

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**DIVISION OF AIR RESOURCES**

OSRAM SYLVANIA INC.  
APPROVAL NO. 1350  
(revised May 1996)

**PERMIT CONDITIONS AND EMISSION LIMITATIONS**

I. Emission Limitations

A. Particulates

The emission rate of particulate matter discharged to the atmosphere from the No. 52 glass melting furnace shall not exceed 0.10 lbs per ton of glass produced or 0.33 lbs per hour, whichever is more stringent.

B. Nitrogen Oxides (as nitrogen dioxide (NO<sub>2</sub>))

The emission rate of nitrogen oxides discharged to the atmosphere from the No. 52 glass melting furnace shall not exceed 5.26 lbs per ton of glass produced or 17.53 lbs per hour, whichever is more stringent.

C. Arsenic Emissions

1. Total arsenic emissions from the No. 52 glass melting furnace conveyed to the baghouse (Approval No. 129) shall be reduced by at least 85%.
2. Total arsenic emissions from the No. 52 glass melting furnace shall not exceed 0.0014 lbs per ton of glass produced or 41.5 lbs per year, whichever is more stringent.

II. Operating Requirements

A. The quantity of glass produced from the No. 52 glass melting furnace shall not exceed 2,433 tons per month (12 month rolling average). As used throughout this permit the quantity of glass produced shall mean the weight of glass pulled from the glass melting furnace.

B. The No. 52 glass melting furnace shall be fired with natural gas only using gas/oxygen fuel firing.

### III. Emission Monitoring

#### A. Opacity

1. The owner or operator shall install, calibrate, maintain and operate a continuous emission monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the baghouse (Approval No. 129).
2. During the emission test required by Condition IV.A, the owner or operator shall:
  - a. Conduct continuous opacity monitoring from the beginning of the first test run until the completion of the third test run. Process and control equipment shall be operated in a manner that will minimize opacity of emissions, subject to the approval of the Division.
  - b. Calculate 6-minute opacity averages from 24 or more data points equally spaced over each 6-minute period during the test runs.
  - c. Determine, based on the 6-minute opacity averages, the opacity value corresponding to the 97.5 percent upper confidence level of a normal or log-normal (whichever the owner or operator determines is more representative) distribution of the average opacity values.
3. The owner or operator shall reduce all opacity data to 6-minute averages. Six-minute averages shall be calculated from 24 or more data points equally spaced over each 6-minute period. Data recorded during periods of monitoring system breakdown, repairs, calibration checks and zero and span adjustments shall not be included in the data averages calculated under this subsection.

#### B. Temperature

1. The owner or operator shall install, calibrate, maintain and operate a monitoring device for the continuous measurement of the temperature of the gas entering the baghouse (Approval No. 129).
2. During the emission test required by Condition IV.A, the owner or operator shall:
  - a. Conduct continuous monitoring of the temperature of the gas

entering the baghouse (Approval No. 129) from the beginning of the first test run until completion of the third test run.

- b. Calculate 15-minute averages of the temperature of the gas entering the baghouse (Approval No. 129) during each test run.
3. The owner or operator shall calculate 15-minute averages of the temperature of the gas entering the baghouse (Approval No. 129) for each 15-minute operating period.

C. Pressure Drop

1. The owner or operator shall install, calibrate, maintain and operate a monitoring device for the continuous measurement of the pressure drop across the baghouse (Approval No. 129).
2. The owner or operator shall check the pressure drop across the baghouse at least once per day and the date, time and measurement shall be recorded.

D. All required continuous monitoring systems and monitoring devices shall be installed and operational prior to the performance of any emission test. Checks of the individual continuous opacity monitoring system components and factors affecting the accuracy of the monitoring data shall be conducted on a quarterly basis. Performance audit procedures may follow those found in "CEMS Pilot Project: Evaluation of CEMS Reliability and QA Procedures Volume 1", EPA - 340/1-86-009a, May 1986, U.S. EPA, Office of Air Quality Planning and Standards, Washington, D.C. 20460 or "Performance Audit Procedures For Opacity Monitors", EPA-450/4-92-010, April 1992, U.S. EPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

E. Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements by completing a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

F. The owner or operator may redetermine the values described in Conditions III.A.2 and III.B.2 during any emission test that demonstrates compliance with the emission limitations in Conditions I.A-C.



#### IV. Emission Testing

- A. The owner/operator must conduct emission testing to demonstrate compliance with all applicable emission limitations of this approval no later than 90 days after start-up.
- B. Two copies of an emissions testing protocol shall be submitted to the Division for review and approval prior to the performance of any compliance tests. The owner/operator shall provide the Division at least 60 days prior notice of any compliance test.
- C. Emission testing shall be performed in accordance with the test methods and procedures specified in 40 CFR 60, Subpart CC, 40 CFR 60, Appendix A and 40 CFR 61, Subpart N unless other test methods are prescribed for special situations.
- D. The owner/operator shall install any and all test ports or platforms necessary to conduct the required testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
- E. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitations.
- F. A final report of the results of any compliance testing shall be submitted to the Division no later than 60 days following completion of testing.
- G. All stack testing used to demonstrate compliance must be observed by the Division or its authorized representative to be considered acceptable.

#### V. Recordkeeping and Reporting

- A. The owner/operator shall maintain the following records:
  - 1. All measurements, including continuous monitoring for measurement of opacity, temperature of gas entering the control device and pressure drop across the baghouse.
  - 2. Records of emission test data and all calculations used to produce the required reports of emission estimates to demonstrate compliance with this approval.
  - 3. All continuous monitoring system performance evaluations, including calibration checks and adjustments.

4. The occurrence and duration of all startups, shutdowns, and malfunctions of the No. 52 glass melting furnace.
  5. All malfunctions of the baghouse (Approval No. 129).
  6. All periods during which any continuous monitoring system or monitoring device is inoperative.
  7. All records of maintenance and repairs for each air pollution control system, continuous monitoring system, or monitoring device.
- B. The owner/operator shall notify the Division in writing, of the anticipated date the No. 52 glass melting furnace will startup not more than 60 days nor less than 30 days prior to such date.
  - C. The owner/operator shall notify the Division in writing of the date of actual startup no later than fifteen days after such date.
  - D. The owner/operator shall notify the Division of any anticipated non-compliance with the terms of this permit or other applicable air pollution control rules and regulations.
  - E. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the quantity of glass produced from the No. 52 glass melting furnace for the previous month and the monthly average for the previous 12 months. The owner/operator shall keep records of this determination and provide such records to the Division upon request.
  - F. The owner/operator shall notify the Division whenever the quantity of glass produced from the No. 52 glass melting furnace exceeds 2433 tons per month (12 month rolling average).
  - G. The owner/operator shall notify the Division in writing, of any planned physical or operation change to the facility. Such notification shall include:
    1. Information describing the nature of the change
    2. Information describing the effect of the change on the emission of any air contaminant
    3. The scheduled completion date of the planned change

No change which may result in an increased emission rate of any air contaminant shall be made without the approval of the Director.

- H. The owner/operator shall submit a written report to the Division of the results of the continuous monitoring system evaluation required under Condition III. D within 60 days after conducting the evaluation.
- I. The owner/operator shall submit a written report to the Division every 6 months if excess opacity occurred during the preceding 6-month period. For purposes of this condition, an occurrence of excess opacity is any 6-minute period during which the average opacity, as measured by the continuous monitoring system, exceeds the opacity level determined under Condition III.A.2.
- J. The owner/operator shall ensure that any semiannual report of excess opacity required by Condition V.I is postmarked by the thirtieth day following the end of the 6-month period and includes the following information:
  - 1. The magnitude of excess opacity, any conversion factor(s) used and the date and time of commencement and completion of each occurrence of excess opacity.
  - 2. Specific identification of each occurrence of excess opacity that occurs during startups, shutdowns and malfunctions of the source.
  - 3. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of the system repairs or adjustments.
- K. All records required in this permit shall be maintained for a minimum of three years after the date of each record and shall be made available to representatives of the Division upon request.

VI. Other Permit Conditions

- A. To the extent consistent with the requirements of this permit and applicable federal and state laws, the facility shall be designed, constructed and operated in accordance with the representation of the facility in the permit application.
- B. There shall be no bypassing of the air pollution control equipment at any time.
- C. Employees of the Division and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Division.
- D. The owner/operator shall minimize emissions from the No. 52 glass melting furnace in the event of a malfunction of the unit's air pollution control equipment



that results in or that could result in emissions in excess of the permit limits. During a control equipment malfunction the following bypass procedures will be implemented:

1. Stop batching the Number 52 furnace;
2. Cease production and remove the Saturn machines from the process or discontinue the HGT draw;
3. Reduce glass pull rate to 30,000 lbs/day until the batch holding bin is empty;
4. When the holding bin becomes empty, cap the forehearth equipment and discontinue filling the holding bin;

The above procedures for the No. 52 furnace shall remain in effect until the malfunction has been identified and corrected.

- E. The No. 52 glass melting furnace is subject to all applicable requirements of the Federal New Source Performance Standards 40 CFR 60, Subparts A (General Provisions) and CC (Glass Manufacturing Plants) and the Federal National Emission Standards for Hazardous Air Pollutants 40 CFR 61, Subparts A (General Provisions) and N (Inorganic Arsenic Emissions from Glass Manufacturing Plants).
- F. As used throughout this approval, the term "malfunction" shall mean any sudden failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of arsenic, particulates or nitrogen oxides are increased.

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