Clean Emission Unit Determination
Appendix D: ERC Inclusion Determination
Appendix E: Top-Down BACT Analyses
Appendix F: Baseline Actual Emission Calculations
Appendix G: TV-009 Form

Appendix A
Draft Authority to Construct

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-4-15

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: P.O. BOX 3044
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR. MODIFICATION TO REBRICK THE FURNACE AND TO INCREASE ITS FOOTPRINT WITHOUT A THROUGHPUT INCREASE.

CONDITIONS

1. In the event that Authorities to Construct N-1662-1-14, N-1662-2-15, N-1662-3-15 and N-1662-4-16 are not previously implemented, the equipment description of this Authority to Construct Permit shall be modified to remove reference to the ceramic filter dust collector and all conditions related to the ceramic dust collector shall be modified or removed as appropriate. [District Rule 2201]
2. This Authority to Construct serves as a written Certificate of Conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2520] Federally Enforceable Through Title V Permit
3. Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an administrative amendment to its Title V permit, in accordance with District Rule 2520, Section 11.4.2. [District Rule 2520] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-1662-4-15 : Aug 1 2012 4:38PM – SCHONHOM : Joint Inspection NOT Required

5. {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
6. The unit is exempt from the NOx, CO and VOC emission limits of District Rule 4354 (Glass Melting Furnaces) during the furnace rebuild start-up period. The start-up period shall not exceed 18 days and shall start upon activation of the primary combustion system. [District Rule 4354] Federally Enforceable Through Title V Permit
7. During the furnace rebuild start-up period, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace. [District Rule 4354] Federally Enforceable Through Title V Permit
8. The emission control system shall be in operation as soon as technologically feasible following the commencement of the furnace rebuild start-up to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
9. A record of the post-rebuild start-up duration and of the dates of the start-up period activities shall be kept. The records shall be maintained for a period of at last five years and shall be made available to the District upon request. [District Rule 4354] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
11. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit
13. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit
14. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
15. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
16. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354, §5.5] Federally Enforceable Through Title V Permit
17. The NOx control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354, §5.5.6] Federally Enforceable Through Title V Permit
18. The NOx control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354, §5.6.2] Federally Enforceable Through Title V Permit
19. The NOx control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354, §5.7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354, §5.6.1] Federally Enforceable Through Title V Permit

21. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit

22. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit

23. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

24. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit

25. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit

26. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit

27. Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

28. PM and PM10 source testing shall be conducted down stream of the electrostatic precipitator in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

29. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

30. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

31. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

33. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

34. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

35. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

36. Cylinder gas audits (GGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

38. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

39. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

40. The requirements of 40 CFR Part 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

41. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

42. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit

43. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

44. NOx emissions shall not exceed 1.3 pounds per ton of glass produced. This performance based limit is to enforce the NOx emission reductions granted by certificate number N-107-2. [District NSR Rule] Federally Enforceable Through Title V Permit

45. Except during furnace idling, shutdown, and startup, the aggregated NOx emissions shall not exceed 3.6 lb-NOx per ton of glass produced (based on a block 24-hour average). Aggregated NOx emission are the NOx emissions as measured at the common stack divided by the sum of the daily amount of glass produced by permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 4354, 9.0 and 9.6] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

46. CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District NSR Rule] Federally Enforceable Through Title V Permit

47. The VOC emissions shall not exceed 0.2 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

48. The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

49. The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

50. The PM10 emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District NSR Rules 2201 and 4354] Federally Enforceable Through Title V Permit

51. The PM10 emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

52. Either the electrostatic precipitator or the ceramic filter dust collector shall treat the full furnace battery exhaust flow except when they are both down for maintenance and repair. The number of hours that the furnace exhaust is not fully treated by at least one of the control devices shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

53. The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District NSR Rule] Federally Enforceable Through Title V Permit

54. During furnace idling, NOx emissions shall not exceed 1,888.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

55. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

56. During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

57. During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

58. During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

59. During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

60. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit

61. Visible emissions from the ceramic filter dust collector shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour [District Rule 2201] Federally Enforceable Through Title V Permit

62. The ceramic filter dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit

63. The ceramic filter dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

64. Material removed from the ceramic filter dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

65. Replacement filters numbering at least 10% of the total number of filters in the ceramic filter dust collector shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit

66. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

67. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520, §9.3.2 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

68. The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

69. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

70. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit

71. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit

72. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit

73. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

74. A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

75. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit

76. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit

77. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

78. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

79. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

80. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

81. The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

82. Records of all maintenance of the ceramic filter dust collector, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

83. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

Appendix B
Current Permit to Operate

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-1662-4-12 **EXPIRATION DATE:** 06/30/2016

EQUIPMENT DESCRIPTION:
GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED ELECTROSTATIC PRECIPITATOR AND SOX SCRUBBER.

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
2. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit
4. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit
5. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
6. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
7. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354, §5.5] Federally Enforceable Through Title V Permit
8. The NOx control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354, §5.5.6] Federally Enforceable Through Title V Permit
9. The NOx control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354, §5.6.2] Federally Enforceable Through Title V Permit
10. The NOx control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354, §5.7.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354, §5.6.1] Federally Enforceable Through Title V Permit

12. The total startup time, as defined in section 3.22 of District Rule 4354 (Glass Melting Furnaces), shall not exceed 18 days. [District Rule 4354, §5.2.1] Federally Enforceable Through Title V Permit

13. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2] Federally Enforceable Through Title V Permit

14. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354]

15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit

16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit

18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit

19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit

20. Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

21. PM and PM10 source testing shall be conducted down stream of the electrostatic precipitator in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

22. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

23. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit

25. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

26. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

27. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

28. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

29. Cylinder gas audits (GGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

30. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

31. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

32. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

33. The requirements of 40 CFR Part 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

34. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

35. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit

36. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

37. NOx emissions shall not exceed 2.95 pounds per ton of glass produced. This performance based limit is to enforce the NOx emission reductions granted by certificate number N-107-2. [District NSR Rule] Federally Enforceable Through Title V Permit

38. Except during furnace idling, shutdown, and startup, the aggregated NOx emissions shall not exceed 3.6 lb-NOx per ton of glass produced (based on a block 24-hour average). Aggregated NOx emission are the NOx emissions as measured at the common stack divided by the sum of the daily amount of glass produced by permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 4354, 9.0 and 9.6] Federally Enforceable Through Title V Permit

39. CO emissions shall not exceed 1.0 pounds per ton of glass produced. [District NSR Rule] Federally Enforceable Through Title V Permit

40. The VOC emissions shall not exceed 0.25 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

41. The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

42. The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

43. PM10 emissions, except during electrostatic precipitator bypass episodes, shall not exceed 0.49 pound per ton of glass produced. [District NSR Rules 2201 and 4354] Federally Enforceable Through Title V Permit

44. The PM10 emissions, during electrostatic precipitator bypass episodes, shall not exceed 0.71 pound per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

45. The electrostatic precipitator may be bypassed only for maintenance and repair. The duration of electrostatic precipitator bypass episodes shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

46. The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District NSR Rule] Federally Enforceable Through Title V Permit

47. During furnace idling, NOx emissions shall not exceed 1,888.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

48. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

49. During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

50. During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

51. During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

52. During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

53. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit

54. Devices used to measure primary and secondary voltage and current shall be maintained in accordance with the manufacturer's specifications. [40 CFR Part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

55. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit

56. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit

57. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit

58. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

59. A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

60. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit

61. The permittee shall maintain daily records of the aggregated NOx emissions and the specific power (in milliwatts/acfm) of the electrostatic precipitator. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit

62. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

63. The permittee shall maintain the specific power records required by this permit. [District Rules 2201, 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

64. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

65. A record of the cumulative annual electrostatic precipitator bypass duration, in hours, shall be kept. The record shall be updated at least weekly. [District Rule 1070] Federally Enforceable Through Title V Permit

66. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

Appendix C
Clean Emission Unit Determination

In order to properly determine the Baseline Emissions from the glass melting furnace currently under consideration, whether or not it is a Clean Emission Unit as defined in Section 3.13.2 of Rule 2201 must be established. To establish whether or not it is a Clean Emission Unit, the District must determine whether or not it met the Achieved-in-Practice BACT level during the past five years.

NOx, CO, VOC and PM10:

Pollutant	Achieved-in-Practice BACT (guideline 1.5.9)	Premodification Emission Factors	Clean Emission Unit
	lb/ton of Glass Produced		
NOx	1.5	1.3	Yes
CO	0.20	0.20	Yes
VOC	0.2	0.2	Yes
PM10	0.45	0.45	Yes

SOx:

The District BACT Clearinghouse includes a guideline that applies to container glass furnaces (guideline 1.5.9) and it does include a category for SOx. However, the furnace currently under consideration utilizes large quantities of mixed color cullet, and the guideline does not address this type of unit. In these cases, it is the District's practice to perform case-by-case analysis to determine what BACT would be if it were addressed in the applicable guideline.

When the current guideline was adopted in 2006, the District established a single SOx standard that applies to all container glass furnaces. Since that date, the District has become aware of the effect that the use of large quantities of mixed color cullet has on furnace chemistry and SOx emissions. Those effects became known during the rule making process for the October 16, 2008 version of Rule 4354 (Glass Melting Furnaces). During that process, the rule was revised to include two SOx limits; one for furnaces utilizing less than 25.0% mixed color cullet and another for furnaces that utilize 25.0% or more mixed color cullet. The table below shows the container glass SOx limits established for Rule 4354 at that time. The rule has been revised twice since that time and the limits have not changed.

Table 3 – SOx Emission Limits in pounds SOx per ton glass produced

Type of Glass Produced	Firing Technology	SOx Limit
Container Glass	Oxy-fuel furnaces and ≥ 25.0% of total cullet is mixed color cullet	1.1 [B]
	All other container glass furnaces	0.90 [B]

[B] Rolling 30-day average

The following BACT references were consulted for the purpose of identifying the SOx emission levels that will be considered.

Agency	Reference	SOx BACT Level
U.S. Environmental Protection Agency	BACT/LAER Clearinghouse RBLC ID OH-0319 RBLC ID OK-0100 RBLC ID OH-0296	 3.4 lb/ton pulled 2.0 lb/ton pulled 2.02 lb/ton pulled
California Air Resources Board	BACT Clearinghouse	No guideline
South Coast AQMD	BACT Clearinghouse	No guideline
Bay Area AQMD	BACT Clearinghouse	No guideline
Sacramento Metro AQMD	BACT Clearinghouse	No guideline
San Luis Obispo County APCD	This agency utilizes the CARB BACT Clearinghouse	N/A
San Joaquin Valley APCD	BACT Clearinghouse	Guideline 1.5.9 (does not address furnaces that utilize high amounts of mixed color cullet)

The following rules were also consulted for the purpose of identifying the SOx emission levels that will be considered.

Agency	Rule Number	SOx Limit
U.S. Environmental Protection Agency	40 CFR Part 60 Subpart CC	Rule limits only PM
California Air Resources Board	No Rule	N/A
South Coast AQMD	1117	Rule limits only NOx
Bay Area AQMD	12	Rule limits only NOx
Sacramento Metro AQMD	No Rule	N/A
San Luis Obispo Co. APCD	No rule	N/A
San Joaquin Valley APCD	4354 (mixed color cullet limits)	1.1 lb/ton (stand-alone furnaces) 0.99 lb/ton (furnace batteries)

Emission control:

Gallo Glass utilizes a scrubber for SOx control followed by an Electrostatic Precipitator (ESP) for SOx/particulate matter control.

From the furnace, the SOx contaminated airstream travels through a scrubber. Inside of the scrubber, SOx is absorbed by the reagent (lime, trona, etc.), which then exits the scrubber in the form of particulate matter. The contaminated airstream (sulfur contaminated reagent and the particulate matter generated in the furnace) then enters the ESP. The ESP causes the influent particulate matter to be charged and captured on oppositely charged plates.

Sulfur Chemistry:

The furnace batch includes iron containing ingredients with the color of the finished product being partially dependent on the amount of iron oxidation that occurs. Oxygen, which is necessary in the oxidation reaction, is generated from salt cake (Na_2SO_4) that is added to the batch. To achieve the desired color, the amount of salt cake necessary to achieve the desired amount of iron oxidation must be added.

Salt cake is added to the batch and undergoes the following reaction at furnace temperatures:

$$Na_2SO_4 \rightarrow Na_2O \text{ (into the glass)} + SO_3 \text{ (gas)}$$

The SO_3 decomposes as follows to form the necessary O_2. The amount of salt cake added controls the amount of SO_3 produced, which in turn, determines the amount of oxygen produced. The amount of oxygen produced determines the amount of iron oxidation that occurs, which in turn, has an effect on the color of the finished product.

$$SO_3 \leftrightarrow SO_2 + O_2$$

Practically Applicable Controls:

To comply with California rules regarding the diversion of materials away from landfills, Gallo Glass utilizes mixed color cullet as a partial substitute for virgin ingredients such as sand, soda ash and limestone. This substitution also has the benefit of reducing the amount of furnace energy that is required. In the case of Gallo Glass, mixed color cullet is utilized in quantities of at least 25.0% by weight.

Mixed color cullet is recycled glass that is contaminated with items such as food residue, plastic, paper labels and metallic labels. These contaminants can destabilize a furnace. To counteract the effects of these contaminants, sulfates are added to the mixture. These sulfates cause the formation of SOx.

Additionally, each glass color has its own in inherent SO_3 level embedded in it. So the portion of the mixed color cullet that is different in color than the finished product may have to evolve SOx to reach the final bulk glass chemistry requirement.

As can be seen, the use of mixed color cullet results in limited control of the amount of SOx liberated from the process stream. Therefore, to limit the amount of SOx that is emitted, a facility that utilizes high amounts of mixed color cullet (≥ 25%) must depend on a SOx control device.

The facility utilizes a scrubber for SOx control, and to achieve maximum SOx control has experimented with various reagent injection rates to the scrubber. During this experimentation, it was found that the reagent injection rate must be limited or it collects and hardens on the ESP plates in quantities sufficient to cause a masking condition. The masking condition rendered the ESP ineffective in PM control. The facility operator determined through this experimentation that the highest reagent injection rate that will allow the ESP to operate without plate masking results in a SOx emission rate of somewhat less than 0.99 lb/ton of

glass pulled (rolling 30-day average). Since this rate is currently required by District Rule 4354, it would be categorized as Achieved-in-Practice BACT level for SOx.

Appendix D
ERC Inclusion

NOx ERC SSPE Contributions:

The facility has had 4 originating ERC actions for NOx. Each was for the conversion of a glass melting furnace from air firing to oxy-fuel firing.

N-3-2 (furnace 1):

An examination of the originating certificate and its spin-offs indicates that only the balance of N-105-2 was utilized on site; the remainder was either sold or retained by Gallo Glass. Therefore, the amount originally issued, minus the amount used on site is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount issued under certificate N-3-2 and the amount used on sited under certificate N-105-2. The difference shown is the amount to be included in the facility SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-3-2	107,509	108,128	108,838	102,858	427,333
N-105-2	12,041	12,110	12,190	11,520	47,861
SSPE Contribution of Certificate N-3-2					379,472

N-54-2 (furnace 2):

An examination of the originating certificate and its spin-offs showed that the entire amount reflected on the certificate has been sold, with none being used on site. Therefore, the entire balance of certificate N-54-2 is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount to be included in the SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-54-2	21,897	20,995	21,313	21,532	85,737
SSPE Contribution of Certificate N-54-2					85,737

N-56-2 (furnace 3):

An examination of the originating certificate and its spin-offs showed that the entire amount reflected on the certificate has either been sold or is being held by Gallo Glass, with none being used on site. Therefore, the entire balance of certificate N-56-2 is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount to be included in the SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-56-2	75,357	79,405	77,913	73,006	305,681
SSPE Contribution of Certificate N-56-2					305,681

N-107-2 (furnace 4):

An examination of the originating certificate and its spin-offs showed that the entire amount reflected on the certificate has either been sold or is being held by Gallo Glass, with none being used on site. Therefore, the entire balance of certificate N-107-2 is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount to be included in the SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-107-2	89,358	66,849	83,009	87,762	326,978
SSPE Contribution of Certificate N-107-2					326,978

CO ERC SSPE Contributions:

The facility has had 2 originating ERC transactions. Each was for the conversion of a glass melting furnace from air firing to oxy-fuel firing.

N-3-3 (furnace 1):

An examination of the originating certificate and its spin-offs indicates that only the balance of N-105-3 was utilized on site; the remainder has been retained by Gallo Glass. Therefore, the amount originally issued, minus the amount used on site is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount issued under certificate N-3-3 and the amount used on sited under certificate N-105-3. The difference shown is the amount to be included in the facility SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-3-3	1,753	1,763	1,774	1,667	6,957
N-105-3	891	896	901	852	3,540
SSPE Contribution of Certificate N-3-3					3,417

N-56-3 (furnace 3):

An examination of the originating certificate shows that it is intact, with none being used on site or transferred. Therefore, the entire balance of certificate N-56-3 is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount to be included in the SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-56-3	504	531	521	488	2,044
SSPE Contribution of Certificate N-56-2					2,044

PM10 ERC SSPE Contributions:

The facility has had 1 originating ERC transaction, which was for the installation of the electrostatic precipitator on furnaces 1, 2, 3 and 4.

N-161-4:

An examination of the originating certificate shows that it is intact, with none being used on site or transferred. Therefore, the entire balance of certificate N-161-4 is to be included in the facility SSPE balance (sections 4.9.2 and 4.10.2 of Rule 2201). The following table shows the amount to be included in the SSPE balance.

Certificate	NOx Quantities (lb)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
N-161-4	23,150	22,909	24,274	22,565	92,898
SSPE Contribution of Certificate N-161-4					92,898

Appendix E
Top-Down BACT Analyses

Back

Best Available Control Technology (BACT) Guideline 1.5.9
Last Update: 6/8/2006

Container Glass Production - Furnace

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas-fired oxy-fuel furnace with CO emissions of < or = 0.20 lb/ton of glass pulled (on a pounds per day basis)		electric furnace
NOx	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.5 lb/ton of glass pulled	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.3 lb/ton of glass pulled	electric furnace
PM10	natural gas-fired oxy-fuel furnace with an electrostatic precipitator (ESP) in series with a semi-dry scrubber, using LPG backup fuel, and PM10 emissions of < or = 0.45 lb/ton of glass pulled		electric furnace
SOx	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 0.8 lb/ton of glass pulled		electric furnace
VOC	natural gas-fired furnace with VOC emissions of < or = 0.2 lb/ton of glass pulled	natural gas-fired furnace with a catalytic oxidizer and VOC emissions of < or = 0.01 lb/ton of glass pulled (95% control efficiency) natural gas-fired oxy-fuel furnace with LPG backup fuel, and VOC emissions of < or = 0.01 lb/ton of glass pulled (95% control efficiency) natural gas-fired furnace with VOC emission of 3.4 ppmv at 15% O2 dry and VOC emissions of < or = 0.184 lb/ton of glass pulled (block 24-hour average) (8% control efficiency)	electric furnace

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requrled for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source. For background Information, see Permit Specific BACT Determinations on Details Page.

This permitting action is an SB-288 Major Modification for NOx and PM10, therefore, BACT is required for NOx and PM10. The District BACT Clearinghouse includes a guideline that applies to this equipment (1.5.9) and per the District BACT policy, information from that guideline will be utilized without further analysis.

Top-Down BACT Analysis for the NOx Emission from Permit Unit N-1662-4-15:

Step 1 - Identify All Possible Control Technologies

Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.3 lb/ton of glass pulled.

Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.5 lb/ton of glass pulled.

Note: An electric furnace is listed as a possible PM10 control option. However, it is categorized as Alternate-Basic-Equipment. Per the District BACT policy, Alternate-Basic-Equipment is not to be considered for existing emission units. Since the furnace is existing, this control option will not be considered.

Step 2 – Eliminate Technologically Infeasible Options:

The above listed control measures are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control effectiveness

1. Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.3 lb/ton of glass pulled (Technologically Feasible).

2. Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.5 lb/ton of glass pulled (Achieved-in-Practice).

Step 4 - Cost Effectiveness Analysis:

The applicant is proposing the most stringent control option listed in Step 3, therefore, a cost effectiveness analysis is not necessary.

Step 5 - Select BACT

BACT will be:

Natural gas fired oxy-fuel furnace using LPG back-up fuel and NOx emissions of less than or equal to 1.3 lb/ton of glass pulled

Top-Down BACT Analysis for the PM10 Emission from Permit Unit N-1662-4-15:

Step 1 - Identify All Possible Control Technologies

Natural gas fired oxy-fuel furnace with an electrostatic precipitator in series with a semi-dry scrubber, using LPG backup fuel and PM10 emissions of equal to or less than 0.45 lb/ton of glass pulled.

Note: An electric furnace is listed as a possible PM10 control option. However, it is categorized as Alternate-Basic-Equipment. Per the District BACT policy, Alternate-Basic-Equipment is not to be considered for existing emission units. Since the furnace is existing, this control option will not be considered.

Step 2 – Eliminate Technologically Infeasible Options:

The above listed control measure is technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control effectiveness

1. Natural gas fired oxy-fuel furnace with an electrostatic precipitator in series with a semi-dry scrubber, using LPG backup fuel and PM10 emissions of equal to or less than 0.45 lb/ton of glass pulled.

Step 4 - Cost Effectiveness Analysis:

The above control measure is categorized as Achieved-in-Practice and per the District BACT policy (APR-1305) is required regardless of cost. Therefore, a cost effectiveness analysis is not necessary.

Step 5 - Select BACT

BACT will be:

Natural gas fired oxy-fuel furnace with an electrostatic precipitator in series with a semi-dry scrubber, using LPG backup fuel and PM10 emissions of equal to or less than 0.45 lb/ton of glass pulled.

The applicant has proposed to meet this emission rate with the use of an ESP, a dust collector or a combination of both operating in parallel. Since the current emission limit will be retained and compliance demonstrated by source testing the proposed control is equivalent to that of the specific equipment listed above. Per The District BACT policy (APR-1305), the applicant's proposal is accepted as BACT.

Appendix F
Baseline Actual Emission Calculations

The District has selected the five complete calendar years immediately preceding the application date as the baseline period for determining the Baseline Actual Emissions (BAE). Those emissions for furnace 4, which were provided by the applicant are shown in the table below.

Calendar Year	Baseline Actual Emissions (Tons)			
	NOx	VOC	SOx	PM10
2007	88.9	0.4	95.6	14.9
2008	104.8	0.4	72.8	17.2
2009	58.7	0.3	86.3	6.9
2010	71.9	1.0	85.0	14.8
2011	82.7	1.2	65.7	4.9
5 yr Average (tons)	81.4	0.7	81.1	11.7
5 yr Average (lb)	162,800	1,400	162,200	23,400

Appendix G
TV-009 Form

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

PROJECT N-1120773
FURNACE 4

[X] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: GALLO GLASS COMPANY	FACILITY ID: N-1662
1. Type of Organization: [X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

(✓) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(✓) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(✓) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(✓) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

JOSEPH MAJEWSKI — 19 JUNE 2012

Signature of Responsible Official — Date

JOSEPH MAJEWSKI

Name of Responsible Official (please print)

SR DIRECTOR OF OPERATIONS

Title of Responsible Official (please print)