

**TITLE V FEDERAL OPERATING PERMIT
AND
SMAQMD RULE 201 PERMIT TO OPERATE**

TITLE V PERMIT NO:
96-09-02

ISSUED TO:
Aerojet
PO Box 13222
Sacramento, CA 95813-6000

FACILITY LOCATION:
Hwy 50 and Aerojet Road
Rancho Cordova, CA 95670

DATE INITIAL PERMIT ISSUED:
March 1, 2004

DATE PERMIT EXPIRES:
March 1, 2009

PERMIT REVISION HISTORY:
96-09-02 July 23, 2007 Minor and administrative modifications

RESPONSIBLE OFFICIAL:
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NATURE OF BUSINESS:
Propulsion Systems and Parts

Ordnance Armaments

**STANDARD INDUSTRIAL
CLASSIFICATION (SIC):**
3764

3489

Larry Greene
Air Pollution Control Officer

By: _____
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Permitting Section

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PERMIT SUMMARY

This permit shall serve as a conditional permit to operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by U.S. EPA. However, they are enforceable by the Sacramento Metropolitan Air Quality Management District (SMAQMD)

Your application for this air quality Permit to Operate was evaluated for compliance with SMAQMD, State, and Federal air quality rules and regulations. The following listed rules are those that were found to be applicable at the time of permit review, based on the information submitted with the Title V permit application.

Citation	Description	Rule Adoption Date	Federally Enforceable?
Rule 201	General Permit Requirements (SIP approved)	11/20/84	Yes
Rule 201	General Permit Requirements (Not SIP approved)	04/26/01	No
Rule 202	New Source Review (SIP approved)	11/20/84	Yes
Rule 202	New Source Review (Not SIP approved)	01/24/02	No
Rule 207	Title V - Federal Operating Permit Program	04/26/01	Yes
Rule 301	Permit Fees - Stationary Source (SIP approved)	08/31/82	Yes
Rule 301	Permit Fees - Stationary Source (Not SIP approved)	10/25/01	No
Rule 401	Ringelmann Chart	04/05/83	Yes
Rule 402	Nuisance	08/03/77	No
Rule 403	Fugitive Dust	11/29/83	Yes
Rule 404	Particulate Matter	11/20/84	Yes
Rule 406	Specific Contaminants	11/29/83	Yes
Rule 411	Boiler NOx	2/2/95	Yes
Rule 411	Boiler NOx	7/22/99	No
Rule 412	Stationary IC Engines Located at Major Stationary Sources of NOx	6/01/95	Yes
Rule 420	Sulfur Content of Fuels	11/29/83	Yes
Rule 442	Architectural Coatings	09/05/96	Yes
Rule 442	Architectural Coatings	05/24/01	No
Rule 451	Surface Coating of Miscellaneous Metal Parts and Products	11/29/83	Yes
Rule 451	Surface Coating of Miscellaneous Metal Parts and Products	10/02/97	No
Rule 454	Degreasing Operation	4/3/97	Yes
Rule 454	Degreasing Operation	5/23/02	No
Rule 456	Aerospace Assembly and Component Coating Operations	7/23/98	Yes
Rule 463	Wood Products Coatings	7/23/98	No
Rule 602	Breakdown Conditions: Emergency Variance	11/29/83	No

Citation	Description	Rule Adoption Date	Federally Enforceable?
Rule 902	Asbestos	10/01/98	Yes
40 CFR, Part 63, Subpart A	NESHAP General Provisions	4/5/02	Yes
40 CFR, Part 63, Subpart GG	NESHAP for Aerospace Manufacturing and Rework Facilities	9/1/96	Yes

Future changes in prohibitory rules may establish more stringent requirements that may, at the District level, supersede the conditions listed here. For Title V purposes however, the federally enforceable requirements are those found in the Title V permit. Federally enforceable provisions of the Title V permit do not change until the Title V permit is revised.

FACILITY DESCRIPTION

Aerojet's primary activities include Propulsion Systems & Parts (SIC Code 3764) and Ordnance- Armaments (SIC Code 3489):

Propulsion Systems & Parts:

Aerojet manufactures liquid (e.g. Delta, Titan, NK-33) and solid (e.g. AMRAAM, Hawk, Standard Missile, Minuteman) propulsion systems and aerospace components (e.g. F-22 boom) in support of government and commercial contracts. The components can be fabricated, assembled, tested and/or refurbished by Aerojet.

Ordnance- Armaments:

Aerojet manufactures ordnance items in support of government and commercial contracts. The ordnance can be fabricated, assembled, tested and/or refurbished by Aerojet.

The activities listed above are supported by boilers, internal combustion engines, refrigeration systems, gasoline dispensing equipment and general maintenance. Waste generation, storage and disposal, treatment to support manufacturing, research and development and testing are also performed at this plant.

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of the Title V permit (by no later than March 1, 2008). **[Rule 207, §301.4]**
2. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification. The application shall be submitted after receiving any required preconstruction permit from the District and before commencing operation associated with the Minor Title V permit modification. **[Rule 207, §301.6]**
3. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification. The application shall not be submitted prior to receiving any required preconstruction permit from the District but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation. **[Rule 207, §301.7]**
4. The applicant shall submit to the Air Pollution Control Officer timely updates to the Title V application as new applicable requirements become applicable to the source. **[Rule 207, §302.1]**
5. The applicant shall submit to the Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the Air Pollution Control Officer of such incorrect submittal. **[Rule 207, §302.2]**
6. The applicant shall submit to the Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the Air Pollution Control Officer. **[Rule 207, §302.3]**
7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted and the stationary source complies with Sections 303.1(a), (b), (c), and (d) of Rule 207, in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied. **[Rule 207, §303.2]**
8. Any Title V application form, report, or compliance certification submitted pursuant to a federally enforceable requirement in this permit shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **[Rule 207, §304]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

9. This Title V permit shall have a 5-year fixed term from the date of issuance. The Title V permit shall have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the District a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of Rule 207, and the Title V permit is renewed according to the administrative procedures listed in Sections 401 through 408 of Rule 207. **[Rule 207, §306]**

COMPLIANCE

10. The permittee must comply with all conditions of the Title V permit. **[Rule 207, §305.1(k)(1)]**
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit. **[Rule 207, §305.1(k)(2)]**
12. This Title V permit may be modified, revoked, reopened, and reissued, or terminated for cause. **[Rule 207, §305.1(k)(3)]**
13. The permittee shall furnish to the Air Pollution Control Officer, within a reasonable time, any information that the Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to Section 411 of Rule 207, or to determine compliance with this Title V permit. Upon request, the permittee shall also furnish to the Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. **[Rule 207, §305.1(k)(4)]**
14. Noncompliance with any federally enforceable requirement in this Title V permit is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action, or denial of the Title V permit renewal application. Any violation of the Title V permit shall also be a violation of Rule 207. **[Rule 207, §305.1(k)(5)]**
15. A pending Title V permit action (e.g. a proposed permit revision) or notification of anticipated noncompliance does not stay any permit condition. **[Rule 207, §305.1(k)(6)]**
16. This Title V permit does not convey any property rights of any sort, or any exclusive privilege. **[Rule 207, §305.1(k)(7)]**
17. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Officer or an authorized representative to perform all of the following: **[Rule 207, §413.1]**
- A. Enter upon the stationary source's premises where this source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Title V permit;

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

- C. Inspect at reasonable times, the stationary source, equipment (including monitoring and air pollution control equipment), practices and operations regulated or required under this Title V permit, and;
- D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Title V permit conditions or applicable federal requirements.

REPORTS AND RECORDKEEPING

18. Monitoring Reports

The permittee shall submit to the Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring.

The first reporting period for this permit shall be March 1, 2004 through June 30, 2004. The report shall be submitted by July 31, 2004. Subsequent reports shall be for the periods July 1 through December 31 and January 1 through June 30 and shall be submitted by January 30 and July 30 of each year respectively.

All instances of deviations from Title V permit conditions must be clearly identified in such reports. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. **[Rule 207, §501.1]**

19. Compliance Reports

The permittee shall submit to the Air Pollution Control Officer and EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards, and work practices.

The first reporting period for this permit shall be March 1, 2004 through December 31, 2004. The report shall be submitted by January 30, 2005. Subsequent reports shall be for the period January 1 through December 31 and shall be submitted by January 30 of each year.

All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

The compliance certification shall include the following: **[Rule 207, §413.4]**

- A. The identification of each term or condition of the Title V permit that is the basis of the certification;
- B. The method(s) used for determining the compliance status of the source, currently and over the reporting period, and whether such method(s) provides continuous or intermittent data;

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

- C. The status of compliance with the terms and conditions of the Title V permit for the period covered by the certification, based on the method designated in Subpart B of this condition;
 - D. Such other facts as the Air Pollution Control Officer may require to determine the compliance status of the source; and
 - E. In accordance with Section 305 of Rule 207, a method for monitoring the compliance of the stationary source with its emissions limitations, standards and work practices.
20. The permittee shall report within 24 hours of detection any deviation from a federally enforceable Title V permit condition not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permittee shall notify the Air Pollution Control Officer by telephone (within 24 hrs) followed by a written statement (within 2 working days) describing the nature of the deviation from the federally enforceable permit condition. **[Rule 207, §501.3]**
21. All monitoring data and support information required by a federally enforceable applicable requirement must be kept by the stationary source for a period of 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the federally enforceable applicable requirement in the Title V permit. **[Rule 207, §502.3]**

RINGELMANN CHART

22. Except as otherwise provided under Permits to Operate number 18650 and 18651, and in Section 100 of Rule 401, a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is: **[Rule 401, §301]**
- A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
 - B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart.

PARTICULATE MATTER

23. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to: **[Rule 403, §301]**
- A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.
 - B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which can give rise to airborne dusts;
 - C. Other means approved by the Air Pollution Control Officer.

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

24. Except as otherwise provided in Condition 25, a person shall not discharge into the atmosphere from any source particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot). **[Rule 404, §301]**
25. A person shall not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% carbon dioxide (CO₂) at standard conditions. **[Rule 406, §302]**

SULFUR COMPOUNDS

26. A person shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO₂): 0.2% by volume. **[Rule 406, §301]**
27. Except as otherwise provided in Section 110 of Rule 420, a person shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight. **[Rule 420, §301]**

ARCHITECTURAL COATING

28. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, shall meet the requirements of Rule 442. **[Rule 442]**
29. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained, or repaired. **[Rule 442, §304]**
30. A person using volatile organic compounds for the cleanup of architectural coating application equipment shall comply with the requirements of SMAQMD Rule 466 SOLVENTS CLEANING. **[Rule 466, §301.1 and 302.6]**
31. Aerojet shall keep a record of all architectural coatings purchased that are not clearly labeled as complying with the VOC content limits contained in Rule 442. Compliance in these cases can be determined by maintaining records of the manufacturer's certifications or by Material Safety Data Sheets (MSDS) that demonstrate compliance with the VOC limits of Rule 442. **[Rule 442 and Rule 207, §305]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

COMPLIANCE

32. Compliance with the conditions of the Title V permit shall be deemed compliance with all applicable requirements identified in the Title V permit. **[Rule 207, §307]**

EQUIPMENT BREAKDOWNS

33. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met: **[Rule 207, §414]**
- A. The affirmative defense of an emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - I. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - II. The permitted facility was at the time being properly operated;
 - III. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit;
 - IV. The permittee submitted notice of the emergency to the Air Pollution Control Officer within two working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency, and corrective actions taken.
 - B. In any enforcement proceedings, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

34. Persons opening appliances containing CFCs for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR, § 82.156. **[40 CFR, Part 82, Subpart F]**
35. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR, § 82.158. **[40 CFR, Part 82, Subpart F]**
36. Persons performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR, § 82.161. **[40 CFR, Part 82, Subpart F]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

PAYMENT OF FEES

37. The fee for (1) the issuance of an initial Title V operating permit, (2) the renewal and/or inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment shall be based on the actual hours spent by the District staff in evaluating the application and processing the operating permit. The fee shall be assessed in accordance with the hourly rate established in Section 308.12 of Rule 301.

[Rule 207, §305.7 and Rule 301, §313]

38. After the provisions for granting permits as set forth in Rule 207 have been complied with, the permittee will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee shall be increased by one half the amount and the applicant/permittee shall be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the application/permit will be canceled/revoked and the applicant/permittee will be notified by mail. **[Rule 207, §305.7]**

ACCIDENTAL RELEASES

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the EPA the required data related to the risk management plan (RMP) for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 68.130. The list of substances, threshold quantities and accident prevention regulations promulgated under Part 68 do not limit in any way the general duty provisions under Section 112(r)(1). **[40 CFR, Part 68]**

40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of Part 68 no later than the latest of the following dates as provided in 68.10(a): **[40 CFR, Part 68]**

- A. June 21, 1999,
- B. Three years after the date on which a regulated substance is first listed under 68.130, or
- C. The date on which a regulated substance is first present above a threshold quantity in a process.

41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68. **[40 CFR, Part 68]**

42. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as part of the annual compliance certification as required by Section 413.4 of Rule 207. **[40 CFR, Part 68]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

GENERAL APPLICABLE REQUIREMENTS

These requirements are applicable and federally enforceable only as they apply to the potential emissions and/or control of criteria pollutants.

43. The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit to operate, and
 - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
 - C. To inspect any equipment, operation, or method required in this Permit to Operate, and
 - D. To sample emissions from the source or require samples to be taken.
44. Legible copies of all SMAQMD local permits shall be maintained on the premises with the equipment.
45. The equipment shall be properly maintained and kept in good operating condition at all times.
46. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the Health and Safety Codes of the State of California or the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.
47. Operation of the equipment must be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted.

ASBESTOS

48. Unless otherwise exempt from the survey and notification requirements, prior to any work commencing or any disturbance of Regulated Asbestos Containing Material (RACM), an owner or operator shall conduct a survey in accordance with SMAQMD Rule 902, Section 401 and the Air Pollution Control Officer shall be notified in accordance with SMAQMD Rule 902, Sections 402 or 403, of all renovations or demolitions not exempt from SMAQMD Rule 902. **[SMAQMD Rule 902, Section 301.2]**
49. The owner or operator of any facility where nonscheduled renovation operations are expected to occur may meet the requirements of SMAQMD Rule 902, Section 402 as follows **[SMAQMD Rule 902, Section 403]**:
 - A. Estimate, based on past operating experience, the amount of RACM to be disturbed during the calendar year because of the routine failure of equipment.
 - B. Submit a plan form 10 working days prior to the calendar year for which the plan applies.
 - C. The plan only covers the minimum amount of RACM removal necessary to correct the

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

routine failure of equipment.

50. RACM shall be removed from any facility subject to this rule before any activity occurs that would disturb the RACM or that would preclude access to such materials for subsequent removal. Removal of RACM which is encased in concrete or other similar structural materials is not required prior to demolition, but such material shall be adequately wetted whenever exposed during demolition. RACM must be disposed of pursuant to SMAQMD Rule 902, Sections 301.7 and 303. **[SMAQMD Rule 902, Section 301.2]**
51. The facility shall comply with all other applicable requirements of SMAQMD Rule 902 including, but not limited to, work environment, wetting requirements, posting, on-site representative, and waste disposal associated for any demolition or renovation disturbing RACM. **[SMAQMD Rule 902, Sections 301.3-303]**
52. There shall be no visible emissions to the outside air from the spray-on application of asbestos-containing materials used to insulate or fireproof equipment and machinery, except as provided in SMAQMD Rule 902, Section 312. Spray-on materials used to insulate or fireproof buildings, structures, pipes, and conduits shall contain less than 1 percent asbestos as determined according to the method specified in SMAQMD Rule 902, Section 501.2. **[SMAQMD Rule 902, Section 306]**
53. Molded insulating materials which are friable and wet-applied insulating materials which are friable after drying, and which are installed or reinstalled after May 31, 1989, shall contain no commercial asbestos. The provisions of this paragraph do not apply to insulating materials which are spray applied. Such materials are regulated under SMAQMD Rule 902, Section 306. **[SMAQMD Rule 902, Section 307]**

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

APPLICABILITY:

1. The requirements outlined in this section pertain to the Rule 201 Permit to Operate and are not part of the Title V permit.

LOCAL PERMIT RENEWAL:

2. Permits to Operate issued to Aerojet, pursuant to Rule 201 (non-Title V permits to operate), shall be renewed annually on April 1 and upon payment of the permit renewal fee established pursuant to Rule 301.
3. The Air Pollution Control Officer shall review every Permit to Operate upon annual renewal, pursuant to California Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, District rules and regulations applicable to the article, machine, equipment or contrivance for which the permit was issued. Applicable District rules and regulations shall include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment or contrivance, by the District Board of Directors. The Air Pollution Control Officer shall revise the conditions, if such conditions are not consistent, in accordance with all applicable rules and regulations.

GENERAL

4. The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit to operate, and
 - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
 - C. To inspect any equipment, operation, or method required in this Permit to Operate, and
 - D. To sample emissions from the source or require samples to be taken.
5. Legible copies of all SMAQMD local permits shall be maintained on the premises with the equipment.

EQUIPMENT OPERATION:

6. The equipment shall be properly maintained.
7. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the Health and Safety Codes of the State of California or the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

EQUIPMENT BREAKDOWNS:

8. The permittee shall notify the Air Pollution Control Officer of any occurrence which constitutes a breakdown as defined in Section 201 of Rule 602 as soon as reasonably possible, but no later than one hour after its detection. If the breakdown occurs when the Air Pollution Control Officer cannot be contacted, the report of breakdown shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence.
9. Upon notification of the breakdown condition, the Air Pollution Control Officer shall investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the Air Pollution Control Officer may take appropriate enforcement action.
10. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and Regulations; however, the Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met:
 - A. The notification required in Section 301.1 of Rule 602 is made; and
 - B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shutdown for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period shall be 96 hours). If the owner or operator elects to shut down rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and
 - C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.
11. An occurrence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours), unless an emergency variance has been obtained.
12. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) the owner or operator may, in lieu of shutdown, request the Air Pollution Control Officer to commence the emergency variance procedure set forth in Section 304 of Rule 602.

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

13. No emergency variance shall be granted unless the chairperson of the Hearing Board or other designated member(s) of the Hearing Board finds that:
 - A. The occurrence constitutes a breakdown condition;
 - B. Continued operation is not likely to create an immediate threat or hazard to public health or safety; and
 - C. The requirements for a variance set forth in Health & Safety Code Sections 42352 and 42353 have been met;
 - D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.
14. At any time after an emergency variance has been granted, the Air Pollution Control Officer may request for good cause that the chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in Rule 602, Section 304.1 shall govern any further proceedings conducted under this section.
15. An emergency variance shall remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner.
16. Within one week after a breakdown condition has been corrected, the owner or operator shall submit a written report to the Air Pollution Control Officer on forms supplied by the Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection.
17. The burden of proof shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the Air Pollution Control Officer shall undertake appropriate enforcement action.
18. Any failure to comply, or comply in a timely manner, with the reporting requirements established in Sections 301.1 and 401 of Rule 602 shall constitute a separate violation of this rule.
19. It shall constitute a separate violation of this rule for any person to file with the Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Diesel-Fired Emergency IC Engines/Electrical Generators		
Local PO #*	Equipment Description	Location* (Building #)
10294	50 hp Cummins engine, model #6A3-4-G1, serial #53132157	J-Area
10421	402 hp Waukesha engine, model #6LRDBCS, serial #1118129	Portable
10422	830 hp Detroit Diesel, model #6A13506, serial #DD12VF002353	Portable
10423	299 hp Caterpillar engine, model 3208, serial #5YF00294	30015
10426	134 hp GM Detroit, model 10437305, serial #4A0214108	20022
10779	138 hp Perkins engine, model T6.3344, serial # unknown	20022
14748	335 hp Generac engine, model 99A06418-5, serial #2051487	20001
15335	568 hp Detroit Diesel engine, model 8V-92A, serial #8VF1777262. Retrofitted with Clean Cam Technology System (CARB executive order G-096-029-024-A)	16007
18758	153 Hp John Deere Model 40445H Serial # PE4045H513942	00003

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The IC engine(s) shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748, 15335, 18758]**

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

2. Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD Rule 406]**
3. Emissions from each IC engine shall not exceed the following limits:
[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748, 15335, 18758]

PO #10294			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	311	311
SOx(B)	0.16 (B)	4	4
CO	3.03	67	67
ROC	1.14	25	25
PM10	1.00	22	22

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 50 hp, 200 hours/quarter and 200 hours/year of operation.

PO #10421			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14	2,481	2,481
SOx(B)	.93	165	165
CO	3.03	537	537
ROC	1.12	199	199
PM10	1.00	177	177

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 402 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

PO #10422			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14	5,123	5,123
SOx(B)	.93	340	340
CO	3.03	1,109	1,109
ROC	1.12	410	410
PM10	1.00	366	366

- (A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)
(B) Based on sulfur content of 0.05%.
(C) Based on 830 hp, 100 hours/quarter and 100 hours/year of operation.

PO #10423			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	1,859	1,859
SOx(B)	0.16	21	21
CO	3.03	399	399
ROC	1.14	150	150
PM10	1.00	132	132

- (A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)
(B) Based on sulfur content of 0.05%.
(C) Based on 299 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

PO #10426			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	833	833
SOx(B)	0.16	9	9
CO	3.03	179	179
ROC	1.14	67	67
PM10	1.00	59	59

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 134 hp, 200 hours/quarter and 200 hours/year of operation.

PO #10779			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	858	858
SOx(B)	0.16	10	10
CO	3.03	184	184
ROC	1.14	69	69
PM10	1.00	61	61

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 138 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

PO #14748			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)	
		Pounds/Quarter	Pounds/Year
NOx	6.02	889	889
SOx	0.1645	24	24
CO	0.83	123	123
ROC	1.14	168	168
PM10	0.26	38	38

(A) Emission factors for NOx, PM10 and CO are based on manufacturer's data. SOx emissions are based on 0.05% sulfur by weight in the fuel. ROC emission factor is from AP-42, Section 3.3, Table 3.3.-1(10/96)

(B) Based on 335 hp, 200 hours/quarter and 200 hours/year of operation.

PO #15335			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)	
		Pounds/Quarter	Pounds/Year
NOx	6.9	1,728	1,727
SOx	0.16	40	40
CO	8.5	2,129	2,129
ROC	1	250	250
PM10	0.16	40	40

(A) Emission factors for NOx, CO, ROC, and PM10 are based on manufacturer's data. SOx emissions are based on 0.05% sulfur by weight in the fuel.

(B) Based on 568 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

PO #18758			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)	
		Pounds/Quarter	Pounds/Year
NOx	4.9	331	331
SOx	0.1645	11	11
CO	3.7	250	250
ROC	0.19	13	13
PM10	0.149	10	10

(A) Emission factors for PM10 are based on T-BACT limits, SOx emissions are based on 0.05% sulfur by weight in the fuel, ROC is based on manufacturer's data and CO and NOx are based on BACT levels.

(B) Based on 153 hp, 200 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION:

4. Each IC engine shall operate only for the following purposes and shall not operate more than the following hours: **[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748, and 15335, 18758]**

Local PO No.	Type of Operational Hours	Maximum Allowable Operation per Engine	
		hours/quarter	hours/year
10294 10421 10422 10423 10426 10779	Maintenance Purposes (A)	20	20
14748 15335	Maintenance Purposes (A)	30	30
18758	Maintenance Purposes (A)	50	50
10294 10421 10422	Maintenance Purposes Plus Actual Interruption of Power	200	200

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
 STAND-BY GENERATORS – DIESEL**

Local PO No.	Type of Operational Hours	Maximum Allowable Operation per Engine	
		hours/quarter	hours/year
10423 10426 10779 14748 15335 18758	by the Serving Utility (B) Maintenance Purposes Plus Actual Interruption of Power by the Serving Utility (B)	200	200

- (A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and it's associated generator or the facility's electrical distribution system.
- (B) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event. For POs #10421 and 10422, actual interruption of power is defined as when electrical service from the service utility is interrupted by an unforeseeable event or when the power reserves of the serving utility fall below 5%.

5. Each IC engine shall be fueled with CARB diesel fuel, or an alternative diesel fuel that meets the requirements of the verification procedure (as codifies in CCR Title 13, Sections 2700-2710), or an alternative fuel, or CARB diesel fuel used with fuel additives that meet the requirements of the verification procedure, or any combination of fuels listed in this condition. **[SMAQMD POs #10294, 10421, 10422, 10423, 10426, 10779, 14748, 15335, 18758]**
6. Each IC engine shall be equipped with a non-resetting hour meter, with a minimum display capability of 999 hours, to ensure compliance with Conditions No. 3 and No. 4. **[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748, 15335, 18758]**
7. Upon request of the Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations. **[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748, 15335, 18758]**

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period. **[SMAQMD POs #10294, 10421-3, 10426, 10779, 14748,**

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) EMERGENCY IC ENGINES/
STAND-BY GENERATORS – DIESEL**

15335, 18758]

Frequency	Information to be recorded for each engine
When operated	A. Date. B. Purpose - either maintenance (M) or emergency (E). C. Number of hours of operation.
Monthly	D. Total number of hours of operation for each operating mode (maintenance and emergency) in hours per month.
Quarterly	E. Total number of hours of operation of each operating mode (maintenance and emergency) in hours per calendar quarter.
Yearly	F. Total number of hours of operation of each operating mode (maintenance and emergency) in hours per year.
All Fuel Deliveries	G. Retain fuel purchase records that account for all fuel purchased for use in all engines. Fuel purchase records shall include: 1. Identification of type of fuel (CARB diesel, alternate diesel etc.) 2. Quantity of fuel purchased. 3. Date of fuel purchase. 4. Signature of person receiving fuel. 5. Signature of fuel provider indicating that fuel was delivered.

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
FIRE PUMPS – DIESEL**

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Diesel-Fired Emergency IC Engines/Fire Pumps		
Local PO #*	Equipment Description	Location* (Building #)
10408	182 hp Cummins engine, Model #6-BTA5.9, Serial #44675473	37013
10434	115 hp GM Detroit engine, Model #4061A, Serial #4A-29520	00017
10435	115 hp GM Detroit engine, Model #4061A, Serial #4A-29519	00017
10436	115 hp GM Detroit engine, Model #4061A, Serial #4A-29518	00017
10437	250 hp GM Detroit engine, Model # unknown, Serial #313596	00017
10438	115 hp GM Detroit engine, Model #4061A, Serial #4A-29521	00017
10439	152 hp Cummins engine, Model NT-495-FP, Serial #25147741	20007
10440	152 hp Cummins engine, Model NT-495-FP, Serial #25149920	20010
10441	115 hp GM Detroit engine, Model #4061A, Serial #APD B51852	15011
10442	115 hp GM Detroit engine, Model #4061A, Serial #APD B51851	15011
10443	340 hp Cummins engine, Model #NT-855-F3, Serial #11422248	46046
10444	340 hp Cummins engine, Model #NT-855-F3, Serial #11422553	46046
10445	170 hp Cummins engine, Model #NY-495-FP, Serial #25155927	32010
10446	340 hp Cummins engine, Model NT-855-F3, Serial #11422554	32010

* For reference purposes only – PO # and equipment location are not federally enforceable.

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
FIRE PUMPS – DIESEL**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The IC engine(s) shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD POs #10408, 10434-10446]**
2. Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD Rule 406]**
3. Emissions from each IC engine shall not exceed the following limits:
[SMAQMD POs #10408, 10434-10446]

PO #10408			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	1,131	1,131
SOx(B)	0.16	13	13
CO	3.03	243	243
ROC	1.14	91	91
PM10	1.00	80	80

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 182 hp, 200 hours/quarter and 200 hours/year of operation.

POs #10434, 10435, 10436, 10438, 10441, 10442			
Pollutant	Emission Factor (A) Grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	715	715
SOx(B)	0.16	8	8
CO	3.03	154	154
ROC	1.14	58	58

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
 FIRE PUMPS – DIESEL**

PM10	1.00	51	51
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- (A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)
 (B) Based on sulfur content of 0.05%.
 (C) Based on 115 hp, 200 hours/quarter and 200 hours/year of operation.

PO #10437			
Pollutant	Emission Factor (A) Grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	1,554	1,554
SOx(B)	0.16	18	18
CO	3.03	334	334
ROC	1.14	126	126
PM10	1.00	110	110

- (A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)
 (B) Based on sulfur content of 0.05%.
 (C) Based on 250 hp, 200 hours/quarter and 200 hours/year of operation.

PO #10439 & 10440			
Pollutant	Emission Factor (A) Grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	945	945
SOx(B)	0.16	11	11
CO	3.03	203	203
ROC	1.14	76	76
PM10	1.00	67	67

- (A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)
 (B) Based on sulfur content of 0.05%.
 (C) Based on 152 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
FIRE PUMPS – DIESEL**

PO #10443, 10444, & 10446			
Pollutant	Emission Factor (A) Grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	2,114	2,114
SOx(B)	0.16	24	24
CO	3.03	454	454
ROC	1.14	171	171
PM10	1.00	150	150

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 340 hp, 200 hours/quarter and 200 hours/year of operation.

PO #10445			
Pollutant	Emission Factor (A) Grams/hp-hr	Maximum Emissions from Maintenance (C)	
		Pounds/Quarter	Pounds/Year
NOx	14.1	1,057	1,057
SOx(B)	0.16	12	12
CO	3.03	227	227
ROC	1.14	85	85
PM10	1.00	75	75

(A) All emission factors are based on AP-42, Section 3.3, Table 3.3.-2, pg3.3-3 (1/95)

(B) Based on sulfur content of 0.05%.

(C) Based on 170 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
 FIRE PUMPS – DIESEL**

EQUIPMENT OPERATION:

4. Each IC engine shall operate only for the following purposes and shall not operate more than the following hours: **[SMAQMD POs #10408, 10434-10446]**

Type of Operational Hours	Maximum Allowable Operation per Engine		
	hr/day	hr/quarter	hr/year
Maintenance Purposes (A):		40	40
Weekly Testing – NFPA 25, Sec. 5-3.2.2	0.5		
Annual Testing (no flow) – NFPA 25, Sec. 5-3.3.2.1	1		
Annual Testing (flow) – NFPA 25, Sec. 5-3.3.1	0.5		
Quarterly Testing – NFPA 25, Sec. 9-5.2.1	4		
Every Five Years – NFPA 25, Sec. 9-5.2.2			
Maintenance Purposes Plus Emergency Water Pumping (B)	N/A	200	200

- (A) Maintenance purposes is defined as: The necessary operation of an IC engine in order to comply with the testing requirements of the national fire protection association (NFPA) 25 – “Standards for Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 1998 edition or when required by the District to verify compliance with the applicable rules and regulations.
- (B) Emergency is defined as: When a fire is detected and the fire pump is operated to supply water for fire suppression.

5. Each IC engine shall be fueled with CARB diesel fuel, or an alternative diesel fuel that meets the requirements of the verification procedure (as codifies in CCR Title 13, Sections 2700-2710), or an alternative fuel, or CARB diesel fuel used with fuel additives that meet the requirements of the verification procedure, or nay combination of fuels listed in this condition. **[SMAQMD POs #10408, 10434-10446]**
6. Each IC engine shall be equipped with a non-resetting hour meter, with a minimum display capability of 999 hours, to ensure compliance with Conditions No. 3 and No. 4. **[SMAQMD POs #10408, 10434-10440, 10443-10446]**
7. The IC engines under local Permit to Operate #10441 and 10442 shall be equipped with a computerized tracking system to ensure compliance with Conditions No. 3 and No. 4. **[SMAQMD POs #10441 and 10442]**

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
 FIRE PUMPS – DIESEL**

8. Upon request of the Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations. **[SMAQMD POs #10408, 10434-10446]**

RECORD KEEPING AND REPORTING REQUIREMENTS

9. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period. **[SMAQMD POs #10408, 10434-10446]**

Frequency	Information to be recorded for each engine
When operated	A. Date. B. Purpose - either maintenance (M) or emergency(E). C. Number of hours of operation.
When operated for maintenance	D. When operating for maintenance purposes, the daily record shall also included the type of maintenance performed: 1. Weekly run (NFPA 25, Sec. 5-3.2.2) 2. Annual no flow test (NFPA 25, Sec. 5-3.3.2.1) 3. Annual flow test (NFPA 25, Sec. 5-3.3.1) 4. Quarterly test (NFPA 25, Sec. 9-5.2.1) 5. Quincennial (every 5 years) testing (NFPA 25, Sec. 9-5.2.2) 6. Required by Air District 7. Repair verification (describe repair performed)
Monthly	E. Total number of hours of operation for each operating mode (maintenance and emergency) in hours per month.
Quarterly	F. Total number of hours of operation of each operating mode (maintenance and emergency) in hours per calendar quarter.
Yearly	G. Total number of hours of operation of each operating mode (maintenance and emergency) in hours per year.
All Fuel Deliveries	H. Retain fuel purchase records that account for all fuel purchased for use in all engines. Fuel purchase records shall include: 1. Identification of type of fuel (CARB diesel, alternate diesel etc.) 2. Quantity of fuel purchased. 3. Date of fuel purchase. 4. Signature of person receiving fuel.

**EQUIPMENT SPECIFIC REQUIREMENTS – (14) EMERGENCY IC ENGINE/
FIRE PUMPS – DIESEL**

	5. Signature of fuel provider indicating that fuel was delivered.
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**EQUIPMENT SPECIFIC REQUIREMENTS – (1) EMERGENCY IC ENGINE/
 ELECTRICAL GENERATOR – PROPANE**

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Propane-Fired Emergency IC Engine/Electrical Generator		
Local PO #*	Equipment Description	Location (Building #)
10424	84 hp Generac engine, Model #SG5034150, Serial #821288/AGC209099	20015

* For reference purposes only – PO # is not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The IC engine shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD PO #10424]**
2. Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD Rule 406]**
3. Emissions from the IC engine shall not exceed the following limits: **[SMAQMD PO #10424]**

PO #10424			
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)	
		Pounds/Quarter	Pounds/Year
NOx	12	444	444
SOx	.0022	0.08	0.08
CO	1.6	59	59
ROC	0.72	27	27
PM10	0.152	6	6

- A) All emission factors are based on AP-42, Section 3.2, Table 3.2.-2, pg3.2-4 (1/95)
 B) Based on 84 hp, 200 hours/quarter and 200 hours/year of operation.

**EQUIPMENT SPECIFIC REQUIREMENTS – (1) EMERGENCY IC ENGINE/
ELECTRICAL GENERATOR – PROPANE**

EQUIPMENT OPERATION:

4. The IC engine shall operate only for the following purposes and shall not operate more than the following hours: **[SMAQMD PO #10424]**

Type of Operational Hours	Maximum Allowable Operation		
	hours/day	hours/quarter	hours/year
Maintenance Purposes (A)	1 (B)	100	100
Maintenance Purposes Plus Actual Interruption of Power by the Serving Utility (C)	N/A	200	200

- (A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and it's associated generator or the facility's electrical distribution system.
- (B) Limited to a maximum of one (1) hour per day only if the forecasted air quality index (AQI) for Sacramento County is greater than 75, in order to minimize adverse air quality impact. This requirement shall not apply to scheduled maintenance of the facility's electrical distribution system. The forecasted AQI level for Sacramento county can be obtained a day in advance by calling the district between 3:15 pm and 5:00 pm, or by checking www.sparetheair.com.
- (C) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event or when the power reserves of the serving utility fall below 5%.
5. Each IC engine shall be fueled only by propane fuel. **[SMAQMD PO #10424]**
6. The IC engine shall be equipped with a non-resetting hour meter or a computerized tracking system to ensure compliance with Conditions No. 2 and No. 3. **[SMAQMD PO #10424]**
7. Upon request of the Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations. **[SMAQMD PO #10424]**

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter and year respectively. **[SMAQMD PO #10424]**

**EQUIPMENT SPECIFIC REQUIREMENTS – (1) EMERGENCY IC ENGINE/
ELECTRICAL GENERATOR – PROPANE**

Frequency	Information to be recorded for each engine
When operated	For each IC engine: A. Date. B. Purpose - either maintenance or emergency power. C. Number of hours of operation.
When operated for more than one hour	When operating for maintenance purposes in excess of one (1) hour per day, the daily record shall also include: A. The forecasted AQI for Sacramento County; or B. Description of the electrical distribution system maintenance performed. Electrical distribution system does not include the IC engine or its associated generator.
Quarterly	A. Total number of hours of operation of the IC engine for maintenance purposes. (hours/quarter) B. Total number of hours of operation of the IC engine for all purposes. (hours/quarter)
Yearly	A. Total number of hours of operation of the IC engine for maintenance purposes. (hours/year) B. Total number of hours of operation of the IC engine for all purposes. (hours/year)

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Small Boilers (Heat Input< 5 MMBTU/hr)				
PO No.*	Boiler Description	Location* (Building #)	Use	Fuel Source*
3255	Cleaver Brooks Model # CB189-100 Serial # L-41586 Rating 4.2 MMBtu/hr	20015B	Hot Water	MO2 Meter #29295068 (Natural Gas)
3256	Cleaver Brooks Model # CB189X-80 Serial # L-29651 Rating 3.36 MMBtu/hr	20025A	Hot Water	MO2 Meter #29295068 (Natural Gas)
6440	Cleaver Brooks Model # M4W-2000 Serial # 6-12403-M4 Rating 2.0 MMBtu/hr	00007	Steam	MO5 Meter #30904390 (Natural Gas)
10303	Cleaver Brooks Model # CBH 101-100 Serial # L-44455 Rating 4.2 MMBtu/hr	01023	Steam	MO9 Meter #29797889 (Natural Gas)
10304	Cleaver Brooks Model # CBH 101-100 Serial # L-44454 Rating 4.2 MMBtu/hr	01023	Steam	MO9 Meter #29797889 (Natural Gas)
10305	Ray Husky Model # Unknown Serial # 15244 Rating 2.5 MMBtu/hr	01028	Steam	MO8 Meter #29798230 (Natural Gas)
10306	Ray Husky Model # WR3-40 Serial # B5581 Rating 1.6 MMBtu/hr	01034	Steam	MO7 Meter #30921462 (Natural Gas)
10307	Ray Husky Model # Unknown Serial # NB15499 Rating 1.68 MMBtu/hr	01050	Steam	MO8 Meter #29798230 (Natural Gas)
10308	Johnston Co. Model # 213 Serial # S3262 Rating 1.68 MMBtu/hr	01056	Steam	MO7 Meter #30921462 (Natural Gas)

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

10309	Ray Husky Model # Unknown Serial # 15545 Rating 2.1 MMBtu/hr	01058	Steam	MO7 Meter #30921462 (Natural Gas)
10310	Ray Husky Model # Unknown Serial # 15546 Rating 2.1 MMBtu/hr	01058	Steam	MO7 Meter #30921462 (Natural Gas)
10314	Kewanee Model # 2775 Serial # K3595 Rating 1.26 MMBtu/hr	49011	Steam	MO1 Meter #30706115 (Natural Gas)
10315	Nebraska Model # Unknown Serial # 2-D-1194 Rating 3.6 MMBtu/hr	49015	Steam	MO1 Meter #30706115 (Natural Gas)
10317	Kewanee Co. Model # 2775 Serial # K7122 Rating 1.26 MMBtu/hr	49011	Steam	MO1 Meter #30706115 (Natural Gas)
10319	Ray Husky Model # WR3-100 Serial # B-50765 Rating 4.2 MMBtu/hr	01066	Steam	MO7 Meter #30921462 (Natural Gas)
10321	Ray Husky Model # WR3-70 Serial # B-7936 Rating 2.94 MMBtu/hr	01034	Steam	MO7 Meter #30921462 (Natural Gas)
10322	Ray Husky Model # Unknown Serial # B-7936 Rating 2.94 MMBtu/hr	01023	Steam	MO9 Meter #29797889 (Natural Gas)
10326	Rite Engineering Model # 225S Serial # 818197 Rating 2.1 MMBtu/hr	04038	Steam	T16 Meter #276333 (Propane)
10327	Rite Engineering Model # 225S Serial # 8118198 Rating 2.1 MMBtu/hr	04038	Steam	T16 Meter #276333 (Propane)
10330	Cleaver Brooks Model # CB100-500 Serial # L-75834 Rating 2.1 MMBtu/hr	04058	Steam	T21 Meter #29141 (Propane)

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

10331	Rite Engineering Model # 225SGO Serial # 8318792 Rating 2.1 MMBtu/hr	04038	Steam	T16 Meter #276333 (Propane)
10332	Superior Model # 9053 Serial # N/A Rating 2.5 MMBtu/hr	01028	Steam	M08 Meter #29798230 (Natural Gas)
10333	Ray Husky Model # NB9056 Serial # N/A Rating 3.36 MMBtu/hr	01062	Steam	M07 Meter #30921462 (Natural Gas)
10334	Iron Fireman Model # 36-45-311 Serial # 14661 Rating 2.8 MMBtu/hr	04013	Steam	T13 Meter #276332 (Propane)
10337	ABCO Model # 30C Serial # 8706 Rating 1.26 MMBtu/hr	00006	Steam	M05 Meter #30904390 (Natural Gas)
10339	Ray Husky Model # WR 3100 Serial # B5495 Rating 4.2 MMBtu/hr	01062	Steam	M07 Meter #30921462 (Natural Gas)
10341	Kewanee Model # M235KX Serial # N/A Rating 2.52 MMBtu/hr	04013	Steam	T13 Meter #276332 (Propane)
10342	ABCO Model # 40C Serial # 8867 Rating 1.47 MMBtu/hr	04056	Steam	T19 Meter #276336 (Propane)
10353	Kewanee Model # M-235-KX Serial # 65581 Rating 2.9 MMBtu/hr	20001	Steam	M03 Meter #32706806 (Natural Gas)
10355	Kewanee Model # M95KX Serial # N/A Rating 1.0 MMBtu/hr	01012	Hot Water	T60 Meter #57541 (Propane)
10356	ABCO Model # 50C Serial # 8897 Rating 2.1 MMBtu/hr	46038	Steam	T64 Meter #92628 (Propane)

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

10358	Cleaver Brooks Model # M4W-2000 Serial # G-13445-M4 Rating 2.1 MMBtu/hr	Various Locations (Portable Backup)	Steam	Varies (Propane or Natural Gas)
10361	Ray Husky Model # WR 340 Serial # B-5542 Rating 1.68 MMBtu/hr	00010	Steam	M14 - Currently not connected
12918	Kewanee Model # L3S-70-G Serial # 867701 Rating 3.03 MMBtu/hr	20004	Steam	M03 Meter # (Natural Gas)
12933	ABCO Model # 60C Serial # 8714 Rating 2.52 MMBtu/hr	Various Locations (Portable Backup)	Steam	Varies (Propane or Natural Gas)
13556	Superior Model # 4-5-304 Serial # 8667 Rating 2.5 MMBtu/hr	20019	Hot Water	M03 Meter #32706806 (Natural Gas)
13558	ABCO Model # 30C Serial # 8713 Rating 1.3 MMBtu/hr	20004	Hot Water	M03 Meter #32706806 (Natural Gas)
14603	Hearst Model # 5622 Serial # S500-160-1 Rating 4.25 MMBtu/hr	20019A	Steam	M03 Meter #32706806 (Natural Gas)
16049	Kewanee Model # FB194W-A522 Serial # 648490 Rating 2.1 MMBtu/hr	20002	Hot Water	M03 Meter #32706806 (Natural Gas)

* For reference purposes only – PO #s, equipment location and/or Meter #s are not federally enforceable.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The boilers shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10358, 10361, 12918, 12933, 13556, 13558, 14603, 16049]**
2. Combustion contaminants from each boiler shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10358, 10361, 12918, 12933, 13556, 13558, 14603, 16049]**
3. Emissions from each boiler shall not exceed the following limits:
[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10358, 10361, 12918, 12933, 13556, 13558, 14603, 16049]

PO #10355		
Pollutant	Emission Factor (A) lb/1000 gal	Maximum Allowable Emissions (B) lb/quarter
NOx	15	362
SOx	0.014	.3
CO	2.1	51
ROC	0.6	14
PM10	.5	12

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 91.5 MMBtu/10³ gal, maximum capacity of 1 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

POs # 10314, 10317 & 10337		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	278
SOx	0.6	2
CO	84	234
ROC	5.5	15
PM10	7.6	21

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 1,000 Btu/cf, maximum capacity of 1.26 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #13558		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	287
SOx	0.6	2
CO	84	241
ROC	5.5	16
PM10	7.6	22

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 1,000 Btu/cf, maximum capacity of 1.3 MMBtu/hr, 24 hours/day, 92 days/quarter.

POs # 10342		
Pollutant	Emission Factor (A) lb/1000 gal	Maximum Allowable Emissions (B) lb/quarter
NOx	15	532
SOx	0.014	.5
CO	2.1	74
ROC	0.6	21
PM10	.5	18

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 91.5 MMBtu/10³ gal, maximum capacity of 1.47 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

PO #10306		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	353
SOx	0.6	2
CO	84	297
ROC	5.5	19
PM10	7.6	27

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 1,000 Btu/cf, maximum capacity of 1.6 MMBtu/hr, 24 hours/day, 92 days/quarter.

POs # 10307 & 10308		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	371
SOx	0.6	2
CO	84	312
ROC	5.5	76
PM10	7.6	28

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 1,000 Btu/cf, maximum capacity of 1.68 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO # 10361		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	175
SOx	0.6	1
CO	84	35
ROC	5.5	9
PM10	7.6	9

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 1,000 Btu/cf, maximum fuel usage of 1,750,770 cu. ft. per quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

PO #6440		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	442
SOx	0.6	3
CO	84	371
ROC	5.5	24
PM10	7.6	34

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

(B) Based on 1,000 Btu/cf, maximum capacity of 2 MMBtu/hr, 24 hours/day, 92 days/quarter.

POs #10309, 10310, 10358, & 16049		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	464
SOx	0.6	3
CO	84	390
ROC	5.5	26
PM10	7.6	35

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

(B) Based on 1,000 Btu/cf, maximum capacity of 2.1 MMBtu/hr, 24 hours/day, 92 days/quarter.

POs #10326, 10327, 10330, 10331 & 10356		
Pollutant	Emission Factor (A) lb/1000 gal	Maximum Allowable Emissions (B) lb/quarter
NOx	15	869
SOx	0.014	1
CO	2.1	122
ROC	0.6	35
PM10	.5	29

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

(B) Based on 91.5 MMBtu/10³ gal, maximum capacity of 2.1 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

POs # 10305, 10332 & 13556		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	552
SOx	0.6	3
CO	84	464
ROC	5.5	30
PM10	7.6	42

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 1,000 Btu/cf, maximum capacity of 2.5 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #12933			
POLLUTANT	NATURAL GAS EMISSION FACTOR (A) LB/MMBTU	PROPANE EMISSION FACTOR (B) LB/MGAL	MAXIMUM ALLOWABLE EMISSIONS (C) POUNDS/QUARTER
ROC	5.5	0.5	31
NOx	100	14	852
SOx	0.6	0.02	4
PM10	7.6	0.4	43
CO	84	1.9	468

(A) ROC, NOx, SOx, PM10 and CO emission factors are from AP-42, Table 1.4-2 (9/98).
(B) ROC, NOx, SOx, PM10 and CO emission factors are from AP-42, Table 1.5-1 (9/98).
(C) Based on maximum capacity of 2.52 MMBtu/hr, 24 hours/day, 92 days/quarter and the corresponding emission factor that results in the highest emission (natural gas emission factors for all pollutants except NOx).

PO #10341		
Pollutant	Emission Factor (A) lb/1000 gal	Maximum Allowable Emissions (B) lb/quarter
NOx	15	912
SOx	0.014	1
CO	2.1	128
ROC	0.6	36
PM10	.5	30

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 91.5 MMBtu/10³ gal, maximum capacity of 2.52 MMBtu/hr, 24 hours/day,

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

92 days/quarter.

PO #10334		
Pollutant	Emission Factor (A) lb/1000 gal	Maximum Allowable Emissions (B) lb/quarter
NOx	15	1,014
SOx	0.014	1
CO	2.1	142
ROC	0.6	41
PM10	.5	34

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 91.5 MMBtu/10³ gal, maximum capacity of 2.8 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #10353		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	640
SOx	0.6	4
CO	84	538
ROC	5.5	35
PM10	7.6	49

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 1,000 Btu/cf, maximum capacity of 2.9 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #10321 & 10322		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	649
SOx	0.6	4
CO	84	545
ROC	5.5	36
PM10	7.6	49

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
 (B) Based on 1,000 Btu/cf, maximum capacity of 2.94 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

PO #12918		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	37	122
SOx	0.6	2
CO	291	960
ROC	5.3	18
PM10	12	40

(A) Emission factors for NOx and CO are based on 30 and 400 ppm @ 3% O2, respectively. ROC, SOx, and PM10 from AP-42, Table 1.4-1,2,3 (1/95).

(B) Based on 1,000 Btu/cf, maximum capacity of 3.03 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #10333 & 3256		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	742
SOx	0.6	4
CO	84	623
ROC	5.5	41
PM10	7.6	56

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

(B) Based on 1,000 Btu/cf, maximum capacity of 3.36 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #10315		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	795
SOx	0.6	5
CO	84	668
ROC	5.5	44
PM10	7.6	60

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

(B) Based on 1,000 Btu/cf, maximum capacity of 3.6 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

PO #3255, 10303, 10304, 10319 & 10339,		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	927
SOx	0.6	6
CO	84	779
ROC	5.5	51
PM10	7.6	70

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).
(B) Based on 1,000 Btu/cf, maximum capacity of 4.2 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #14603		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4	342
SOx	0.6	6
CO	296	2,778
ROC	5.28	50
PM10	12	113

(A) NOx and CO emission factors are based on 30 and 400 ppm corrected to 3% O2.
ROC, SOx, and PM10 emission factors are from AP-42, Table 1.4-2 (1/95).
(B) Based on 1,000 Btu/cf, maximum capacity of 4.25 MMBtu/hr, 24 hours/day, 92 days/quarter.

4. Quarterly emissions from all equipment connected to the same meter shall not exceed the following limits: **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10358, 10361, 12918, 12933, 13556, 13558, 14603, 16049]**

Fuel Source	Meter Number	Quarterly Emissions Limits (lbs/quarter)				
		NO _x	SO _x	CO	ROC	PM10
M01	30706115	817	5	163	43	41
M02	29295068	2,090	10	501	56	81
M03	32706806	4,358	27	915	230	523
M05	30904390	253	2	51	13	13
M07	30921462	3,443	20	10178	132	413
M08	29798230	1596	10	3814	89	123

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

M09	29797889	2198	13	6498	84	264
M13		122	2	960	18	40
M14		175	1	35	9	9
K01	N/A	1	4	0.3	0.04	.1
T13	276332	494	1	101	26	25
T16	276333	920	2	188	49	46
T19	276336	211	0.4	43	11	11
T21	29141	237	0.4	49	13	12
T60	57541	87	0.2	18	5	4
T64	92628	118	0.2	24	6	6

EQUIPMENT DESIGN, OPERATION AND MONITORING REQUIREMENT

5. Each fuel source shall monitor total fuel usage for all equipment listed below. [SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10361, 12918, 13556, 13558, 14603, 16049]

Fuel Source	Meter Number	Equipment Description	Local Permit No.
M01	30706115	Boiler	10314
		Boiler	10315
		Boiler	10317
M02	29295068	Boiler	3255
		Boiler	3256
	M02A	Boiler	12357
	M02-13660	Boiler	12358
		Gas Heaters	13660
M03	32706806	Boiler	10353
		Gas Heaters	12127
		Boiler	12918
		Boiler	13556
		Boiler	13558
		Boiler	13560
		Boiler	13561
		Boiler	13562
		Autoclave	13563
		Boiler	14603
		Boiler	15436
		Boiler	16049
M05	30904390	Boiler	6440
		Boiler	10337

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

M07	30921462	Boiler Boiler Boiler Boiler Boiler Boiler Boiler Boiler Boiler Boiler	10306 10308 10309 10310 10319 10321 10333 10339 12364 12366
M08	29798230	Boiler Boiler Boiler Boiler	10305 10307 10332 12363
M09	29797889	Boiler Boiler Boiler Boiler	10303 10304 10322 12367
M14*		Boiler	10361
T13	276332	Boiler Boiler	10334 10341
T16	276333	Boiler Boiler Boiler	10326 10327 10331
T19	276336	Boiler	10342
T21	29141	Boiler	10330
T60	57541	Boiler	10355
T64	92628	Boiler	10356

* Currently disconnected

- Portable replacement boilers shall be fueled from the same fuel source that supplies fuel to the boiler which is being replaced. **[SMAQMD P/Os #10358 & 12933]**
- The combined total fuel usage measured at each fuel source shall not exceed the following: **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10361, 12918, 13556, 13558, 14603, 16049]**

Fuel Source	Meter Number	Maximum Allowable Combined Fuel Usage
M01	30706115	8,170,260 ft ³ of natural gas per calendar quarter
M02	29295068	16,145,990 ft ³ of natural gas per calendar quarter (including fuel usage from M02A but excluding fuel usage from M02-13660 (PO#13660), which is fully offset)
	M02A	11,888,441.8 ft ³ of natural gas per calendar quarter

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

	M02-13660	2,659,574 ft ³ of natural gas per calendar quarter
M03	32706806	43,574,720 ft ³ /quarter (excluding fuel usage from M03-15436 (PO#15436) and M03-12918 (PO# 12918), which are fully offset)
	M03-12918	3,300,000 ft ³ of natural gas per calendar quarter
	M03-15436	18,547,200 ft ³ of natural gas per calendar quarter
M05	30904390	2,528,890 ft ³ of natural gas per calendar quarter
M07	30921462	34,431,810 ft ³ of natural gas per calendar quarter
M08	29798230	16,145,990 ft ³ of natural gas per calendar quarter
M09	29797889	21,981,890 ft ³ of natural gas per calendar quarter
M14		1,750,770 ft ³ of natural gas per calendar quarter
K01	N/A	50 gallons of Kerosene per calendar quarter
T13	276332	56,100 gallons of propane per calendar quarter
T16	276333	104,500 gallons of propane per calendar quarter
T19	276336	24,000 gallons of propane per calendar quarter
T21	29141	27,000 gallons of propane per calendar quarter
T60	57541	9,900 gallons of propane per calendar quarter
T64	92628	13,400 gallons of propane per calendar quarter

8. Except as otherwise allowed under permit conditions 9 and 10, the boilers shall be fired only with the fuel specified below: **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10361, 12918, 13556, 13558, 14603, 16049]**

Type of Fuel	Affected Boilers (by local permit numbers)
Natural Gas	3255, 3256, 6440, 10303, 10304, 10305, 10306, 10307, 10308, 10309, 10310, 10314, 10315, 10317, 10319, 10321, 10322, 10332, 10333, 10337, 10339, 10353, 10358, 10361, 12918, 12933, 13556, 13558, 14603, 16049
Propane	10326, 10327, 10330, 10331, 10334, 10341, 10342, 10355, 10356,

9. Propane fuel from tank #11, located at building 00093, serial #6405 shall be used to fire the boilers under POs #10303-10310, 10319, 10321-10322, 10332-10333, 10339, only in the event that natural gas is unavailable. **[SMAQMD P/O #10303-10310, 10319, 10321, 10322, 10332, 10333 & 10339]**
10. Propane fuel from tank #T69, located at building 49015E, serial #72514 shall be used to fire the boilers under POs #10314-10315, 10317, only in the event that natural gas is unavailable. **[SMAQMD P/O #10314, 10315 & 10317]**

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

11. Quarterly emissions associated with propane usage from tanks #11 and/or T69 shall be calculated based on the emission factors below and shall be added to the quarterly emissions from the affected boiler/fuel source to verify compliance with the emission limits under conditions #3 and 4. **[SMAQMD P/O #10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10332, 10333 & 10339]**

Pollutant	Emission Factor ^(A) lb/1000 gallons of propane
NOx	15
SOx	0.014
CO	2.1
ROC	0.6
PM10	.5

(A) Emission factors for NOx, SOx, CO, ROC, and PM10 from AP-42, Table 1.4-2 (9/98).

12. All quarterly fuel usage constraints imposed on the boiler that is being temporarily replaced shall be in effect for the combined fuel usage of the portable replacement boiler and the boiler being replaced. **[SMAQMD P/Os #10358 & 12933]**
13. The boiler under PO #10358 shall only be utilized as a temporary replacement for a boiler that is permanently connected to a fuel source, and which is being taken out of service for maintenance purposes of because of breakdown. **[SMAQMD P/O #10358]**
14. The portable replacement boiler shall be utilized as a temporary replacement boiler and the portable replacement boiler's maximum rating and potential to emit of any pollutant shall not be greater than the boiler that it replaces. **[SMAQMD P/O #12933]**
15. Aerojet shall monitor the fuel consumption of the portable replacement boiler for each replacement event with the use of an individual fuel meter dedicated to the portable replacement boiler. **[SMAQMD P/Os #10358 & 12933]**

RECORD KEEPING AND REPORTING REQUIREMENTS

16. Records shall be maintained on site of the total quarterly fuel consumption from each fuel source. The records shall be continuously maintained for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter. **[SMAQMD P/Os #3255-6, 6440, 10303-10310, 10314, 10315, 10317, 10319, 10321, 10322, 10326, 10327, 10330-10334, 10337, 10339, 10341, 10342, 10353, 10355, 10356, 10361, 12918, 13556, 13558, 14603, 16049]**

EQUIPMENT SPECIFIC REQUIREMENTS – (39) SMALL BOILERS (< 5 MMBTU/HR)

17. For each portable replacement boiler (POs #10358 & 12933), the following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter. **[SMAQMD P/Os #10358 & 12933]**

Frequency	Information to be Recorded
At the start of a replacement event	A. The location of the boiler that is being replaced. B. The permit number of the boiler that is being replaced. C. The heat input rating of the boiler that is being replaced. D. The fuel consumption limit of the boiler that is being replaced. E. The main fuel source meter identification number that serves the boiler that is being replaced. F. The type of fuel that is being used. G. The starting date of the replacement event. H. The initial fuel meter reading of the portable boiler for the replacement event.
At the completion of a replacement event	A. The final fuel meter reading of the portable boiler for the replacement event. B. The total fuel consumption of the portable boiler for the replacement event.
Quarterly, if the main fuel source meter identified above shows fuel usage in excess of the quarterly limit specified by the permits of the equipment permanently connected to it	A. Subtract the fuel usage of the portable replacement boiler from the quarterly fuel usage as measured by the main fuel source meter identified above. B. If the adjusted fuel consumption is less than the main fuel source meter's limit, then the combination of permanent equipment and the portable replacement boiler is in violation of the permit limits. C. The violation shall be attributed to the portable replacement boiler.
Quarterly, if the portable replacement boiler replaced a boiler with an individual fuel usage constraint	The combined quarterly fuel usage of the portable replacement boiler and the boiler it replaced to verify compliance with the individual fuel usage constraint of the replaced boiler.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Large Boilers (Heat Input \geq 5 MMBTU/hr)				
PO No.*	Boiler Description	Location* (Building #)	Use	Fuel Source*
12357	Cleaver Brooks Model # CB100-500 Serial # L-75836 Rating 20.9 MMBtu/hr	20009	Steam	MO2 Meter #29295068 (Natural Gas)
12358	Cleaver Brooks Model # CB100-500 Serial # L-75835 Rating 20.9 MMBtu/hr	20009	Steam	MO2 Meter #29295068 (Natural Gas)
12363	Husky/Ray Model # WR3-125 Serial # B-5308 Rating 5.25 MMBtu/hr	01096	Steam	MO8 Meter #29798230 (Natural Gas)
12364	Husky/Ray Model # WR3-150 Serial # NB3545 Rating 6.3 MMBtu/hr	01086	Steam	MO8 Meter #29798230 (Natural Gas)
12366	Husky/Ray Model # WR3-150 Serial # NB3548 Rating 6.3 MMBtu/hr	01086	Steam	MO8 Meter #29798230 (Natural Gas)
12367	Husky/Ray Model # Unknown Serial # B-7948 Rating 8.4 MMBtu/hr	01023	Steam	MO9 Meter #29797889 (Natural Gas)
12368	York-Shiple Model #SPH59-125-3 Serial # 60-6194 Rating 6.3 MMBtu/hr	04045	Steam	T13 Propane
12369	York-Shiple Model #SPH59-125-3 Serial # 60-6191 Rating 6.3 MMBtu/hr	04045	Steam	T13 Propane
12370	Cleaver Brooks Model # CB100-125 Serial # L-76910 Rating 5.25 MMBtu/hr	04090	Steam	T23 Propane
12376	ABCO Ind. Model # 125RD	36015	Steam	T54 Propane

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

	Serial # 8712 Rating 5.25 MMBtu/hr			
12377	Cleaver Brooks Model # CB100-125 Serial # L-78698 Rating 5.25 MMBtu/hr	Various Locations (Portable Backup)	Steam	Varies (propane or natural gas)
12378	ABCO Ind. Model # 125A Serial # 8889 Rating 5.25 MMBtu/hr	Various Locations (Portable Backup)	Steam	Varies (propane or natural gas)
12935	Hurst Model # S625-150-16 Serial # 3640 Rating 5.25 MMBtu/hr	Various Locations (Portable Backup)	Steam	Varies (propane or natural gas)
13560	ABCO Ind. Model # 150AFDG-150 Serial # 8963 Rating 6.3 MMBtu/hr	20002	Steam	MO3 Meter #32706806 (Natural Gas)
13561	ABCO Ind. Model # 150AFDG-150 Serial # 8965 Rating 6.3 MMBtu/hr	20002	Steam	MO3 Meter #32706806 (Natural Gas)
13562	ABCO Ind. Model # 150AFDG-150 Serial # 8964 Rating 6.3 MMBtu/hr	20004	Steam	MO3 Meter #32706806 (Natural Gas)
14064	Hurst Model # 5712 Serial # S-625-15-24 Rating 5.0 MMBtu/hr	38008	Steam	001 Meter # (Synthetic Diesel Fuel)
14611	Cleaver Brooks Model # D-26-RH Serial # WG3378 Rating 15.6 MMBtu/hr	38008	Steam	001 Meter # (Synthetic Diesel Fuel)
15436	Hurst Model # 410 Serial # S1000-15-11 Rating 8.4 MMBtu/hr	20004	Steam	Natural Gas
18053	Superior Model # MS5625 Serial # 8812 Rating 5.25 MMBtu/hr	5080	Steam	Natural Gas Propane(backup)

* For reference purposes only – PO #s, equipment location and/or Meter #s are not federally enforceable.

AEROJET
Hwy 50 and Aerojet Road
Rancho Cordova, CA 95670

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EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The boilers shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366-12370, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**
2. Combustion contaminants from each boiler shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD Rule 406, §302]**
3. Emissions from each boiler shall not exceed the following limits:
[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366-12370, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]

PO #12357 & 12358		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4121	432.9
SOx	0.5700	6.8
CO	295.5941	3514.2
ROC	2.7800	33.0
PM10	13.7000	162.9

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on quarterly usage of 11,888,441.8 ft³ of natural gas.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

PO #12363		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4121	587.9
SOx	0.5700	9.2
CO	295.5941	4772.7
ROC	3.8300	61.8
PM10	12.0000	193.8

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on quarterly usage of 16,145,990 ft² of natural gas.

PO #12364 & 12366		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4121	1,253.7
SOx	0.5700	19.6
CO	295.5941	10,177.8
ROC	3.8300	131.9
PM10	12.0000	413.2

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on quarterly usage of 34,431,810 ft² of natural gas.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

PO #12367		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4121	800.4
SOx	0.5700	12.5
CO	295.5941	6,497.7
ROC	3.8300	84.2
PM10	12.0000	263.8

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on quarterly usage of 21,981,890 ft² of natural gas.

PO #12368-12370			
Pollutant	Emission Factor lb/mgal	Maximum Allowable Emissions (A)	
		lb/quarter	lb/year
NOx	8.8	843	843
SOx	0.02	2	2
CO	28.14	2695	2695
ROC	0.36	34	34
PM10	1.11	107	107

- (A) Quarterly and annual emissions limits are based on 95,780 gallons of propane fuel with a heat content of 93,965 Btu/gallon (the equivalent of 90,000 therms) per quarter and per year.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

PO #12376		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	95.52	39.5
SOx	0.57	0.2
CO	775.4988	320.7
ROC	9.7924	4.1
PM10	30.6811	12.7

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on quarterly usage of 11,400 gallons of propane and 36.28 ft³ per gallon (413,592 ft³/qtr)

PO #12377 & 12935			
Pollutant	Natural Gas Emission Factor (A) Lb/Mmcf	Propane Emission Factor (B) Lb/Mgal	Maximum Allowable Emissions (C) Lb/Quarter
NOx	36.4	3.47	428
CO	296	28.1	3471
ROC	5.28	0.490	61
SOx	0.6	0.02	7
PM10	12.0	1.11	139

- (A) NOx and CO emission factors are based on 30 and 400 ppm respectively. ROC, SOx and PM10 emission factors are from AP-42, Table 1.4-2 (1/95).
- (B) NOx and CO emission factors are based on 30 and 400 ppm respectively. ROC, SOx and PM10 emission factors are from AP-42, Table 1.4-2 (1/95). Assume 36.28 cubic feet of propane for every gallon. The ROC and PM10 emission factors are then adjusted to the heat content ratio of propane to methane.
- (C) Based on maximum capacity (5.25 MMBtu/hr), 24 hours per day, 92 days per quarter and the corresponding emission factor which results in the highest emissions

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

PO #12378		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4121	424.5
SOx	0.5700	6.6
CO	295.5941	3446.1
ROC	3.8300	44.6
PM10	12.0000	139.9

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a mass balance with the sulfur content of gaseous fuels of 2000 grains/mmcf. ROC and PM10 emission factors from AP-42 fifth edition.
- (B) Quarterly emissions limits are based on 1,000 Btu/cf, maximum capacity of 5.28 MMBtu/hr, 24 hours/day, 92 days/quarter.

PO #13560, 13561 & 13562		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4	506
SOx	0.6	8
CO	296	4117
ROC	5.5	77
PM10	7.6	106

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx, ROC and PM10 are based on AP-42, Table 1.4-2 (9/98).
- (B) Quarterly emissions limits are based on 1,000 Btu/cf, maximum capacity of 6.3 MMBtu/hr, 24 hours/day, 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

PO #14064			
Pollutant	Emission Factor (A) lb/mgal	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
NOx	7.1	464	464
SOx	1.4	92	92
CO	42.9	2804	2804
ROC	0.34	22	22
PM10	2.0	131	131

- (A) Emission factor for NOx based on 40 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a sulfur content of 0.01% by weight. ROC and PM10 emission factors from AP-42 (1/95).
- (B) Quarterly and annual emissions limits are based on 65,359 gallons of liquid fuel with a heat content of 137,700 Btu/gallon (the equivalent of 90,000 therms) per quarter and per year.

PO #14611		
Pollutant	Emission Factor (A) lb/mgal	Maximum Allowable Emissions (B) lb/quarter
NOx	5.3	800
SOx	1.4	211
CO	42.9	6478
ROC	0.2	30
PM10	2.0	302

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. Emission factor for SOx based on a sulfur content of 0.01% by weight. ROC and PM10 emission factors from AP-42 (9/98).
- (B) Maximum allowable emissions limits are based on 150,999 gallons of liquid fuel per quarter and the emission factor stated.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

PO #15436		
Pollutant	Emission Factor (A) lb/mgal	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4	675
SOx	0.6	11
CO	296	5490
ROC	5.28	98
PM10	12	223

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. ROC, SOx and PM10 emission factors are from AP-42, Table 1.4-2 (1/95).
- (B) Maximum allowable emissions limits are based on 1000 Btu/cf, 8.4 MMBtu/hr, 24 hr/day and 92 days/quarter.

PO #18053 (when fired on natural gas)		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	36.4	422
SOx	0.6	12
CO	295	3,420
ROC	5.5	64
PM10	7.6	88

- (A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. ROC, SOx and PM10 emission factors are from AP-42, Table 1.4-1 and 1.4-2 (9/98).
- (B) Maximum allowable emissions limits are based on natural gas usage of 5,250 cubic feet/hr, 24 hr/day and 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

PO #18053 (when fired on propane)			
Pollutant	Emission Factor (A) lb/mgal	Maximum Allowable Emissions (B)	
		lb/day	lb/quarter
NOx	3.295	4.6	422
SOx	1.5	2.1	192
CO	26.7	37.2	3,420
ROC	0.5	0.7	64
PM10	0.4	0.6	51

(A) Emission factor for NOx based on 30 ppmvd @ 3% O₂. Emission factor for CO based on 400 ppmvd @ 3% O₂. ROC, SOx and PM10 emission factors are from AP-42, Table 1.5-1 (10/96).

(B) Maximum allowable emissions limits are based on a maximum fuel usage of 0.058 mgal of propane/hr, 24 hr/day and 92 days/quarter.

4. Quarterly emissions from all equipment connected to the same meter shall not exceed the following limits: **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366, 13560, 13561, 13562 & 15436]**

Fuel Source	Meter Number	Quarterly Emissions Limits (lbs/quarter)				
		NO _x	SO _x	CO	ROC	PM10
M02A	30706115	433	7	3519	65	90
M03	32706806	4,358	27	915	230	523
M07	30921462	3,443	20	10178	132	413
M08	29798230	1596	10	3814	89	123
M09	29797889	2,198	13	6498	84	264

5. When burning gaseous fuel, the following boilers shall not emit:
A. Nitrogen oxides (NOx) in excess of 30 ppmdv,
B. Carbon monoxide (CO) in excess of 400 ppmdv,
Averaged over a period of 15 consecutive minutes, corrected to 3% O₂. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366, 12367, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**

SMAQMD PO #	Boiler Make & Model	Rating (MMBtu/hr)
12357	Cleaver-Brooks, CB-100-500	20.9
12358	Cleaver-Brooks, CB-100-500	20.9
12363	Husky/Ray, WR3-125	5.25
12364	Husky/Ray, WR3-150	6.3
12366	Husky/Ray, WR3-150	6.3
12367	Husky/Ray, WR3-200	8.4
12376	ABCO, 125RD	5.25

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

12377	Cleaver Brooks, CB-100-125	5.25
12378	ABCO, 125A	5.25
12935	Hurst, SG25-150-16	5.25
13560	ABCO, 150AFDG-150	6.3
13561	ABCO, 150AFDG-150	6.3
13562	ABCO, 150AFDG-150	6.3
14064	Hurst, S 625-15-24	5.0
14611	Cleaver Brooks, D-26-RH	15.6
15436	Hearst, FM-200-D-12	8.4
18053	Superior, 8812	5.25

EQUIPMENT DESIGN, OPERATION AND MONITORING REQUIREMENT:

6. Each fuel source shall monitor total fuel usage for all equipment listed below. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366, 12367, 13560, 13561, 13562 & 15436]**

Fuel Source	Meter Number	Equipment Description	Local Permit No.
M02	30706115	Boiler	3255
		Boiler	3256
		Gas Heaters	13660*
M03	32706806	Boiler	12357
		Boiler	12358
		Boiler	10353
		Gas Heaters	12127
		Boiler	13556
		Boiler	13558
		Boiler	13560
		Boiler	13561
		Boiler	13562
	Autoclave	13563	
	Boiler	14603	
	Boiler	16049	
M03-12918		Boiler	12918*
M03-15436		Boiler	15436*
M07	30921462	Boiler	10306
		Boiler	10308
		Boiler	10309
		Boiler	10310
		Boiler	10319
		Boiler	10321
		Boiler	10333
		Boiler	10339
		Boiler	12364
		Boiler	12366

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

M08	29798230	Boiler Boiler Boiler Boiler	10305 10307 10332 12363
M09	29797889	Boiler Boiler Boiler Boiler	10303 10304 10322 12367

* These units have been fully offset.

7. Boilers not connected to one of the fuel sources listed above shall be equipped with a non-resetting totalizing fuel meter to monitor fuel usage. **[SMAQMD P/Os #12368, 12369, 12370, 12376, 14064, 14611 & 15436]**
8. The portable boilers (SMAQMD permits 12377, 12378 & 12935) shall be operated on a standby basis only. Standby operation is defined as: **[SMAQMD P/Os #12377, 12378 & 12935]**
 - A. The temporary replacement for a boiler which is permanently connected to a fuel source when that boiler is taken out of service for maintenance purposes or because of breakdown, and
 - B. The replacement boiler is fueled from the same fuel source that supplied fuel to the boiler which is being replaced, and
 - C. All quarterly fuel usage constraints imposed on the boiler that is being replaced are in effect for this replacement boiler.
9. The portable boiler under SMAQMD permit number 12935 shall be utilized as a replacement boiler and the portable boiler's maximum rating and potential to emit of any pollutant shall not be greater than the boiler that it replaces. **[SMAQMD P/O #12935]**
10. The combined total fuel usage measured at each fuel source or permit unit shall not exceed the following: **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366-12370, 12376-12378, 12935, 13560-13562, 14064, 14611, & 15436]**

Fuel Source	Meter No.	Local Permit No.	Combined Fuel Usage Limit
M02A	30706115	12357, 12358	Fuel Type: Natural Gas Limit: 11,888,441.8 ft ³ /quarter
M03	32706806	10353, 12127, 13556, 13558, 13560, 13561, 13562, 13563, 14603, 16049	Fuel Type: Natural Gas Limit: 43,574,720 ft ³ /quarter

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (≥ 5 MMBTU/HR)

M07	30921462	10306, 10308, 10309, 10310, 10319, 10321, 10333, 10339, 12364, 12366	Fuel Type: Natural Gas Limit: 34,431,810 ft ³ /quarter
M08	29798230	10305, 10307, 10332, 12363	Fuel Type: Natural Gas Limit: 16,145,990 ft ³ /quarter
M09	29797889	10303, 10304, 10322, 12367	Fuel Type: Natural Gas Limit: 21,981,890 ft ³ /quarter
T13A		12368	Fuel Type: Propane Limit: 95,780 gallons/year
T13B		12369	Fuel Type: Propane Limit: 95,780 gallons/year
T23		12370	Fuel Type: Propane Limit: 95,780 gallons/year
T54		12376	Fuel Type: Propane Limit: 11,400 gallons/quarter
O01A		14064	Fuel Type: Synthetic Diesel Limit: 65,359 gallons/quarter 65,359 gallons/year
O01B		14611	Fuel Type: Synthetic Diesel Limit: 150,999 gallons/quarter
MO3-15436		15436	Fuel Type: Natural Gas Limit: 18,547,200 ft ³ /quarter

11. Use of propane fuel in boilers under SMAQMD permit numbers 12368, 12369 & 12370 is limited to less than 90,000 therms (95,780 gallons) per year. **[SMAQMD P/Os #12368, 12369 & 12370]**
12. Except as provided by condition number 13, the boilers shall be fired only with the fuel specified below: **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366-12370, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**

Type of Fuel	Affected Boilers (by local permit numbers)
Natural Gas	12357, 12358, 12363, 12364, 12366, 12367, 12377, 12378, 12935, 13560, 13561, 13562, 15436, 18053
Propane	12368, 12369, 12370, 12376, 12377, 12378, 12935, 18053
Synthetic Diesel	14064, 14611

13. Propane from Tank #11, located at building 00093, Serial #6405 shall only be used in boilers PO #12363, 12364, 12366, and 12367 in the event that natural gas is unavailable. Fuel usage and emissions associated with the use of propane shall be quantified and added to the fuel usage (converted based on BTU content) and emission limits associated with each of the boilers. **[SMAQMD P/Os #12363, 12364, 12366 & 12367 and Rule 207, §305.1]**

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

14. Except as provided by Condition 15, boilers under SMAQMD permit numbers 12368, 12369 & 12370 shall be tuned at least once per year in accordance with the procedure described in Attachment A in SMAQMD Rule 411 – BOILER NOX. **[SMAQMD P/Os #12368, 12369 & 12370]**
15. It is not necessary to perform annual tune-ups on boilers that have been inactive for any given year. Conversely, if a boiler that is subject to the tune-up requirements is operated during any given year, a tune-up must be performed during the year in which the unit was operated. **[SMAQMD Rule 411 and 7/1/99 clarification letter from D. Grose, SMAQMD to C. Craig, Aerojet]**

RECORD KEEPING:

16. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter or year respectively. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366-12370, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**

Affected Permits	Frequency	Information to be Recorded
12357 12358	Quarterly	Combined fuel usage for all equipment connected to fuel source M02A, including portable replacement boilers (ft ³ /quarter).
12363	Quarterly	Combined fuel usage for all equipment connected to fuel source M08, including portable replacement boilers (ft ³ /quarter).
12364 12366	Quarterly	Combined fuel usage for all equipment connected to fuel source M07, including portable replacement boilers (ft ³ /quarter).
12367	Quarterly	Combined fuel usage for all equipment connected to fuel source M09, including portable replacement boilers (ft ³ /quarter).
12276	Quarterly	Combined fuel usage for all equipment connected to fuel source T54, including portable replacement boilers (gallons/quarter).

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

Affected Permits	Frequency	Information to be Recorded
12377 12378 12935	At the start of a replacement event	A. Location of the boiler being replaced. B. Reason for replacement. C. Permit to Operate number of boiler being replaced. D. Starting date of replacement. E. Type of fuel used & fuel source connected to. F. The initial fuel meter reading of the portable boiler for this replacement event.
	At the completion of a replacement event	A. The final fuel meter reading of the portable boiler for this replacement event. B. The total fuel consumption of the portable boiler for this replacement event.
	Quarterly, if any of the main fuel meters recorded above have fuel usages in excess of their quarterly limits as specified by the permits of the equipment permanently connected to these meters	Aerojet shall subtract the fuel usage recorded for this portable boiler for the fuel source meter in question from the quarterly fuel usage that is in excess. If the adjusted fuel consumption is less than that fuel source meter's limit, then the combination of permanent equipment and this portable boiler is in excess and the violation shall be attributed to this portable boiler.
	Quarterly, if the portable replacement boiler replaced a boiler with an individual fuel usage constraint	Aerojet shall record the combined quarterly fuel usages of the portable replacement boiler and the boiler it replaced to verify compliance with the individual fuel usage constraint of the replaced boiler
13560 13561 13562	Quarterly	Combined fuel usage for all equipment connected to fuel source M03, including portable replacement boilers.
14064	Quarterly	Fuel consumption (gallons/quarter).
	Yearly	Fuel consumption (gallons/year).
14611	Quarterly	Fuel consumption (gallons/quarter).
15436 18053	N/A	No record keeping required because boiler is permitted for maximum capacity, 24 hrs/day, 92 days/quarter.
12368 12369 12370	Yearly	Fuel consumption (gallons/year).

EQUIPMENT SPECIFIC REQUIREMENTS – (19) LARGE BOILERS (\geq 5 MMBTU/HR)

EMISSIONS TESTING:

17. The emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen (O₂) shall be tested every odd year to verify compliance with condition number 5. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366, 12367, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**
- A. Submit a source test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
 - B. Notify the Air Pollution Control Officer at least 7 days prior to the source test date.
 - C. During source testing, the boiler shall be operated at full load (\geq 90%) unless an alternative boiler load has been approved in writing by the Air Pollution Control Officer.
 - D. Submit the source test report to the Air Pollution Control Officer within 60 days from the completion of the source test(s).
18. Emission testing methods shall be those specified in Section 501 of Rule 411 – BOILER NOX. **[SMAQMD P/Os #12357, 12358, 12363, 12364, 12366, 12367, 12376-12378, 12935, 13560-13562, 14064, 14611, 15436, & 18053]**
- A. Oxides of nitrogen – ARB Method 100 or EPA Method 7E
 - B. Carbon monoxide – ARB Method 100 or EPA Method 10
 - C. Stack gas oxygen – ARB Method 100 or EPA Method 3A
 - D. Carbon dioxide – ARB Method 100 or EPA Method 3A

EMISSIONS OFFSETS:

19. Aerojet has surrendered the following emission reduction credits (ERCs) to offset the maximum allowable emissions for the operation of this boiler. The credits shall be valid for use from January 1, 2005 until December 31, 2019. **[SMAQMD P/O #18053]**

Pollutant	Amount of emission reduction credits to be surrendered to the Air Pollution Control Officer (lb/quarter)				
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total, lb/year
ROC	83.2	83.2	83.2	83.2	332.8
NO _x	548.6	548.6	548.6	548.6	2,194.4
PM ₁₀	114.4	114.4	114.4	114.4	457.6

20. Operation of this boiler will not allowed under this permit after December 31, 2019. **[SMAQMD P/O #18053]**

EQUIPMENT SPECIFIC REQUIREMENTS – (1) AUTOCLAVE UNIT

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Autoclave		
Local PO #*	Equipment Description	Location* (Building #)
13563	Make: Thermal Equipment Corporation Model: 8734, Serial #352 Fuel: Natural Gas Rating: 1.8 MMBtu/hr	20004

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The autoclave shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD P/Os #13563]**
2. Combustion contaminants from the autoclave shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD P/Os #13563]**
3. Emissions from the autoclave shall not exceed the following limits:**[SMAQMD P/Os #13563]**

PO #13563		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) lb/quarter
NOx	100	398
Sox	0.6	2
CO	84	334
ROC	5.5	22
PM10	7.6	30

A. Emission factor for NOx, Sox CO, ROC, and PM10 are based on AP-42, Table 1.4-2, 9/98.
 B. Based on 1000 Btu/cf, maximum capacity of 1.8 MMBtu/hr, 24 hrs/day and 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS – (1) AUTOCLAVE UNIT

4. Fuel source M03 (Meter Number 32706806), described in Aerojet's NOx plan dated 6/18/92, shall monitor the combined natural gas usage of the following equipment.

[SMAQMD P/Os #13563]

Fuel Source	Meter Number	Equipment Description	Local Permit No.
M03	32706806	Boiler	10353
		(36) Space Heaters	12127
		Boiler	12918
		Boiler	13556
		Boiler	13558
		Boiler	13560
		Boiler	13561
		Boiler	13562
		Autoclave	13563
		Boiler	14603
		Boiler	15436
		Boiler	16049

5. The combined natural gas fuel usage measured at fuel source M03, meter number 32706806, shall not exceed: **[SMAQMD P/Os #13563]**

Equipment	Maximum Allowable Combined Natural Gas Fuel Usage as Measured at the Fuel Source M03 (A) (cubic feet/quarter)
All equipment listed in condition number 4	43,574,720

- A. Excluding the separately metered usage of natural gas for boiler PO #15436 and the separately metered usage of natural gas for boiler PO #12918

6. The autoclave shall use natural gas fuel only. **[SMAQMD P/Os #13563]**

RECORD KEEPING:

7. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter.

[SMAQMD P/Os #13563]

Record Keeping Requirements	
Frequency	Information to be Recorded

EQUIPMENT SPECIFIC REQUIREMENTS – (1) AUTOCLAVE UNIT

Quarterly	A. Total fuel usage by boiler PO#15436 (cu. Ft. per qtr) B. Total fuel usage by boiler PO#12918 (cu. Ft. per qtr) C. Combined fuel usage, measured at fuel source M03, for all equipment listed in condition no. 5 (cu. Ft. per qtr) D. Combined fuel usage, measured at fuel source M03, excluding the usage by boiler, PO # 15436 and boiler, PO #12918 (cu. Ft. per qtr)
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EQUIPMENT SPECIFIC REQUIREMENTS – (60) SPACE HEATERS

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Space Heaters		
Local PO #*	Equipment Description	Location* (Building #)
12127	Make: Lambert/Raznor Model: Various Models Fuel: Natural Gas Number of Units: 36 @ 0.1 MMBtu/hr each Rating: 3.6 MMBtu/hr (combined total)	20022
13660	Make: Various Makes Model: Various Models Fuel: Natural Gas Number of Units: 24 Rating: 3.015 MMBtu/hr (combined total)	20015

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The heaters shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD P/Os #12127 & 13660]**
2. Combustion contaminants from each heater shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas calculated to 12% CO₂ at standard conditions. **[SMAQMD P/Os #12127 & 13660]**

EQUIPMENT SPECIFIC REQUIREMENTS – (60) SPACE HEATERS

3. Emissions from each heater shall not exceed the following limits:**[SMAQMD P/Os #12127 & 13660]**

PO #12127		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) Lb/quarter
NOx	100	795
SOx	0.6	5
CO	84	668
ROC	5.5	44
PM10	7.6	60

- (A) Emission factor for NOx, SOx CO, ROC, and PM10 are based on AP-42, Table 1.4-2, 9/98.
 (B) Based on 1000 Btu/cf, maximum capacity of 3.6 MMBtu/hr, 24 hours/day and 92 days/quarter.

PO #13660		
Pollutant	Emission Factor (A) lb/mmcf	Maximum Allowable Emissions (B) Lb/quarter
NOx	94	250
SOx	0.6	2
CO	296	787
ROC	11	29
PM10	11.17	30

- (A) Emission factor for NOx, SOx CO, ROC, and PM10 are based on AP-42, Tables 1.4-1, 1.4-2, 1.4-3 10/96.
 (B) Quarterly emissions are based on 2,659,574 cubic feet per quarter.

EQUIPMENT OPERATION:

4. The use of natural gas in the heaters serving building 20015 shall not exceed the following:
[SMAQMD P/Os #13660]

Emissions Unit	Maximum Allowable Fuel Consumption (cubic feet/qtr)
PO #13660	2,659,574

EQUIPMENT SPECIFIC REQUIREMENTS – (60) SPACE HEATERS

5. Fuel source M03 (Meter Number 32706806), described in Aerojet's NOx plan dated 6/18/92, shall monitor the combined natural gas usage of the following equipment. **[SMAQMD P/Os #12127]**

Fuel Source	Meter Number	Equipment Description	Local Permit No.
M03	32706806	Boiler	10353
		(36) Space Heaters	12127
		Boiler	12918
		Boiler	13556
		Boiler	13558
		Boiler	13560
		Boiler	13561
		Boiler	13562
		Autoclave	13563
		Boiler	14603
		Boiler	15436
		Boiler	16049

6. The combined natural gas fuel usage measured at fuel source M03, meter number 32706806, shall not exceed: **[SMAQMD P/Os #12127]**

Equipment	Maximum Allowable Combined Natural Gas Fuel Usage as Measured at the Fuel Source M03 (A) (cubic feet/quarter)
All equipment listed in condition number 5	43,574,720

(A) Excluding the separately metered usage of natural gas for boiler PO #15436 and the separately metered usage of natural gas for boiler PO #12918

7. The space heaters shall use natural gas fuel only. **[SMAQMD P/Os #12127 & 13660]**
8. A non resetting totalizing fuel meter (or meters) shall be installed to monitor quarterly fuel consumption by the space heaters in Building 20015. **[SMAQMD P/Os #13660]**

RECORD KEEPING:

9. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter. **[SMAQMD P/Os #12127 & 13660]**

EQUIPMENT SPECIFIC REQUIREMENTS – (60) SPACE HEATERS

Record Keeping Requirements		
PO #	Frequency	Information to be Recorded
12127	Quarterly	E. Total fuel usage by boiler PO#15436 (cu. ft. per qtr) F. Total fuel usage by boiler PO#12918 (cu. ft. per qtr) G. Combined fuel usage, measured at fuel source M03, for all equipment listed in condition no. 5 (cu. ft. per qtr) H. Combined fuel usage, measured at fuel source M03, excluding the usage by boiler, PO # 15436 and boiler, PO #12918 (cu. ft. per qtr)
13660	Quarterly	Quarterly fuel consumption (cu. ft. per qtr) in order to demonstrate compliance with conditions no. 3 and 4.

EMISSION REDUCTION CREDITS:

10. Aerojet shall maintain sufficient emission reduction credits to fully offset the following NOx and ROC emission liability. **[SMAQMD P/Os #13660]**

Pollutant	Qtr 1 (lb/qtr)	Qtr 2 (lb/qtr)	Qtr 3 (lb/qtr)	Qtr 4 (lb/qtr)
NOx	250	250	250	250
ROC	29	29	29	29

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

ROCKET TESTING		
Local PO #*	Equipment Description	Location* (Building #)
66	Horizontal Test Stand, W-4, for static firing of rocket test motors.	46100(W4)
68	Horizontal Test Stand, J-1A, for simulated altitude firing of rocket test motors.	J-Zone 38000
71	Horizontal Test Stand, T4, for static firing of igniters and small rocket motors.	46035
2041	Test Stands, Zone J, for static firing of liquid rocket motors.	J-Zone Area 38 Bldg 38090
8633	Oxidizer flare stack venting the run tank and supply lines from the tank safety valve to the thrust chamber assembly valve when fluorides are present.	
8641	Fuel flare stack venting the run tank and supply lines from the tank safety valve to the thrust chamber assembly valve when diborane fuels are tested.	
9284	APC scrubbing system venting hydrazines and nitrogen tetroxide emissions from rocket component testing and propellant transfer, consisting of: 1. One (1) fuel scrubber: 10 ft long x 6 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 2. One (1) oxidizer scrubber: 10 ft long x 6 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 3. Associated piping, scrubbing liquor storage tanks.	

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

8263	Rocket Engine Test Stands (Liquid & Solid), Zone A	Zone A
9328	APC scrubbing system venting hydrazine and nitrogen tetroxide emissions rocket component testing and propellant transfer, consisting of: 1. One (1) fuel scrubber: 12 ft long x 18 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 2. One (1) oxidizer scrubber: 10 ft long x 18 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 3. Associated piping, scrubbing liquor storage tanks.	
8534	Rocket Engine Test Stands, Zone E, and its associated fuel flare stacks venting the LH ₂ run tank(s)	Zone E
12164	Rocket Engine Test Stand, E-5	Zone E, Test Stand E-5
17638	Test Stand, Solid Rocket Motor, Capable of Securing a 98,000 lb of Propellant Motor.	P-3 46030
18853	Horizontal Test Stand, T3, for static firing of igniters and small rockets.	46035
18859	Horizontal Test Stand, T2, for static firing of igniters and small rockets.	46035

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

- Rocket testing, fuel and oxidizer scrubbing system, and/or flaring stacks shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**
- Emissions from the rocket testing, fuel and oxidizer scrubbing system, and/or flaring shall not exceed the following limits:**[SMAQMD Rule 201, §305 and Rule 207, §305]**

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

Rocket Testing						
Permit No.	Pollutant	Emission Factor lb/lb propellant ^(A)	Maximum Allowable Emissions		Max Allowable Propellant	
			lb/day	lb/yr	lb/day	lb/yr
66	NOx	0.0	0	0	18,000	728,324
	CO	0.23	4,140	167,515		
	PM10	0.37	6,660	269,480		
	HCl	0.20	3,600	145,665		
68	NOx	0.0	0	0	60,000	606,390
	CO	0.23	13,800	139,470		
	PM10	0.37	22,200	224,364		
	HCl	0.20	12,000	121,278		
71	NOx	0.0	0	0	2,000	144,802
	CO	0.23	460	33,304		
	PM10	0.37	740	53,577		
	HCl	0.20	400	28,960		
2041	CO	Depends on fuel	2,250 lb/qtr		N/A	
8633 8641	Fluorides	Depends on fuel	16 lb/day w/PO#8534			
9284	ROC	0.0061	6.6 lb/qtr (assumes a 99.39% efficiency for the fuel scrubber)			
	NOx	0.333	248.8 lb/qtr (assumes a 66.7% efficiency for the oxidizer scrubber)			
8263 Solid	NOx	0.0	0	N/A	50	N/A
	CO	0.23	12	N/A		
	PM10	0.37	19	N/A		
	HCl	0.20	10	N/A		
8263 Liquid	CO	Depends on fuel/Based on Tran 72	6,179 lb/qtr		N/A	
9328	ROC	4E-5	0.0028 lb/qtr (assumes a 99.996% efficiency for the fuel scrubber)			
	NOx	0.333	76.3 lb/qtr (assumes a 66.7% efficiency for the oxidizer scrubber)			

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

Rocket Testing						
Permit No.	Pollutant	Emission Factor lb/lb propellant ^(A)	Maximum Allowable Emissions		Max Allowable Propellant	
			lb/day	lb/yr	lb/day	lb/yr
8534	CO	Depends on fuel	1,800 lb/test & 3,600 lb/day		N/A	
	Fluorides	Depends on fuel	16 lb/day w/PO #8633			
12164	CO	348 lb/sec	62,640 lb/test & 67,899 lb/day		N/A	
17638	NOx	0	0	0	98,000	294,000
	CO	0.237	23,234	69,702		
	ROC	0	0	0		
	Sox	0	0	0		
	PM10	0.359	35,185	105,555		
	HCl	0.209	20,524	61,572		
18853 & 18859	NOx	0.00	0	0	300	3000
	CO	0.23	69	690		
	PM10	0.37	111	1,110		
	HCl	0.20	60	600		

(A) Emission factor based on data submitted with original permit application and other information submitted by Aerojet.

- The combined emissions from the J Zone testing, E Zone testing, and/or flaring shall not exceed 16 pounds per day of fluorides. **[SMAQMD P/O #8534, 8633]**

EQUIPMENT OPERATION:

A-Zone, E-Zone, G-Zone, and J-Zone Control Devices:

Flares:

- E-Zone testing with hydrogen or gaseous hydrocarbon fuels, J-Zone testing with diborane fuels or fluoride oxidizers, and/or fuel oxidizer flaring shall operate only when the flare propane pilot system is in operation. **[SMAQMD P/O #8534, 8641, 8633]**

Scrubbers:

- When in operation, the concentration of hydrazine in the scrubbing solution to be used in the fuel scrubber shall be tested at least monthly. **[SMAQMD P/O #9328 & 9284]**

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

6. The concentration of hydrazine in the scrubbing solution of the fuel scrubber shall not exceed 15%. **[SMAQMD P/O #9328 & 9284]**
7. When in operation, the total nitric acid concentration in the scrubbing solution to be used in the oxidizer scrubber shall be tested at least monthly. **[SMAQMD P/O #9328 & 9284]**
8. When in operation, the total nitric acid concentration in the scrubbing solution to be used in the oxidizer scrubber shall not exceed 15%. **[SMAQMD P/O #9328 & 9284]**

E-Zone, Test Stand E-5:

9. The maximum test duration at the E Zone, Rocket Engine Stand E-5 shall not exceed 180 seconds per day. **[SMAQMD P/O #12164]**
10. The E-Zone test stand E-5 shall not operate more than the following: **[SMAQMD P/O #12164]**
 - a. 1 test or tests per 8-hour period that does not exceed 65 seconds I duration cumulatively, or no more than 1 test of greater than 65 and less than or equal to 180 seconds in any 24 hour period.
 - b. 3 days per week
11. No tests of greater than 65 seconds in duration shall be performed under stable meteorological conditions. **[SMAQMD P/O #12164]**
12. Stable meteorological condition is defined as night time with 90 meter wind speeds of less than 5 meters per second. Night time is defined as the period from 1 hour before sunset to 1 hour after sunrise. **[SMAQMD P/O #12164]**
13. No test greater than 65 seconds and less than or equal to 180 seconds in duration shall be performed under the following conditions. **[SMAQMD P/O #12164]**
 - a. Any wind from 247° to 337° (WSW to NNW)
 - b. Winds from 202° to 247° (SSW to WSW) if wind speed is greater than 5 meters per second (11 mph).
14. The wind speed and direction data shall be obtained from the Doppler acoustic sounding system at an elevation of 90 meters. Before a rocket test of duration greater than 65 seconds and less than 180 seconds can be performed, Aerojet shall obtain and record consecutive rolling 15-minute averaged readings taken every 5 minutes and 5 out of 6 consecutive readings (15-minute rolling average taken every 5 minutes) shall conform to the constraints listed in condition #13. The 6th or final reading shall conform to the constraints listed in condition #13. The actual firing of the rocket shall commence within 5 minutes from achieving the necessary meteorological readings, as mentioned above, that conform to the constraints listed in condition #15. **[SMAQMD P/O #12164]**

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

P-Zone:

15. Aerojet’s Responsible official shall comply with all applicable requirements contained in Subpart A of 40 CFR, Part 63. **[40 CFR, Part 63, Subpart P P P P P]**
16. The P-Zone test stand shall not operate more than 1 test per 24-hour period. **[SMAQMD P/O #17638]**
17. No more than a total of three test firings shall be performed under this permit. **[SMAQMD P/O #17638]**
18. Testing will occur only during daylight hours. Daylight hours are defined as one hour after sunrise to one hour before sunset. **[SMAQMD P/O #17638]**
19. Testing will not occur under the following horizontal wind conditions: **[SMAQMD P/O #17638]**
 - A) Any wind that is greater than 10 m/sec, or
 - B) Winds from 110° to 225° if the horizontal wind speed is greater than 2 m/sec

The wind speed and direction shall be obtained from the Doppler acoustic sounding system at an elevation of 200 meters to 300 meters. And shall be monitored and recorded 15 minutes and 5 minutes prior to the scheduled test.
20. Testing shall not occur if a “Spare the Air” advisory has been forecasted for the date of the test. **[SMAQMD P/O #17638]**

RECORD KEEPING:

21. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. **[SMAQMD P/O #66, 68, 71, 2041, 8263, 8534, 8633, 8641, 9284, 9328, 12164 & 17638, 18853, & 18859]**

Record Keeping Requirements		
PO #	Frequency	Information to be Recorded
66, 68, 71, 8263, 17638, 18853, 18859	Whenever firing the solid rocket motor.	A. Date B. Test duration time (seconds) C. Types of fuel tested/used D. Quantity of fuel burned E. Expected carbon monoxide emissions
2041, 8263,	Whenever firing the liquid rocket	A. Date B. Starting time (POs #12164 only)

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

8534, 12164	engine	C. Test duration time (seconds) D. Types of fuel tested/used E. Quantity of fuel burned F. Expected carbon monoxide emissions
9284 9328	Whenever propellant is vented to the scrubber	A. Monthly estimate of hydrazine and nitrogen tetroxide (N ₂ O ₄) usage on the test stands. B. Monthly analysis of nitric acid in the oxidizer scrubbing solution. C. Monthly analysis of hydrazines in the fuel scrubbing solution. D. Date and time scrubbing liquor is removed and replaced. E. Calculation sheets showing how the emissions from the scrubbers are determined and the monthly emissions quantities.
2041 8534 8633	Whenever firing the rocket engine or flaring with fluoridated oxidizers	A. Types of fluorides used B. Expected daily hydrogen fluoride emissions from all the permits (2041, 8534, 8633) combined.
8641	Whenever firing the rocket engine or flaring with Diborane fuels	A. Amount of Diborane fuel used
12164	When conducting tests with a duration of more than 65 sec and less than 180 sec	A. Time of Test. B. 90 meters wind speed and directions as stated in condition 16.
17638	When conducting tests	A. Time of test. B. The meteorological conditions (wind speed and direction) as stated in Condition 21.
	Quarterly	Quarterly emissions (lb/qtr) of CO, PM10 and HCl
	Annually	Annual emissions (lb/year) of CO, PM10 and HCl

EQUIPMENT SPECIFIC REQUIREMENTS – ROCKET TESTING

EMISSION REDUCTION CREDITS:

22. The following PM10 ERCs have been provided by the permittee to comply with the Rule 202 New Source Review offset requirement s: **[SMAQMD P/O #18853 & 18859]**

ERC No.	Loan Term Ends	Face value of ERC certificates surrendered lb PM10/quarter	Offset Ratio	Value applied to the project emission liability lb PM10/quarter
C06-1-001	04/01/2026	1,332	1.2	1,110

23. In lieu of providing emission reduction credits to offset PM10 emissions as required by Rule 202, Section 302, Aerojet shall pay a fee of \$137,086 to the District prior to each of the first two rocket tests and \$107,927 prior to the third test. These fees have been calculated pursuant to the Clean Air Act, Title I, Part D, Subpart 1, Section 173(e)(4) and utilizing the following assumptions: **[SMAQMD P/O #17638]**
- A) For the first two tests, which were authorized in October 2002, the average cost of stationary source control measures over the previous three years was \$5,195/ton. For the third test, which was applied for in March 2004, the average cost of stationary source control measures over the previous three years was \$4,090/ton.
 - B) The incremental increase in emissions beyond Aerojet's permitted levels has been determined to be 17.592 tpy per test.
 - C) Statutory maximum multiplication factor of 1.5

EQUIPMENT SPECIFIC REQUIREMENTS – (7) ABRASIVE BLASTING

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Abrasive Blasting Equipment		
Local PO #*	Equipment Description	Location* (Building #)
6385	<u>Abrasive Blasting Unit:</u> Make: Progressive Blasting Systems Type: Semi-automatic Abrasive Blaster Serial No.: 6304 Rating: 176 hp	20004
6386	<u>Baghouse:</u> Make: Progressive Blasting Systems Model: C Serial No.: 6304 Filter Cloth Area: 600 sq ft Blower Rating: 10 hp	
8532	<u>Abrasive Blasting Unit:</u> Make: Pauli & Griffin Model: PRAM 31 Serial No.: 109 Rating: 2 hp <u>Baghouse:</u> Make: Pauli & Griffin Model: SCWB-2452 Blower Rating: 2 hp	20004
8732	<u>Abrasive Blasting Unit:</u> Make: Clemco Model: Flo-Flor (20 ft x 12 ft x 8 ft) Blaster Model: SC 2452 Rating: 2.75 hp	20120
8733	<u>Baghouse:</u> Make: Clemco Model: 2880 Filter Cloth Area: 2880 sq ft Rating: 20.75 hp	

EQUIPMENT SPECIFIC REQUIREMENTS – (7) ABRASIVE BLASTING

9963	<u>Abrasive Blasting Unit:</u> Make: Pauli & Griffin Model: PRAM 31 Serial No.: 218 Rating: 2 hp <u>Baghouse:</u> Make: Pauli & Griffin Filter Cloth Area: 450 sq ft (cartridge type) Blower Rating: 2 hp	20004
9964	<u>Abrasive Blasting Unit:</u> Make: Pauli & Griffin Model: PRAM 31 Serial No.: 212 <u>Baghouse:</u> Make: Pauli & Griffin Filter Cloth Area: 450 sq ft (cartridge type) Blower Rating: 2 hp	01012

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]**
2. Particulate matter emissions from the baghouses shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot. **[SMAQMD Rule 404, §301]**

EQUIPMENT SPECIFIC REQUIREMENTS – (7) ABRASIVE BLASTING

3. PM10 emissions from each unit shall not exceed the following limits:
[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]

SMAQMD Permit Number		PM10 Emission Limit		
Abrasive Blasting Unit	Associated Baghouse	lb/day	lb/quarter	lb/year
6385	6386	0.04	3.7	15
6560	N/A (unconfined)	5.40	496.8	1971
8532	Same (8532)	0.72	66.2	263
8732	8733	0.72	66.2	263
9963	Same (9963)	1.8	165.6	657
9964	Same (9964)	1.8	165.6	657

EQUIPMENT DESIGN, OPERATION AND MONITORING REQUIREMENTS:

4. Operation of this equipment must be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below. **[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]**
5. The equipment must be properly maintained and kept in good operating condition at all times. **[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]**
6. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the Rules and Regulations of the Air Quality Management District. **[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]**
7. The air pollution control system (baghouse) shall operate whenever the abrasive blasting system is in operation. **[SMAQMD PO #6385, 6386, 8532, 8732, 8733, 9963, 9964]**
8. The baghouse shall have a pressure differential gauge with a readout easily accessible to operating personnel. **[SMAQMD PO # 8733]**
9. The filter bags shall be maintained in good operating condition at all times, so that the pressure drop across them never exceed 4 inches of water pressure. **[SMAQMD PO # 8733]**
10. The filter bags shall be maintained in good operating condition at all times, so that the pressure drop across them never exceed 6 inches of water pressure. **[SMAQMD PO # 9963 & 9964]**
11. The filter cloth shall be shaken upon completion of each day's operation. **[SMAQMD PO # 8532]**

EQUIPMENT SPECIFIC REQUIREMENTS – (7) ABRASIVE BLASTING

12. The airflow permeability of the filter bags, as determined by ASTM Method D737-69, shall not exceed 30 ft³/min/ft². **[SMAQMD PO # 8733]**
13. The weight or type of filter bags used in the baghouse shall not be changed without the consent of the Air Pollution Control Officer. **[SMAQMD PO # 8733]**
14. All ducting, conveyors, and related handling and storage equipment shall be maintained to prevent fugitive emissions. **[SMAQMD PO # 8733]**
15. Baghouse discharge of collected material shall be into a covered container and any transfer of this material shall be performed in such a manner as to prevent fugitive emissions. **[SMAQMD PO # 8532, 8733, 9963, & 9964]**

EQUIPMENT SPECIFIC REQUIREMENTS – GRINDING SYSTEMS

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

GRINDING SYSTEMS		
Oxidizer Grinding:		
Local PO #*	Equipment Description	Location* (Building #)
157	Air Pollution Control System: A. Rotoclone #1, American Filter, Wet Dynamic Type, Model W, 20 hp B. Exhaust System Venting Microatomizer and 2 DH Micropulverizer Processes	01103
158	Air Pollution Control System: A. Rotoclone #2, American Filter, Wet Dynamic Type, Model W, 20 hp B. Exhaust System Venting Raymond Mill and 2 DH Micropulverizer Processes	01103
1401	The grinding system is used to grinding various types of oxidizers. The system is vented through a water wash system located on top of the roof. The grinding system is operated remotely and consists of: A. Microatomizer process: 1. Conveying air blower-001, 220 cfm, 15 hp 2. Tote bin tilter-001, 74 cu ft 3. Feeder valve-001, 0.5 hp 4. Conveying air blower-004, 220 cfm, 15 hp 5. Tote bin tilter-004, 74 cu ft 6. Feeder valve-004, 0.5 hp 7. Feed bin-004, 78 cu ft , discharging to micro atomizer w/pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone #1 (PO#157) via blower-004, 500 cfm, 2.0 hp 8. Microatomizer, No. 8, 100 hp 9. Product bin-006, 100 cu ft, w/pulsaire baghouse, 914 sq ft of cloth area, vented to Rotoclone #1 (PO # 157) via blower-006, 6520 cfm, 30 hp 10. Bin activator-002, 2 hp 11. Feeder valve-008, 1.0 hp discharge to weigh station No. 1	01103

EQUIPMENT SPECIFIC REQUIREMENTS – GRINDING SYSTEMS

	<ul style="list-style-type: none"> 12. Product bin-010, 100 cu ft, w/pulsaire dust collector, 914 sq ft of filter cloth area, vented to Rotoclone #2 (PO#158) via blower-010, 6520 cfm, 30 hp 13. Bin activator-006, 2.0 hp 14. Feeder valve-012, 1.0 hp, discharge to weigh station No. 2 B. 2 DH Micropulverizer process: <ul style="list-style-type: none"> 1. Conveying air blower-001, 220 cfm, 15 hp 2. Tote bin tilter-001, 74 cu ft 3. Feeder valve-001, 0.5 hp 4. Conveying air blower-004, 220 cfm, 15 hp 5. Tote bin tilter-004, 74 cu ft 6. Feeder valve-004, 0.5 hp 7. Feed bin-002, 78 cu ft , discharging to 2 DH micropulverizer w/ pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone #1 (PO#157) via blower-002, 500 cfm, 2.0 hp 8. 2DH Micropulverizer, MP-002, 15 hp 9. Feeder valve-006, 0.5 hp 10. Conveying air blower-006, 110 cfm, 10 hp 11. Product bin-005, 100 cu ft, discharging to 2DH micropulverizer w/pulsaire baghouse, 63 sq ft of cloth area, vented to Rotoclone #1 (PO # 157) via blower-005, 150 cfm, 0.5 hp 12. Bin activator-001, 2 hp 13. Feeder valve-007, 1.0 hp discharge to weight station No. 1 C. Grinder Bypass Process <ul style="list-style-type: none"> 1. Conveying air blower-002, 220 cfm, 15 hp 2. Tote bin tilter-002, 74 cu ft 3. Feeder valve-002, 0.5 hp 4. Product bin-007, 100 cu ft, w/ pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone #1 (PO#157) via blower-002, 235 cfm, 0.75 hp 5. Bin activator-003, 2.0 hp 6. Feeder valve-009, 1.0 hp, discharge to weigh station no. 1. 	
1402	<p>Auxiliary Air Pollution Control System for Raymond Mill:</p> <ul style="list-style-type: none"> A. Cyclone B. Baghouse, 140 sq ft filter cloth area, venting inside grind room no. 2 	01103
7104	<p>The RDX/HMX grinding system is used to grinding various types of oxidizers. The system is operated remotely. The dry material grinding process consisting of:</p>	01024

EQUIPMENT SPECIFIC REQUIREMENTS – GRINDING SYSTEMS

	<p>A. Feeder hopper B. Grinding mill C. 100 hp air compressor D. 75 hp air compressor</p> <p>The process is vented through collection system (PO#17904)</p>	
<p>7608</p>	<p><u>Oxidizer grinding system:</u></p> <p>A. Raymond Mill Process:</p> <ol style="list-style-type: none"> 1. Conveying air blower-002, 220 cfm, 15 hp 2. Tote bin tilter-002, 74 cu ft 3. Feeder valve-002, 0.5 hp 4. Conveying air blower-003, 220 cfm, 15 hp 5. Tote bin tilter-003, 74 cu ft 6. Feeder valve-003, 0.5 hp 7. Feed bin-003, 78 cu ft, discharging to Raymond Mill with pulsaire baghouse, 63 sq ft cloth area vented to Rotoclone #2 (PO #158) via blower-003, 500 cfm, 2.0 hp 8. Raymond Mill, No. 18, 25 hp 7. Product bin-008, 100 cu ft, w/ pulsaire baghouse, 262 sq ft filter cloth area, vented to Rotoclone #2 (PO#158) via blower-002, 235 cfm, 0.75 hp 8. Bin activator-004, 2.0 hp 9. Feeder valve-010, 1.0 hp, discharge to weigh station no. 2. <p>B. 2 DH Micropulverizer Process:</p> <ol style="list-style-type: none"> 1. Conveying air blower-004, 220 cfm, 15 hp 2. Tote bin tilter-004, 74 cu ft 3. Feeder valve-004, 0.5 hp 4. Feed bin-001, 78 cu ft, discharging to 2 DH Micropulverizer, with pulsaire baghouse, 63 sq ft cloth area vented to Rotoclone #2 (PO #158) via blower-001, 750 cfm, 0.75 hp 5. 2DH Micropulverizer, MP-001, 15 hp 6. Feeder valve-005, 0.5 hp 7. Conveying air blower-005, 110 cfm, 10 hp 8. Product bin-009, 100 cu ft, discharging to 2DH micropulverizer w/pulsaire baghouse, 63 sq ft of cloth area, vented to Rotoclone #2 (PO # 158) via blower-009, 150 cfm, 0.5 hp 9. Bin activator-005, 2 hp 10. Feeder valve-011, 1.0 hp discharge to weight station No. 2. 11. Sample drum, 30 gallons, with dust sock 	<p>01103</p>

EQUIPMENT SPECIFIC REQUIREMENTS – GRINDING SYSTEMS

	<p>C. Grinder Bypass Process</p> <ol style="list-style-type: none"> 1. Conveying air blower-002, 220 cfm, 15 hp 2. Tote bin tilter-002, 74 cu ft 3. Feeder valve-002, 0.5 hp 4. Conveying air blower-003, 220 cfm, 15 hp 5. Tote bin tilter-003, 74 cu ft 6. Feeder valve-003, 0.5 hp 7. Product bin-011, 100 cu ft, w/ pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone #2 (PO#158) via blower-011, 5500 cfm, 0.75 hp 8. Bin activator-007, 2.0 hp 9. Feeder valve-013, 1.0 hp, discharge to weigh station no. 2. 	
17904	<p><u>RDX/HMX Grinding:</u></p> <p>The collection system consists of four baghouses:</p> <p>Primary Baghouse 1: Make: Mikro-Pulsaire Model: 255-8-30C Cloth Area: 235 ft² Flow: 400 CFM</p> <p>Primary Baghouse 2: Make: Mikro-Pulsaire Model: 122-DC-3 Cloth Area: 42 ft² Flow: 400 CFM</p> <p>Secondary Baghouse 1: Make: Unknown Model: Unknown Cloth Area: 8.1 ft² Flow: 400 CFM</p> <p>Secondary Baghouse 2: Make: Aerojet Model: n/a Cloth Area: 8.5 ft² Flow: 400 CFM</p>	01024

* For reference purposes only – PO # and equipment location are not federally enforceable.

EQUIPMENT SPECIFIC REQUIREMENTS – GRINDING SYSTEMS

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The grinding processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**
2. Particulate matter emissions from these units shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot. **[SMAQMD Rule 404, §301]**

EQUIPMENT OPERATION:

3. The primary APC baghouses must vent to the secondary APC baghouse whenever the grinding process is operating. **[SMAQMD P/Os #7104 & 17904]**

EQUIPMENT SPECIFIC REQUIREMENTS – MOTOR DISSECTION PROCESS

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Motor Dissection Process		
Local PO #*	Equipment Description	Location* (Building #)
18650	Abrasive Blasting Equipment Make: Clemco Model: SCFW-2454 Capacity: 600 lb Compressor: Make: Ingersol Rand Rating: 75 hp, electric, 110 psig Abrasive: Black Beauty 2040 certified under CARB executive order G-05-058	46011
18651	Abrasive Blasting Equipment Make: Sanstorm Model: 12CABKB Capacity: 1200 lb Compressor: Make: Ingersol Rand Model: P-100-W-W Serial No.: 114701-U80-901 Driven by: 33 hp gasoline engine Engine Make: White Engine Inc. Engine Serial No.: G1600X118 Chamber rotation stand, 1hp Abrasive: Black Beauty 2040 certified under CARB executive order G-05-058	46004 W-5

* For reference purposes only – PO # and equipment location are not federally enforceable.

EQUIPMENT SPECIFIC REQUIREMENTS – MOTOR DISSECTION PROCESS

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 2 or equivalent to or greater than 40% opacity. **[SMAQMD Permits #18650 & 18651]**
2. Emissions from the particulate matter handling and collection system serving the motor dissection processes shall not exceed the following limits. **[SMAQMD Permits #18650 & 18651]**

Permit Number	Process Rate (lbs/day)	Process Rate (lbs/quarter)	Emission Factor ^A (lb/1,000 lbs abrasive)	Maximum Allowable Emissions ^B	
				lb/day	lb/quarter
18650	1,175	108,230	13	15.3	1,407
18651	1,200	37,500	13	15.6	488

(a) The emission factor is based on AP-42, Compilation of Air Pollutant Emission Factors”, Table 13.2.6-1 (9/97).

(b) Emissions are based on daily and quarterly grit usage.

EQUIPMENT OPERATION:

3. This operation, while conducted outside a permanent building or structure, shall not discharge into the atmosphere any air contaminant which constitutes a public nuisance. **[SMAQMD Permits #18650 & 18651]**
4. The unconfined abrasive blasting operation must use exclusively abrasive listed on ARB list of certified abrasives for permissible dry outdoor blasting. **[SMAQMD Permits #18650 & 18651]**
5. A used certified abrasive shall not be considered certified for use unless the abrasive conforms to its original cut-point for fineness. **[SMAQMD Permits #18650 & 18651]**

RECORD KEEPING:

6. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request.

EQUIPMENT SPECIFIC REQUIREMENTS – MOTOR DISSECTION PROCESS

[SMAQMD Permit #18650 and 18651]

Frequency	Information to be Available
At All Times	For each abrasive used or on site: A. Abrasive Material Data Sheet B. ARB Certification for the abrasive material used
Frequency	Information to be Recorded
Daily	The total amount of abrasive material used (lb/day)
Quarterly	The total amount of abrasive material used (lb/quarter)

EMISSION REDUCTION CREDITS:

6. Aerojet has leased Emission Reduction Credits from the SMAQMD Community Bank in the following amounts for the operation of these processes. **These processes shall not operate on or after the expiration date of the leased Emission Reduction Credits.**
[SMAQMD Permit #18650 and 18651]

Permit Number	Pollutant	Emissions per Calendar Quarter (in lb/quarter)					Expiration Date
		Qtr1	Qtr2	Qtr3	Qtr4		
18650	ROC (Loan No. C05-4-004)	1,329	1,329	1,329	1,329	10/01/2009	
18651	ROC (Loan No. C05-4-005)	390	390	390	390	10/01/2009	

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Dust Collection Systems -- Baghouses		
Local PO* #	Equipment Description	Location* (Building #)
277	Make: Pangborn Corp Model: 223CK-1 Type: Prefilter (Cyclone) w/shaker baghouse Cloth Area: 1000 sq. ft. Blower: 7.8 hp @ 3000 CFM Serving: Carpenter shop (wood shavings & sawdust)	20022
5739	Make: Sternvent Model: CCP-36-10-450 Type: Drum housing vented to PO#7022 Cloth Area: 698 sq. ft. Prefilters: <u>Betts Lathe Booth:</u> Three high performance glass air filters, FARR, Model HP-100, 24"Wx24"Lx24"D 125.1 sq. ft. of filter area, 2 hp, 5000 cfm Blower: 10 hp @ 2000 CFM Serving: Betts lathe and betts lathe booth	20004
5996	Make: Sternvent Co. Model: CC-3610-720 Type: Continuous Cleaning Pulse Cloth Area: 720 sq. ft. Blower: 20 hp @ 5300 CFM Serving: Machine operations in plastics lab	20004

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

7022	<p>Make: Sternvent Model: CCP-100-2000 Type: Drum housing vented to baghouse PO#5739 Cloth Area: 2000 sq. ft. Prefilters: <u>Monarch Missile Master Lathe:</u> Settling Chamber, 8'Wx8'Lx4'D (vented to PO#5739) <u>Monarch Missile Master Lathe:</u> Settling Chamber, 8'Wx8'Lx4'D Rotoclone, American Air Filer, 15 hp (both vented to PO#5739) Blower: 20 hp @ 5000 CFM Serving: Monarch Missile Master Lathe and the American Pacemaker Lathe</p>	20004
7413	<p>Make: Torit Model: 123-H-55 Type: Manual Shaker Prefilter: Cyclone, Sternvent, Model 3015 Cloth Area: 300 sq. ft. Blower: 7.5 hp @ 4000 CFM (baghouse) 15 hp @ 4000 CFM (cyclone) Serving: Specimen Preparation Room</p>	20009
7455	<p>Make: American Air Filter (four) Model: 105-1003052-17 Type: Pre-Filter/Absolute Filter Cloth Area: N/A Blower: 6 hp (four 1.5 hp blowers) @ 2750 CFM Serving: Submix/Premix Area</p>	01112
7456	<p>Make: American Air Filter Model: 105-1003052-17 Type: Pre-Filter/Absolute Filter Cloth Area: N/A Blower: 2 hp @ 700 CFM Serving: Submix/Premix Area</p>	01112

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

8457	<p>Make: N/A Model: N/A Type: Fabric prefilter and HEPA filter Cloth Area: 230 ft² Blower: 1.5hp @ 500 CFM Serving: The weigh booth used to pre-weigh hazardous chemicals. It is located in the hazardous material room.</p>	01112
8588	<p>Make: Nilfisk Model: GS-83 Type: Portable Cloth Area: 15.4 sq. ft @ 208 CFM Blower: 1.5 hp Serving: Production contingencies, short term projects & asbestos cleanups</p>	20004 and various locations
10378	<p>Make: Torit-Jet Model: MIC230-155 Type: Reverse Air Cloth Area: 230 ft² Blower: 5hp @ 1500 CFM Serving: Giddings & Lewis spindle lathe</p>	20004
14512	<p>Make: Torit Model: 124-7.5 Type: Shaker Cloth Area: 400 sq. ft. Blower: 7.5 hp @ 2900 CFM Serving: Machining and Woodworking Processes</p>	20004
15125	<p>Make: Ross Cook Model: 3HZV6-HE2-XP Type: Reverse Pulse w/secondary 112 sq. ft. HEPA filter Cloth Area: 564 sq. ft. Blower: 40 hp @ 1830 CFM Serving: Machining Processes</p>	20004
15126	<p>Make: Ross Cook Model: 2HZV16-HE32 Type: Cartridge Type, Reverse Pulse w/secondary 2,179 sq. ft. HEPA filter Cloth Area: 1,536 sq. ft. Blower: 100 hp @ 5,000 CFM Serving: NC room machining process</p>	20004

* For reference purposes only – PO # and equipment location are not federally enforceable.

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**
2. Particulate matter emissions from these units shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot. **[SMAQMD Rule 404, §301]**
3. PM10 emissions from the unit serving the Dome drilling tooling and the 120" lathe system (PO #15125) and from the unit serving the NC room machining process (PO #15126) shall not exceed in concentration, at the point of discharge, 9E-6 grains per dry standard cubic foot. **[SMAQMD P/O #15125, 15126]**
4. Emissions from the particulate matter handling and collection system serving the machining and woodworking processes (PO #14512) shall not exceed the following limits. **[SMAQMD P/O #14512]**

Pollutant	Emission Factor (A) lb/mandrel	Maximum Allowable Emission (B)	
		lb/quarter	lb/year
PM10	0.005	1	4

- (A) Emission factor for PM10 is based on 5 lb of material machined from each mandrel and the manufacturer's reported PM10 control efficiency of 99.9%
- (B) Maximum allowable emissions are based on the machining of 130 composite material mandrels per quarter and 520 composite material mandrels per year.

5. Emissions from the particulate matter handling and collection system serving the Dome drilling tooling and the 120" lathe system (PO #15125) shall not exceed the following limits. **[SMAQMD P/O #15125]**

Pollutant	Emission Factor (A) lb/hr	Maximum Allowable Emission (B)
		lb/quarter
PM10	0.00014	0.31

- (A) Emission factor for PM10 is based on maximum PM10 concentration of 9E-6 grains of PM10 per cu. ft. and maximum exhaust capacity (1830 cfm)
- (B) Based on 24 hours/day and 92 days/quarter.

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

6. Emissions from the particulate matter handling and collection system serving NC room machining process (PO #15126) shall not exceed the following limits. **[SMAQMD P/O #15126]**

Pollutant	Emission Factor (A) lb/hr	Maximum Allowable Emission (B)
		lb/quarter
PM10	0.000386	0.85

(A) Emission factor for PM10 is based on maximum PM10 concentration of 9E-6 grains of PM10 per cu. ft. and maximum exhaust capacity (5,000 cfm)

(B) Based on 24 hours/day and 92 days/quarter.

EQUIPMENT OPERATION:

Building 20004

7. The air pollution control systems venting the Monarch Missile master lathe (PO #7022), the American Pacemaker lathe (PO #7022) and the Betts lathe (PO #5739) must operate concurrently to prevent exhaust air leakage. **[SMAQMD P/Os #5739 & 7022]**
8. POs # 277, 10378, 14512, 15125 and 15126 are not valid for handling asbestos-containing materials/gas streams. **[SMAQMD Rule 902]**
9. Asbestos-containing waste material shall be disposed in accordance with the requirements of Section 303 of Rule 902 - ASBESTOS. **[SMAQMD Rule 902, §303]**
10. The filtration systems associated with POs # 5739, 5996, 7022, 8588 shall be equipped with a HEPA filter certified by the manufacturer to be at least 99.97% efficient at 0.3 micron particles. **[SMAQMD Rule 902, §312]**
11. The dust collectors serving the machining and woodworking processes (PO #14512), the Dome drilling tooling and the 120" lathe (PO#15125), and the NC room machining process (PO#15126) shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter bags. The gauge shall be properly maintained and easily accessible to the operator. The manufacturer's recommended pressure differential range shall be posted next to the gauge. The dust collector shall be operated within the recommended range. **[SMAQMD P/O #14512, 15125 & 15126]**
12. The dust collector cleaning frequency and duration shall follow the manufacturer's recommendations. **[SMAQMD P/O #14512, 15125 & 15126]**
13. The dust collector discharge of collected material shall be into a covered container and any transfer of this material shall be performed in such a manner as to prevent fugitive emissions. **[SMAQMD P/O #14512, 15125 & 15126]**

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

14. Aerojet shall machine no more than 130 composite material mandrels per quarter. **[SMAQMD P/O #14512]**
15. Baghouse model MIC230-155 (PO #10378) shall have a pressure differential gauge with a readout easily accessible to operating personnel. **[SMAQMD P/O #10378]**
16. Baghouse model MIC230-155 (PO #10378) shall be maintained in good operating condition at all times so that the pressure drop across the filter bags never exceeds 4 inches of water pressure. **[SMAQMD P/O #10378]**
17. All ducting, conveyors, and related handling and storage equipment shall be maintained to prevent fugitive emissions. **[SMAQMD P/O #10378]**

Building 20004 and various locations

18. The HEPA filters attached to the Nilfisk dust collector shall be in use whenever venting asbestos-containing material. **[SMAQMD P/O #8588]**
19. Aerojet shall be able to inform representatives of the Air Pollution Control Officer of the location of the Nilfisk dust collector when requested. **[SMAQMD P/O #8588]**
20. The HEPA filtration system shall be certified by the manufacturer to be at least 99.97% efficient for 0.3 micron particles. **[SMAQMD Rule 902, §311]**

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21. The cloth filter of baghouse model 123-H-55 (PO #7413) shall be shaken upon completion of each day of operation. **[SMAQMD P/Os #7413]**
22. No asbestos containing material shall be vented through this equipment. **[SMAQMD P/Os #7413]**

Building 01112

23. There shall be no visible emissions from the weighing of asbestos. **[SMAQMD P/O #8457]**
24. A warning light and manometer shall be installed and maintained to indicate that pressure drop across the primary filter is functional and does not exceed 4" of water.

EQUIPMENT SPECIFIC REQUIREMENTS--(13) DUST COLLECTION SYSTEMS - DRY

[SMAQMD P/O #8457]

- 25. The pressure drop warning light shall have a manual override switch, which assures that the pressure drop warning system is fully functional. **[SMAQMD P/O #8457]**
- 26. The filters shall be changed when pressure drop equals or exceeds 4.0" of water. **[SMAQMD P/O #8457]**

RECORD KEEPING REQUIREMENTS:

Building 20004

- 27. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter. **[SMAQMD P/Os #14512]**

Frequency	Information to be Recorded
Quarterly	Number of composite material mandrels machined each calendar quarter.

Building 01112

- 28. A log shall be maintained which records all use of this weight booth and which indicates the type, weight, and the dates of its use. These records shall be maintained for two years and available for review by the air pollution control officer at all times. **[SMAQMD P/O #8457]**

EQUIPMENT SPECIFIC REQUIREMENTS– DUST COLLECTION SYSTEM - WET

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Dust Collection System -- Scrubber		
Local PO #*	Equipment Description	Location* (Building #)
165	Make: Schmiegl Model: STM-100 Type: Water Scrubber Size: 4'5" W x 4'5" L x 10' H, with a 15 hp pump Blower: 3400 CFM Serving: Unit used to remotely machine propellant samples for testing (Slitter/Saw).	05030

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**
2. Particulate matter emissions from this unit shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot. **[SMAQMD Rule 404, §301]**

EQUIPMENT SPECIFIC REQUIREMENTS– DUST COLLECTION SYSTEM - WET

3. Emissions from the process shall not exceed the following. **[SMAQMD Rule 207, §305]**

PM10 Emissions			
Permit Number	Emission Factor (A) lb/hr	Maximum Allowable Emission (B)	
		lb/quarter	lb/year
165	0.7	18.2	72.8

(A) Emission factor for PM10 is based on original permit application.

(B) Maximum allowable emissions are based on 7 hr/day, 2 days/week, & 13 weeks/qtr

RECORD KEEPING REQUIREMENTS:

4. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. **[SMAQMD Rule 207, §305]**

Frequency	Information to be Recorded
Daily when process is operating	A. Date when system operated. B. Duration of operation (hr/day).

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Coating Operations		
Local PO #*	Equipment Description	Location* (Building #)
150	Paint Booth Make: Devilbliss Serial No.: 22050 Dimensions: 12'W x 10'H x 7'6"D Spraygun Type: HVLP Exhaust Fan: 5 hp	01085
6893	Paint Booth Make: Devilbliss Model No.: 24634 Dimensions: 12'W x 10'H x 12'D Spraygun Type: HVLP Exhaust Fan: 5 hp	01039
8444	Paint Booth Make: Viking Model No.: 1212 Dimensions: 12'W x 12'H x 8'D Spraygun Type: HVLP Exhaust Fan: 7.5 hp	20004
17204	Paint Booth Make: Binks Model No.: PF-A-12-10T Dimensions: 12'W x 10'-6"H x 11'-2"D Spraygun Type: HVLP Exhaust Fan: 5 hp	01048
17205	Paint Booth Make: Binks Model No.: PFA-12-10T Dimensions: 12'W x 10'-6"H x 11'-2"D Spraygun Type: HVLP Exhaust Fan: 5 hp	01085

* For reference purposes only – PO # and equipment location are not federally enforceable.

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401]**
2. Emissions from the coating and/or cleaning process associated with SMAQMD PO#17204 shall not exceed the following limits: **[SMAQMD Permit #17204]**

Pollutant	Emission Factor (lb ROC/gallon)	Maximum Allowable Emissions (B) (lbs/quarter)
ROC	(A)	3,652

- (A) Emission Factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.
(B) Based on Aerojet's requested maximum allowable emissions.

3. Emissions from the coating and/or cleaning process associated with SMAQMD PO#17205 shall not exceed the following limits: **[SMAQMD Permit #17205]**

Pollutant	Emission Factor (lb ROC/gallon)	Maximum Allowable Emissions (B) (lbs/quarter)
ROC	(A)	3,652

- (A) Emission Factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.
(B) Based on Aerojet's requested maximum allowable emissions.

EQUIPMENT DESIGN & OPERATION REQUIREMENTS:

4. Aerojet shall comply with all applicable requirements of 40 CFR, Part 63, Subparts A and GG. **[40 CFR, Part 63, Subparts A and GG]**
5. Aerojet shall conduct the handling and transfer of primer and topcoats to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills. **[40 CFR, §63.745(b)]**

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

6. The following coatings, when applied to any aerospace component, shall not have a VOC content or a HAP content that exceeds the following limits: **[40 CFR, §63.745(c) and e(1) and SMAQMD Rule 456]**

Coating category	Maximum VOC content Excluding water and exempt compounds Grams/liter (lb/gal)	Maximum HAP content Excluding water and exempt compounds Grams/liter (lb/gal)
Ablative	600 (5.0)	N/A
Adhesive	600 (5.0)	N/A
Adhesive bonding agent	780 (6.5)	N/A
Conformal	600 (5.0)	N/A
Electrostatic discharge	612 (5.1)	N/A
Extreme performance	750 (6.3)	N/A
Fire resistant/retardant	600 (5.0)	N/A
Flight test	420 (3.5)	N/A
Fuel tank	650 (5.4)	N/A
High temperature	420 (3.5)	N/A
Maskants: Type i - chemical milling Type ii - chemical milling All others	622 (5.2) 160 (1.3) 850 (7.1)	N/A
Mold release	762 (6.4)	N/A
Part marking	850 (7.1)	N/A
Pretreatment wash primer	780 (6.5)	N/A
Primer	350 (2.9)	350 (2.9)
Radiation effect	600 (5.0)	
Rain erosion resistant: Fluoroelastomer All other	800 (6.7) 600 (5.0)	N/A
Sealant	600 (5.0)	N/A
Sealant adhesion promoter	750 (6.3)	N/A
Self-priming topcoat	420 (3.5)	420 (3.5)
Solid film lubricant	880 (7.3)	N/A
Space vehicle: Electrostatic discharge All other	880 (7.3) 1000 (8.3)	N/A
Temporary protective	250 (2.1)	N/A
Thermal expansion release	762 (6.4)	N/A
Thermocontrol	600 (5.0)	N/A
Topcoat:	420 (3.5)	420 (3.5)
Wet fastener installation	620 (5.2)	N/A

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

7. The following materials, when applied to any aerospace component, shall comply with either the VOC content or composite partial vapor pressure limitation: **[SMAQMD Rule 456, Sections 302 & 304]**

Material	Maximum VOC content Excluding water and exempt compounds	Maximum VOC composite partial vapor pressure
	Grams/liter (lb/gal)	mmHg (psia) at 68oF(20oC).
Coating remover (stripper)	300 (2.5)	9.5 (0.18)
Surface preparation or surface cleaning	200 (1.67)	45 (0.87)

8. Coatings shall be applied using only the following application methods: **[40 CFR, §63.745(f) and SMAQMD Rule 456]**
- A. Hand application equipment, such as brush or roller.
 - B. Dip coat.
 - C. Flow coat.
 - D. Roll coater.
 - E. Electrodeposition.
 - F. Electrostatic spray.
 - G. High-volume low-pressure (HVLP) spray.
 - H. Low-volume low-pressure (LVLP) spray.
 - I. Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency.
9. All application devices used to apply primers or topcoats (including self-priming topcoats) shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times. **[40 CFR, §63.745(f)(2)]**
10. Aerojet shall not apply, by spray application, any primer and/or top coat containing inorganic HAPs, as defined in 40 CFR, §63.742. **[40 CFR, §63.745(g)]**
11. Aerojet shall not repaint more than six (6) completed aerospace vehicles in a calendar year. **[40 CFR, §63.746]**

Handling and Storage:

12. Cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container. **[40 CFR**

EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS (NESHAP)

63.744(a)(1) and SMAQMD Rule 456, §304]

13. VOC containing materials shall be stored in closed containers when not in use. **[40 CFR 63.744(a)(2) and SMAQMD Rule 456, §304]**
14. Except as provided in §63.741(e), HAP-containing waste shall be handled and transferred to and from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills. **[40 CFR 63.748]**
15. Cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills. **[40 CFR 63.744(a)(3)]**

Hand-Wipe Cleaning:

16. Hand-wipe cleaning operations (excluding cleaning of spray gun equipment performed in accordance with Condition 18 of this section) shall use cleaning solvents that meet one of the requirements specified below: **[40 CFR 63.744(b)]**
 - A. Aqueous solvents: Cleaning solvents in which water is the primary ingredient ($\geq 80\%$ of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than $93\text{ }^{\circ}\text{C}$ ($200\text{ }^{\circ}\text{F}$) as reported by the manufacturer, and the solution must be miscible with water.
 - B. Hydrocarbon-based solvents: Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mmHg at $20\text{ }^{\circ}\text{C}$ ($3.75\text{ in. H}_2\text{O}$ and $68\text{ }^{\circ}\text{F}$). These cleaners also contain no HAPS.
 - C. Other solvents: Must have a composite vapor pressure of 45 mmHg ($24.1\text{ in H}_2\text{O}$) or less at $20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$)
17. Aerojet shall not perform cleaning or surface preparation unless the VOC content of the material used does not exceed 200 grams per liter (1.67 pounds/gallon) or the material has a VOC composite partial pressure of 45 mmHg or less at $68\text{ }^{\circ}\text{F}$ ($20\text{ }^{\circ}\text{C}$). **[SMAQMD Rule 456, §304]**

Spray Gun Cleaning:

18. Spray gun cleaning shall be conducted using one or more of the techniques listed below: **[40 CFR, §63.744(c)]**
 - A. An enclosed system as described in 40 CFR, §63.744(c)(1).
 - B. A nonatomized cleaning system as described in 40 CFR, §63.744(c)(2).

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

- C. Hand cleaning of disassembled spray gun components as described in 40 CFR, §63.744(c)(3).
 - D. Atomized cleaning fitted with a device designed to capture the atomized cleaning solvent emissions as described in 40 CFR, §63.744(c)(4).
 - E. Flush cleaning as described in 40 CFR, §63.744(c)(6).
19. Except for electrostatic spray guns, a person shall not use VOC-containing materials for the cleaning of spray guns used in coating operations unless the spray gun is cleaned in an enclosed gun cleaner, or the VOC content of the material used does not exceed 200 grams/liter (1.67 pounds per gallon). **[Rule 456, §304]**
20. Spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed 5 gallons in size) is kept tightly covered at all times except when accessing the container. **[Rule 456, §304]**

MONITORING AND RECORDKEEPING REQUIREMENTS:

21. Aerojet shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation. **[40 CFR 63.751(a)]**
22. An alternative monitoring method may be approved by the Administrator pursuant to 40 CFR §63.751(e). **[40 CFR 63.751(e)]**
23. Aerojet shall fulfill all recordkeeping requirements specified in 40 CFR §63.10(a), (b), and (c) for all operations subject to 40 CFR, Part 63, Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities. **[40 CFR 63.752(a)]**
24. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter or year respectively. **[40 CFR, Part 63, Subpart GG and SMAQMD Rule 456]**

Process/Operation	Information to be Recorded
For All Cleaning Operations	A. Name of each cleaning solvent used B. Vapor pressure each of cleaning solvent used. C. Documentation showing the organic HAP constituent of each cleaning solvent used.

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

<p>For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in §63.744(b)(1)</p>	<p>A. Name of each cleaning solvent used. B. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements. C. Annual records of the volume of solvent used, as determined by facility purchase records or usage records.</p>
<p>For each solvent used hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1) but does comply with the vapor pressure requirements in §63.744(b)(2)</p>	<p>A. Name of each cleaning solvent used. B. The composite vapor pressure of each cleaning solvent used. C. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent. D. The amount (in gallons) of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR, §63.742.</p>
<p>For each solvent used for the exempt hand-wipe cleaning operations specified in §63.744(e) that does not conform to the vapor pressure or composition requirements of §63.744(b).</p>	<p>A. The identity and amount (in gallons) of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR, §63.742. B. A list of the processes set forth in §63.744(e) to which the cleaning operation applies.</p>
<p>Cleaning operations – gun cleaners</p>	<p>A. A record of all leaks identified pursuant to 40 CFR, §63.751(a) that includes for each leak found: <ul style="list-style-type: none"> • Source identification • Date leak was discovered • Date leak was repaired B. The appropriate category as designated by the coating categories in Rule 456.</p>

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
 (NESHAP)**

<p>Primer and topcoat applications – organic HAP and VOC.</p>	<ul style="list-style-type: none"> A. Name and VOC content as received and as applied for each primer and top coat used. B. The appropriate category as designated by the coating categories in Rule 456. C. The mass of organic HAP emitted per unit volume of coating as applied (less water) (H_i) and the mass of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_i) for each coating formulation within each coating category used each month (as calculated using the procedures specified in 40 CFR, §63.750(c) and (e)). D. All data, calculations, and test results used in determining H_i and G_i. E. The volume (gal) of each coating formulation within each coating category used each month.
<p>“Low HAP Content” primers.</p>	<p>Primers with organic HAP content less than or equal to 250 g/l (2.1 lb/gal) less water as applied and VOC content less than or equal to 250 g/l (2.1 lb/gal) less water and exempt solvents as applied:</p> <ul style="list-style-type: none"> A. Annual purchase records of the total volume of each primer purchased. B. All data, calculations, and test results used in determining the organic HAP and VOC content as applied. These records shall consist of the manufacturer’s certification when the primer is applied as received, or the data and calculations used to determine H_i if not applied as received. C. The appropriate category as designated by the coating categories in SMAQMD Rule 456.

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

REPORTING REQUIREMENTS:

25. Aerojet shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 1st through June 30th and July 1st through December 31st, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period. **[40 CFR 63.753(a)]**

Reporting Requirements for Aerospace Coating Operations	
Process/Operation	Information to be Submitted
Cleaning Operations	<p>A. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations.</p> <p>B. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR, §63.774(b)(1).</p> <p>C. Any instance where a noncompliant spray gun cleaning method is used.</p> <p>D. Any instance where a leaking closed spray gun cleaner remains unrepaired and in use for more than 15 days.</p> <p>E. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.</p>

**EQUIPMENT SPECIFIC REQUIREMENTS – (5) AEROSPACE COATING OPERATIONS
(NESHAP)**

<p>Primer and topcoat application operations</p>	<ul style="list-style-type: none">A. For primers and topcoats where compliance is not being achieved through the use of averaging or a control device, each value of H_i and G_i, as recorded under 40 CFR, §63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in CFR, §63.745(c).B. For primers and topcoats where compliance is being achieved through the use of averaging or a control device, each value of H_a and G_a, as recorded under 40 CFR, §63.752(c)(4)(i), that exceeds the applicable organic HAP or VOC content limit specified in CFR, §63.745(c).C. All times when a primer or topcoat application was not immediately shut down when the pressure drop across a dry particulate filter of HEPA filter system, the water flow rate through a conventional waterwash system, or the recommended parameter(s) that indicate the booth performance for pumpless systems, as appropriate, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures.D. If the operations have been in compliance for the semiannual period, a statement that the operations have been in compliance with the applicable standards. Sources shall also submit a statement of compliance signed by the responsible official certifying that the facility is in compliance with all applicable requirements.
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EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE PREP. (NESHAP)

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

SOLVENT CLEANING AND SURFACE PREPARATION OF AEROSPACE VEHICLES AND AEROSPACE COMPONENTS		
Local PO #*	Equipment Description	Location* (Building #)
17489	Miscellaneous, facility-wide, solvent cleaning and surface preparation of aerospace vehicles and components.	Facility-wide

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EXEMPTIONS:

- 1 Exemption from 40 CFR, subpart GG requirements: the following operations are exempt from the requirements of 40 CFR, subpart GG and conditions no. 8, 9, 11, 12, 13, 14, 17, 18, 19: **[40 CFR§63.741(h) & 63.744(a)]**
 - A. Regulated activities associated with space vehicles designed to travel beyond the limit of the earth’s atmosphere.
 - B. Surface cleaning and/or surface preparation operations using solvents that meet one of the requirements specified below:
 1. Aqueous solvents: cleaning solvents in which water is the primary ingredient (>=80% of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, ph buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F) as reported by the manufacturer, and the solution must be miscible with water.
 2. Hydrocarbon-based solvents: cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mmhg at 20 °C (3.75 in. H₂O and 68 °F). These cleaners also contain no HAPs.
 3. Solvents containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens.
2. The operations listed in 40 CFR, §63.744(e) are exempt from the requirements of 40 CFR, subpart 63.744(b) – hand-wipe cleaning. These operations include, but are not limited to: **[40 CFR§63.744(e)]**

EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE PREP. (NESHAP)

- A. Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine).
 - B. Cleaning and surface activation prior to adhesive bonding.
 - C. Cleaning of electronic parts and assemblies containing electronic parts.
 - D. Cleaning of fuel cells, fuel tanks, and confines spaces.
 - E. Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing.
 - F. Cleaning operations identified as essential uses under the Montreal protocol for which the administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.
3. The requirements of Rule 456 shall not apply to the following:
- A. Cleaning solvents in non-refillable aerosol containers having a capacity of one liter (1.1 quarts) or less.
4. The requirements of condition number 10 shall not apply to the following provided the requirements of Rule 456, Section 501 are satisfied:
- A. Cleaning and/or surface preparation of Space vehicles.
 - B. Cleaning and surface activation prior to adhesive bonding.

EMISSION LIMITS:

5. The surface cleaning and/or surface preparation operations shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401]**
6. The total combined VOC emissions from all aerospace cleaning and surface preparation operations covered under this permit (PO #17489) shall not exceed the following limits. Each individual operation shall not exceed the usage limitation specified in condition number 7.

Equipment Description	Maximum VOC emissions (lb/qtr)
All aerospace cleaning and surface preparation operations covered by permit number 17489	2000 lb/quarter

EQUIPMENT OPERATION – GENERAL:

7. Operations using a combined total of more than one gallon per day of VOC-containing solvents will not be covered by this permit. Aerojet must apply for individual Authorities to Construct/Permits to Operate for such operations.

EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE PREP. (NESHAP)

8. All VOC containing materials shall be stored in closed containers when not in used. **[SMAQMD Rule 456§304 and 40 CFR§63.744(a)]**
9. All cloth, paper or sponges used for surface preparation, cleanup and paint removal shall be disposed of in closed containers. Paper used for masking does not need to be disposed of in closed containers. **[SMAQMD Rule 456§304 and 40 CFR§63.744(a)]**
10. Except as allowed under conditions no. 1 and 2, Aerojet shall comply with all applicable requirements of 40 CFR, part 63, subparts a and GG. **[40 CFR§63.743]**
11. Except as allowed under conditions no. 1 and/or 2, hand-wipe cleaning operations shall be performed with cleaning solutions that contain a composite vapor pressure of 45 mmhg or less at 68 °F (20 °C). **[40 CFR§63.744(b)(2)]**
12. The following materials, when applied to any aerospace component, shall comply with either the VOC content or composite partial vapor pressure limitation: **[SMAQMD Rule 456§304]**

Material	Maximum VOC content excluding water and exempt compounds Grams/liter (lb/gal)	Maximum VOC composite partial vapor pressure mmhg (psia) at 68°F(20°C).
Surface preparation or surface cleaning	200 (1.67)	45 (0.87)

Handling and Storage:

13. Except as allowed under condition no. 1, cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container. **[40 CFR§63.744(a)(1)]**
14. Except as allowed under condition no. 1, fresh and spent cleaning solvents, except semi-aqueous solvents, shall be stored in closed containers. **[40 CFR§63.744(a)(2)]**
15. Except as allowed under condition no. 1, cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills. **[40 CFR§63.744(a)(3)]**

EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE PREP. (NESHAP)

Spray Gun Cleaning:

16. Except as allowed under condition no. 1, spray gun cleaning shall be conducted using one or more of the techniques listed below: **[40 CFR§63.744(c)]**
 - A. An enclosed system as described in 40 CFR, §63.744(c)(1).
 - B. A nonatomized cleaning system as described in 40 CFR, §63.744(c)(2).
 - C. Hand cleaning of disassembled spray gun components as described in 40 CFR, §63.744(c)(3).
 - D. Atomized cleaning fitted with a device designed to capture the atomized cleaning solvent emissions as described in 40 CFR, §63.744(c)(4).
 - E. Flush cleaning as described in 40 FCR, §63.744(c)(6).
17. Except for electrostatic spray guns, a person shall not use VOC-containing materials for the cleaning of spray guns used in coating operations unless the spray gun is cleaned in an enclosed gun cleaner, or the VOC content of the material used does not exceed 200 grams/liter (1.67 pounds per gallon). **[SMAQMD Rule 456§304]**
18. Spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed 5 gallons in size) is kept tightly covered at all times except when accessing the container. **[SMAQMD Rule 456§304]**

FLUSH CLEANING:

19. Except as allowed under conditions no. 1 or when using semi-aqueous solvents (at least 60 percent of solvent solution as applied is water), used cleaning solvent from flush cleaning operations shall be emptied into an enclosed container or collection system that is kept closed when not in use or into a system with equivalent emission control. **[40 CFR§63.744(d)]**

MONITORING AND RECORDKEEPING REQUIREMENTS:

20. Except as allowed under condition no. 1, Aerojet shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation. **[40 CFR§63.751(a)]**
21. Except as allowed under condition no. 1, an alternative monitoring method may be approved by the administrator pursuant to 40 CFR §63.751(e). **[40 CFR§63.752(e)]**
22. Except as allowed under condition no. 1, Aerojet shall fulfill all recordkeeping requirements specified in 40 CFR §63.10(a), (b), (d) and (f) for all operations subject to 40 CFR, part 63, subpart GG – national emission standards for aerospace manufacturing and rework facilities. **[40 CFR§63.752(a)]**

**EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE
PREP. (NESHAP)**

23. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the air pollution control officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter or year respectively. **[SMAQMD Rule 456§501 and 40 CFR§63.752(b)]**

Cleaning and/or surface preparation operations	
Process/operation	Information to be recorded
For each affected cleaning operations	A. Name of each cleaning solvent used B. Vapor pressure each of cleaning solvent used. C. VOC composite partial vapor pressure. D. Documentation showing the organic HAP constituent of each cleaning solvent used.
For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in 40 CFR, §63.744(b)(1)	A. Name of each cleaning solvent used. B. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements. C. Annual records of the volume of solvent used, as determined by facility purchase records or usage records.
For each solvent used hand-wipe cleaning operations that does not comply with the composition requirements in 40 CFR, §63.744(b)(1) but does comply with the vapor pressure requirements in 40 CFR, §63.744(b)(2)	A. Name of each cleaning solvent used. B. The composite vapor pressure of each cleaning solvent used. C. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent. D. The amount (in gallons) of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR, §63.742.
For each solvent used for the exempt hand-wipe cleaning operations specified in 40 CFR, §63.744(e) that does not conform to the vapor pressure or composition requirements of 40 CFR, §63.744(b).	A. The identity and amount (in gallons) of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR, §63.742. B. A list of the processes set forth in 40 CFR, §63.744(e) to which the cleaning operation applies.
Cleaning operations – gun cleaners	A. A record of all leaks identified pursuant to 40 CFR, §63.751(a) that includes for each leak found: <ul style="list-style-type: none"> • Source identification • Date leak was discovered • Date leak was repaired B. The appropriate category as designated by the coating categories in SMAQMD Rule 456.

**EQUIPMENT SPECIFIC REQUIREMENTS – AEROSPACE CLEANING AND SURFACE
PREP. (NESHAP)**

REPORTING REQUIREMENTS:

24. Aerojet shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 1st through June 30th and July 1st through December 31st, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period. **[40 CFR§63.753(b)]**

Reporting Requirements for Solvent Cleaning and Surface Preparation	
Process/operation	Information to be submitted
Cleaning operations	<ul style="list-style-type: none">A. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations.B. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR, §63.774(b)(1).C. Any instance where a noncompliant spray gun cleaning method is used.D. Any instance where a leaking closed spray gun cleaner remains unrepaired and in use for more than 15 days.E. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
(NON-NESHAP)**

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Coating Operations		
Local PO #*	Equipment Description	Location* (Building #)
153	Application: Space vehicle coating Paint Booth Make: Devilbliss Model No.: XSW 6520 Dimensions: 12'W x 8'H x 4'2"D Spraygun Type: HVLP Exhaust Fan: 15 hp	01083
5811	Application: Specialty coating Paint Booth Make: Aerojet Design Serial No.: T-14389 Dimensions: 12'W x 10'H x 12'D Spraygun Type: HVLP Exhaust Fan: 0.25 hp	20004
6981	Application: Space vehicle coating Paint Booth Make: Devilbliss Model No.: XSW 6520 Dimensions: 12'W x 7'H x 6'D Spraygun Type: HVLP Exhaust Fan: 3 hp Water Pump 5 hp	01084
7497	Paint Booth Make: Binks Model No.: N/A Dimensions: 16'W x 12'H x 26'D Spraygun Type: HVLP Exhaust Fan: 2 5-hp blowers Type: Double fine particulate filters and activated carbon filters	20004
8217	Application: Specialty coatings Paint Booth Make: Binks Model:F-12-8-T Dimensions: 12'W x 8'H x 7'6"D Spraygun Type: HVLP Exhaust Fan: 7.5 hp	01012
18840	Application: Space vehicle coating or specialty coatings as defined in App. A of 40 CFR, Part 63. Paint Booth Make: Box-Bleeker Dimensions: 24'W x 8'H x 10'D Spraygun Type: HVLP Exhaust Fan: 7.5 hp, 27,610 cfm	01007

EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS (NON-NESHAP)

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EXEMPTIONS:

1. The requirements of Rule 456 shall not apply to the following: **[SMAQMD Rule 456]**
 - A. Coatings or cleaning solvents in non-refillable aerosol containers having a capacity of one liter (1.1 quarts) or less.
2. The requirements of condition number 11 shall not apply to the following: **[SMAQMD Rule 456]**
 - A. Coatings that are applied via a template, stencil, stamp, or hand lettering to add designs, letters, or numbers to an aerospace component.
 - B. Touch-up and repair coating operations and the use of detail guns for coating application.
 - C. The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the District has determined cannot be applied by any of the application methods specified in Condition 11.
 - D. Hand held spray containers with non-refillable propellant canisters having a capacity of 8 ounces or less where total facility usage does not exceed 10 gallons per year, pursuant to Rule 456, Section 501.3
3. The requirements of condition number 10 shall not apply to the following provided the requirements of Rule 456, Section 501 are satisfied: **[SMAQMD Rule 456]**
 - A. Cleaning and/or surface preparation of Space vehicles.
 - B. Cleaning and surface activation prior to adhesive bonding.
4. The requirements of condition number 9 and the requirements for coating removers (strippers) in condition number 10 do not apply, provided the requirements of Rule 456, §401 & 501 are satisfied and the combined total of all materials exceeding the VOC content limits or the VOC composite partial vapor pressure limits used at Aerojet do not exceed 200 gallons in any calendar year. **[SMAQMD Rule 456]**

EMISSION LIMITS:

5. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401]**

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
(NON-NESHAP)**

6. Emissions from the coating and/or cleaning processes shall not exceed the following limits: **[SMAQMD Permit #18840]**

ROC Emission Limits			
Permit No.	Emission Factor (lb ROC/gallon)	Maximum Allowable Emissions (B)	
		lb/day	lb/quarter
18840	(A)	10(C)	215(C)

- (A) Emission Factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.
(B) Based on Aerojet’s requested maximum allowable emissions.
(C) ROC emissions include all coating, cleaning and surface preparation processes associated with the paint spray booth.

EQUIPMENT DESIGN & OPERATION REQUIREMENTS:

7. Emission reduction credits (ERCs) shall be provided to the Air Pollution Control Officer to offset the following amount of project ROC emissions: **[SMAQMD Permit #18840]**

Permit Number	Equipment	Amount of project ROC emissions for which ERCs are to be provided lb/quarter
18840	Paint spray booth	215

8. Only the use of “Specialty Coatings”, as defined in Appendix A of 40 CFR, Part 63, Subpart GG and/or the coating of “Space Vehicles” as defined in 40 CFR, §63.742 shall be allowed. **[40 CFR, §63.741(f) and (h)]**
9. The following coatings, when applied to any aerospace component, shall not have a VOC content that exceeds the following limits: **[SMAQMD Rule 456]**

Coating category (Rule 456 definition)	Maximum VOC content excluding water and exempt compounds grams/liter (lb/gal)
Ablative	600 (5.0)
Adhesive	600 (5.0)
Adhesive bonding agent	780 (6.5)
Conformal	600 (5.0)
Electrostatic discharge	612 (5.1)
Extreme performance	750 (6.3)
Fire resistant/retardant	600 (5.0)

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
(NON-NESHAP)**

Coating category (Rule 456 definition)	Maximum VOC content excluding water and exempt compounds grams/liter (lb/gal)
Flight test	420 (3.5)
Fuel tank	650 (5.4)
High temperature	420 (3.5)
Maskants:	
Type I - chemical milling	622 (5.2)
Type II - chemical milling	160 (1.3)
All others	850 (7.1)
Mold release	762 (6.4)
Part marking	850 (7.1)
Pretreatment wash primer	780 (6.5)
Primer	350 (2.9)
Radiation effect	600 (5.0)
Rain erosion resistant:	
Fluoroelastomer	800 (6.7)
All other	600 (5.0)
Sealant	600 (5.0)
Sealant adhesion promoter	750 (6.3)
Self-priming topcoat	420 (3.5)
Solid film lubricant	880 (7.3)
Space vehicle:	
Electrostatic discharge	880 (7.3)
All other	1000 (8.3)
Temporary protective	250 (2.1)
Thermal expansion release	762 (6.4)
Thermocontrol	600 (5.0)
Topcoat:	420 (3.5)
Wet fastener installation	620 (5.2)

10. The following materials, when applied to any aerospace component, shall comply with either the VOC content or composite partial vapor pressure limitation: **[SMAQMD Rule 456]**

Material	Maximum VOC content excluding water and exempt compounds grams/liter (lb/gal)	Maximum VOC composite partial vapor pressure mm Hg (psia) At 68 °F (20 °C).
Coating remover (stripper)	300 (2.5)	9.5 (0.18)

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
 (NON-NESHAP)**

Surface preparation or surface cleaning	200 (1.67)	45 (0.87)
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11. Coatings shall be applied using only the following application methods: **[SMAQMD Rule 456]**
 - A. Hand application equipment, such as brush or roller.
 - B. Dip coat.
 - C. Flow coat.
 - D. Roll coater.
 - E. Electrodeposition.
 - F. Electrostatic spray.
 - G. High-volume low-pressure (HVLV) spray.
 - H. Low-volume low-pressure (LVLV) spray.
 - I. Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency.
12. Closed containers shall be used for the disposal of cloth, sponges or paper used for surface preparation, cleanup and coating removal. **[SMAQMD Rule 456]**
13. VOC containing materials shall be stored in closed containers when not in use. **[SMAQMD Rule 456]**
14. Except for the equipment specified in condition no. 15, cleanup of coating application equipment shall not be performed using any material with a VOC content that exceeds the following limit: **[SMAQMD Rule 456]**

Method used for cleanup of application equipment	Maximum allowable VOC content of material used for application equipment cleanup grams/liter (lb/gal)
Within an enclosed gun cleaner (as defined in Rule 456, Section 219)	No limit on VOC content
Not within an enclosed gun cleaner (as defined in Rule 456, Section 219)	200 (1.67)

15. Spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container. **[SMAQMD Rule 456]**

MONITORING AND RECORDKEEPING REQUIREMENTS:

16. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the air pollution control officer upon request. Monthly

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
(NON-NESHAP)**

and quarterly records as specified in the table below shall be made available for inspection within 30 days following the end of the month and quarter, respectively. **[SMAQMD Rule 456]**

FREQUENCY	INFORMATION TO BE RECORDED
At all times	<p>A. A list of currently used coatings, coating removers (strippers), surface preparation and cleaning materials, application equipment cleanup materials and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. Including the following information:</p> <ol style="list-style-type: none">1. The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in Sections 301, 302 and 304 of rule 456 or “exempt” as specified by Sections 112 and 113 of Rule 456, as applicable.2. The actual VOC content of the material, as applied, as determined pursuant to Section 502.1 of Rule 456, and for coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material, the VOC composite partial vapor pressure. VOC content as provided by the manufacturer pursuant to Section 403 of Rule 456 is acceptable, if following the manufacturer’s recommended mix ratio. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6 of Rule 456.3. The actual mixing ratio used for the material, as applied.4. Identification of each material type exceeding the VOC limits specified in sections 301 and 302 of Rule 456 or the VOC composite partial vapor pressure limits specified in Section 302 of Rule 456.

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
 (NON-NESHAP)**

At all times	<p>B. A data sheet applicable to each material type shall be maintained onsite and made available to the Air Pollution Control Officer on request. The data sheet shall include the following information:</p> <ol style="list-style-type: none"> 1. The material type by name/code/manufacturer. 2. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 404 of Rule 456. 3. For coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 405 of Rule 456. The VOC composite partial pressure shall be displayed in mm Hg at 20 °C. 4. For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in Section 260 of Rule 456. 5. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1 of Rule 456. 6. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6 of Rule 456.
Daily	<ol style="list-style-type: none"> A. The total ROC emissions from the use of all ROC containing materials. (lb ROC/day) B. A statement as to whether the daily ROC limitation of condition no. 6 was exceeded. C. For non-compliant coatings, as defined in Section 235 of Rule 456, records regarding the use, including the lack of use, of each material type by name/code and the total applied volume of each material.
Monthly	<ol style="list-style-type: none"> A. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleaning material and application equipment cleanup material, specified by category as listed in Sections 301, 302 and 304 of Rule 456. B. The method of application, specified by coating category as listed

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
 (NON-NESHAP)**

	<p>in Sections 301 and 302 of Rule 456, or by exemption pursuant to section 112 of Rule 456, as applicable.</p> <p>C. Records of total applied volume for each material type exceeding the VOC limits specified in Sections 301 and 302 of Rule 456 or the VOC composite partial vapor pressure limits specified in Section 302 of Rule 456 by name/code/manufacturer and coating category.</p>
Quarterly	<p>A. The total ROC emissions from the use of all ROC containing materials. (lb ROC/quarter)</p> <p>B. A statement as to whether the quarterly ROC limitation of condition no. 6 was exceeded.</p>

EMISSION REDUCTION CREDITS (ERCS)

17. The following ROC ERCS have been provided by the permittee to comply with the Rule 202 New Source Review offset requirement as stated in condition no. 7: **[SMAQMD Permit # 18840]**

ERC No. (Community Bank Loan Number)	Loan term ends	Face value of ERC certificates surrendered lb ROC/quarter	Offset ratio	Value applied to the project emission liability lb ROC/quarter
C06-2-004	04/04/2008	280	1.3	215

18. Emission reduction credits in the amount specified in condition no. 17 shall be provided at all times that the permitted process or equipment is operating: **[SMAQMD Permits #18840]**
- A. This permit shall expire on the date the ERCS expire or ERC loan ends unless replacement ERCS have been provided as specified in (B).
- B. When ERCS are provided that have an expiration date or loan ending date, **and prior to their expiration only**, the permittee can provide replacement ERCS.
1. The owner/operator shall submit a valid permit application to modify the current local Permit to Operate and shall pay the required permit fees. The application shall be filed prior to the ERC expiration date such that sufficient time is available to the Air Pollution Control Officer to process the application.
 2. The application shall be evaluated in accordance with the requirements of the current Rule 202 New Source Review and Rule 204 Emission Reduction Credits.
 3. ERCS shall be required in an amount which is the larger of:
 - a. The originally specified amount, or

**EQUIPMENT SPECIFIC REQUIREMENTS – (8) AEROSPACE COATING OPERATIONS
(NON-NESHAP)**

- b. The amount specified by the current Rule 202 New Source Review at the time of replacement.
- C. Failure to provide replacement ERCs **prior to the expiration date of the current ERCs** associated with this Permit to Operate shall require that the owner/operator reapply for a local Permit to Construct and a Permit to Operate for the subject equipment, if continued operation of the equipment is desired. The equipment will then be subject to Best Available Control Technology requirements and offsetting requirements of Rule 202 New Source Review at the time of re-permitting.

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Coating Enclosure for Space Vehicles		
Local PO #*	Equipment Description	Location* (Building #)
17830	Make: Pratt & Whitney Chemical Systems Division Serial Number: 39112-0 Dimensions: 2'-0"W X 6'-0"H X 32'-0"L Exhaust Fan: 0.75 hp.	01083

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

- The coating operation shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringlemann 1 or equivalent to or greater than 20% opacity.
- Emissions from the coating enclosure shall not exceed the following limits:

Pollutant	Emission Factor lb ROC/gallon	Proposed Potential to Emit ^A		
		lb/day	lb/quarter	lb/year
ROC	(B)	9.7	99	396

(A) ROC emission limit is based on the requested coating usage from Aerojet.

(B) Emission factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

EQUIPMENT OPERATION:

3. A person shall not apply to any aerospace component any coating with a voc content that exceeds the following:

Category of Coating (Rule 456 definition)	Maximum Allowable VOC Content as applied excluding water and exempt compounds grams/liter (lb/gal)
Ablative	600 (5.0)
Adhesive	600 (5.0)
Adhesive Bonding Agent	780 (6.5)
Conformal	600 (5.0)
Electrostatic Discharge	612 (5.1)
Extreme Performance	750 (6.3)
Fire Resistant/Retardant	600 (5.0)
Flight Test	420 (3.5)
Fuel Tank	650 (5.4)
High Temperature	420 (3.5)
Maskants:	
Type I – Chemical Milling	622 (5.2)
Type II – Chemical Milling	160 (1.3)
All Others	850 (7.1)
Mold Release	762 (6.4)
Part Marking	850 (7.1)
Pretreatment Wash Primer	780 (6.5)
Primer	350 (2.9)
Radiation Effect	600 (5.0)
Rain Erosion Resistant:	
Fluoroelastomer	800 (6.7)
All Other	600 (5.0)
Sealant	600 (5.0)
Sealant Adhesion Promoter	750 (6.3)
Self-Priming Topcoat	420 (3.5)
Solid Film Lubricant	880 (7.3)
Space Vehicle:	
Electrostatic Discharge	880 (7.3)
All Other	1000 (8.3)
Temporary Protective	250 (2.1)

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

Category of Coating (Rule 456 definition)	Maximum Allowable VOC Content as applied excluding water and exempt compounds grams/liter (lb/gal)
Thermal Expansion Release	762 (6.4)
Thermocontrol	600 (5.0)
Topcoat	420 (3.5)
Wet Fastener Installation	620 (5.2)

4. A person shall not apply to any aerospace component the following materials with a VOC content or composite partial vapor pressure that exceeds the following:

Material	Maximum VOC Content excluding water and exempt compounds grams/liter (lb/gal)	Maximum VOC Composite Partial Vapor Pressure mmhg (psia) at 68 F(20 C)
Coating Remover (stripper)	300 (2.5)	9.5 (0.18)
Surface Preparation or Surface Cleaning	200 (1.67)	45 (0.87)

5. Coatings shall be applied using only the following application methods:
- A. Hand application equipment, such as brush or roller.
 - B. Dip coat.
 - C. Flow coat.
 - D. Roll coater.
 - E. Electrodeposition.
 - F. Electrostatic spray.
 - G. High-volume low-pressure (HVLP) spray.
 - H. Low-volume low-pressure (LVLP) spray.
 - I. Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency.
6. Closed containers shall be used for the disposal of cloth, sponges, or paper used for surface preparation, cleanup and coating removal.
7. VOC containing materials shall be stored in closed containers when not in use.

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

8. Except for electrostatic spray guns, a person shall not use VOC containing materials for cleaning of spray guns used in coating operations unless the spray gun is cleaned in an enclosed gun cleaner, or the VOC content of the material used does not exceed 200 grams/liter (1.67 pounds/gallon).
9. Spray gun nozzles only may be soaked in solvent-based materials for cleaning, provided the container, which is not to exceed five (5) gallons in size, is kept tightly covered at all times except when accessing the container.

RECORD KEEPING:

10. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. Monthly and quarterly records shall be made available within 30 days following the close of the respective month and quarter.

Frequency	Information to be Recorded
At all times	<p>A. A list of currently used coatings, coating removers (strippers), surface preparation and cleaning materials, application equipment cleanup materials and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. Including the following information:</p> <ol style="list-style-type: none">1. The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in Section 301, 302 and 304 of Rule 456 or “exempt” as specified by Section 112 and 113 of Rule 456, as applicable.2. The actual VOC content of the material, as applied, as determined pursuant to section 502.1 of Rule 456, and for coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material, the VOC composite partial vapor pressure. VOC content as provided by the manufacturer pursuant to Section 403 of Rule 456 is acceptable, if following the manufacturer’s recommended mix ratio. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6 of Rule 456.3. The actual mixing ratio used for the material, as applied.4. Identification of each material type exceeding the VOC limits specified in Section 301 and 302 of Rule 456 or the VOC composite partial vapor pressure limits specified in Section 302 of Rule 456.

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

	<p>B. A data sheet applicable to each material type shall be maintained onsite and made available to the air pollution control officer on request. The data sheet shall include the following information:</p> <ol style="list-style-type: none"> 1. The material type by name/code/manufacturer. 2. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 404 of Rule 456. 3. For coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material: The maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 405 of Rule 456. The VOC composite partial pressure shall be displayed in mmHg at 20°C. 4. For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in section 260 of Rule 456. 5. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1 of Rule 456. <p>The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6 of Rule 456.</p>
Daily	<ol style="list-style-type: none"> A. The total ROC emissions from the use of all ROC containing material (lb ROC/day). B. A statement as to whether the daily ROC limitation of condition no. 2 was exceeded. C. For non-compliant coatings, as defined in Section 235 of Rule 456, records regarding the use, including the lack of use, of each material type by name/code and the total applied volume of each material.
Monthly	<ol style="list-style-type: none"> A. Records of total applied volume for each coating, coating remover (stripper), surface preparation material and cleaning material and application equipment cleanup material, as specified by category as listed in Section 301, 302 and 304 of Rule 456. B. The method of application, specified by coating category as listed in Section 301 and 302 of Rule 456, or by exemption pursuant to Section 112 of Rule 456, as applicable. C. Records of total applied volume for each material type exceeding

EQUIPMENT SPECIFIC REQUIREMENTS – COATING ENCLOSURE FOR SPACE VEHICLES

	the VOC limits specified in Sections 301 and 302 of Rule 456 or the VOC composite partial vapor pressure limits specified in Section 302 of Rule 456 by name/code/manufacturer and coating category.
Quarterly	A. The total ROC emissions from the use of all ROC containing material (lb ROC/quarter). B. A statement as to whether the quarterly ROC limitation of condition no. 2 was exceeded.

EMISSION TESTING:

15. None.

EMISSION REDUCTION CREDITS:

16. Aerojet has leased emission reduction credits from the SMAQMD community bank in the following amounts for the operation of this process. **The process shall not operate on or after the expiration date of the leased emission reduction credits.**

Pollutant	Qtr1 lb/qtr	Qtr2 lb/qtr	Qtr3 lb/qtr	Qtr4 lb/qtr	Expiration Date
ROC (loan no. C04-4-011)	128.7	128.7	128.7	128.7	10/01/2008

EQUIPMENT SPECIFIC REQUIREMENTS–OTHER COATING OPERATIONS

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Coating Operations		
Local PO #*	Equipment Description	Location* (Building #)
7801	Paint Booth Make: Viking Model No.: SB-24 Dimensions: 14'W x 9'H x 24'D Spraygun Type: HVLP Exhaust Fan: 3 hp Objects coated: Wood and metal	20022

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

- The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401]**

EQUIPMENT DESIGN AND OPERATION:

Coating of Miscellaneous Metal Parts and Products (Rule 451):

- The following coatings, when applied to any **miscellaneous metal part or product**, shall have a VOC content not to exceed the following limits: **[SMAQMD Rule 451]**

Coating category (Rule 451 definition)	Maximum VOC content excluding water and exempt compounds grams/liter (lb/gal)	
	Air dried	Baked (a)
Aluminum coating for window frames and door frames	420 (3.5)	420 (3.5)
Camouflage	420 (3.5)	360 (3.0)
Electrical insulating	340 (2.8)	275 (2.3)
Extreme high gloss	420 (3.5)	360 (3.0)
Extreme performance	420 (3.5)	420 (3.5)

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

Heat resistant	420 (3.5)	360 (3.0)
Metallic/iridescent	420 (3.5)	420 (3.5)
Non-skid	420 (3.5)	360 (3.0)
Prefabricated architectural component	420 (3.5)	275 (2.3)
Pretreatment wash primer	420 (3.5)	420 (3.5)
Silicone release coating	420 (3.5)	420 (3.5)
Solar absorbent	420 (3.5)	360 (3.0)
All other coatings	340 (2.8)	275 (2.3)

(A) Baked coating is any coating which is heated above 90°C (194°F) for the purpose of curing or drying.

3. A person shall not use the following materials on any **miscellaneous metal part or product** if the VOC content exceeds the following limits: **[SMAQMD Rule 451]**

Coating category (Rule 451 definition)	Maximum VOC content grams/liter (lb/gal)
Coating remover (stripper)	200 (1.7)
Solvent for surface preparation or product cleaning	72 (0.6)

4. A person shall not perform cleanup of application equipment used in **miscellaneous metal part and product coating operation**, except electrostatic spray gun, using any material with a VOC content that exceeds the following limit: **[SMAQMD Rule 451]**

Method used for cleanup of application equipment	Maximum VOC content grams/liter (lb/gal)
In an enclosed gun cleaner as defined in Rule 451, Section 216	No limit on VOC content
Not in an enclosed gun cleaner as defined in Rule 451, Section 216	72 (0.6)

5. Materials that exceed the VOC content limits specified in condition nos. 2, 3 & 4 may be applied on any **miscellaneous metal part or product** provided the total volume used per calendar year is less than the following limits: **[SMAQMD Rule 451]**

Coating category (Rule 451 definition)	Maximum allowable volume gallons/year
Aluminum coating for window frames and door	Less than 200
Pretreatment wash primer	Less than 200
All coatings, except aluminum coating for window frames and door frames and pretreatment wash primer, and solvent for product cleaning or for	Less than 55

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

6. Aerojet shall not use more than 186 liters (50 gallons) per year of a single coating containing organic HAPs or more than a total of 946 liter (250 gallons) per year of coatings containing organic HAPs at the entire facility in operations subject to 40 CFR, Subpart Mmmm (Miscellaneous Metal parts and Products). **[40 CFR, §63.3881(b)]**
7. Spray gun nozzles only may be soaked in solvent-based materials for cleaning, provided the container does not exceed five (5) gallons in size and is kept tightly covered at all times except when accessing the container. **[SMAQMD Rules 451 and 463]**
8. The application equipment to be used when applying any coating material shall be any one of the following: **[SMAQMD Rules 451 and 463]**
 - A. Electrostatic spray
 - B. High-volume low-pressure (HVLP) spray
 - C. Low-volume low-pressure (LVLP) spray
 - D. Roll coater, dip coat or flow coat
 - E. Hand application method, such as brush or roller
 - F. Air assisted airless, for touch-up and repair only
 - G. Any other method which has been approved in writing by the Air Pollution Control Officer and the U.S. EPA.
9. All cloth or paper used for surface preparation, cleanup and coating removal shall be disposed of in closed containers. **[SMAQMD Rules 451 and 463]**
10. All VOC-containing materials shall be stored in containers which are closed when not in use, and shall be disposed of in a manner that the VOCs are not emitted into the atmosphere. **[SMAQMD Rules 451 and 463]**
11. For dry filter-type booths utilizing particulate filters, the filters shall be correctly installed and properly maintained. **[SMAQMD Rules 451 and 463]**
12. For all booths, including dry-filter-type and waterwash-type, the exhaust fan system shall be in operation whenever spraying occurs in the booth. **[SMAQMD Rules 451 and 463]**

RECORD KEEPING

13. The following records shall be continuously maintained on-site for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Monthly and quarterly records as specified in the table below shall be made available for inspection within 30 days following the month and quarter, respectively. **[SMAQMD Rules 451 and 463]**

Frequency	Information to be recorded
At all times	List of currently used materials, including the following information: A. Product name, manufacturer, product ID number and coating category as defined in Rule 451, Sections 301, 302, & 304.

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

	<p>B. VOC content of each coating as-applied excluding water and exempt compounds, also known as <i>coating VOC</i> (grams/liter or lb/gal).</p> <p>C. VOC content of each coating as-applied including water and exempt compounds, also known as <i>material VOC</i> (grams/liter or lb/gal).</p> <p>D. Mix ratio for each type of coating applied, if applicable.</p> <p>E. The substrate to which the material is applied.</p>
Daily	Type and quantity of each coating and solvent used in the coating operation exceeding the VOC limits or VOC composite partial vapor pressure as specified in condition nos. 2, 3, & 4 (gal/day).
Monthly	Type and quantity of each coating and solvent used in the coating operation (including coating removers & cleanup solvents) which comply with the VOC limits as specified in condition nos. 2, 3, & 4 (gal/month).

14. If at any time during a reporting period a facility uses a coating which does not comply with the VOC limits, the source shall keep daily records regarding the use, including the lack of use, of that non-compliant coating during the applicable reporting period.

[SMAQMD Rules 451 and 463]

C. EQUIPMENT SPECIFIC NON-FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are based on non-SIP-approved regulations and therefore are enforceable by the District only.

Coating of Wood Products (Rule 463):

15. The following coatings, when applied to any **new wood product**, shall have a VOC content not to exceed the following limits: **[SMAQMD Rule 463]**

Coating category (Rule 463 definition)	Maximum allowable VOC content excluding water and exempt compounds grams/liter (lb/gal)	
	Effective July 1, 1997	Effective July 1, 2005
Clear topcoats	550 (4.6)	275 (2.3)
Conversion varnish	550 (4.6)	550 (4.6)
Filler	500 (4.2)	275 (2.3)
High-solid stain	550 (4.6)	350 (2.9)
Inks	500 (4.2)	500 (4.2)
Mold-seal coating	750 (6.3)	750 (6.3)
Multi-colored coating	685 (5.7)	275 (2.3)
Pigmented coating	550 (4.6)	275 (2.3)
Sealer	550 (4.6)	275 (2.3)

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

Coating category (Rule 463 definition)	Maximum allowable VOC content excluding water and exempt compounds grams/liter (lb/gal)	
	Effective July 1, 1997	Effective July 1, 2005
Low-solid stains, toners, washcoats	480 (4.0)	120 (1.0)

16. The following coatings, when applied to **refinish, repair, preserve, or restore a wood product**, shall have a VOC content not to exceed the following limits: **[SMAQMD Rule 463]**

Coating category (Rule 463 definition)	Maximum allowable VOC content excluding water and exempt compounds grams/liter (lb/gal)
Clear topcoats	680 (5.7)
Conversion varnish	550 (4.6)
Filler	500 (4.2)
High-solid stain	700 (5.8)
Inks	500 (4.2)
Mold-seal coating	750 (6.3)
Multi-colored coating	680 (5.7)
Pigmented coating	600 (5.0)
Sealer	680 (5.7)
Low-solid stains, toners, washcoats	480 (4.0)

17. All VOC-containing materials used as a stripper on any wood product shall have **either** VOC content **or** VOC composite partial vapor pressure not to exceed the following limits: **[SMAQMD Rule 463]**

Coating category (Rule 463 definition)	Maximum allowable VOC content grams/liter (lb/gal)	VOC composite partial vapor pressure mm Hg @ 20°C
Stripper	Less than 350 (2.9)	2

18. A person shall not use the following material on any wood product if the VOC content exceeds the following limit: **[SMAQMD Rule 463]**

Material	Maximum allowable VOC content grams/liter (lb/gal)
Solvent for surface preparation or cleanup	200 (1.67)

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

19. A person shall not perform cleanup of application equipment used in wood products coating operation with any material with a VOC content that exceeds the following limits:

[SMAQMD Rule 463]

Method used for clean-up of application equipment	Maximum allowable VOC content grams/liter (lb/gal)
In an enclosed gun cleaner as defined in Rule 463, section 214	No limit on VOC content
Not in an enclosed gun cleaner as defined in Rule 463, Section 214	0

20. Spray gun nozzles only may be soaked in solvent-based materials for cleaning, provided the container does not exceed five (5) gallons in size and is kept tightly covered at all times except when accessing the container. **[SMAQMD Rule 463]**
21. The application equipment to be used when applying any coating material shall be any one of the following: **[SMAQMD Rule 463]**
- H. Electrostatic spray
 - I. High-volume low-pressure (HVLP) spray
 - J. Low-volume low-pressure (LVLP) spray
 - K. Roll coater, dip coat or flow coat
 - L. Hand application method, such as brush or roller
 - M. Air assisted airless, for touch-up and repair only
 - N. Any other method which has been approved in writing by the Air Pollution Control Officer and the U.S. EPA.
22. All cloth or paper used for surface preparation, cleanup and coating removal shall be disposed of in closed containers. **[SMAQMD Rule 463]**
23. All VOC-containing materials shall be stored in containers which are closed when not in use, and shall be disposed of in a manner that the VOCs are not emitted into the atmosphere. **[SMAQMD Rule 463]**
24. For dry filter-type booths utilizing particulate filters, the filters shall be correctly installed and properly maintained. **[SMAQMD Rule 463]**
25. For all booths, including dry-filter-type and waterwash-type, the exhaust fan system shall be in operation whenever spraying occurs in the booth. **[SMAQMD Rule 463]**

RECORD KEEPING

26. The following records shall be continuously maintained on-site for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Monthly and quarterly records as specified in the table below shall be made available for inspection within 30 days following the month and quarter, respectively. **[SMAQMD Rule 463]**

EQUIPMENT SPECIFIC REQUIREMENTS—OTHER COATING OPERATIONS

Frequency	Information to be recorded
At all times	List of currently used materials, including the following information: A. Product name, manufacturer, product ID number and coating category as defined in Rule 463, Sections 302, 303 & 304. B. VOC content of each coating as-applied excluding water and exempt compounds, also known as <i>coating VOC</i> (grams/liter or lb/gal). C. VOC content of each coating as-applied including water and exempt compounds, also known as <i>material VOC</i> (grams/liter or lb/gal). D. VOC content of each solvent and VOC composite partial vapor pressure of any stripper used (grams/liter or lb/gal and mm Hg @ 20°C). E. Mix ratio for each type of coating applied, if applicable.
Daily	Type and quantity of each coating and solvent used in the coating operation exceeding the VOC limits or VOC composite partial vapor pressure as specified in condition nos. 15, 16, 17, 18 & 19 (gal/day).
Monthly	Type and quantity of each coating and solvent used in the coating operation which comply with the VOC limits as specified in condition nos. 15, 16, 17, 18 & 19 (gal/month).

27. If at any time during a reporting period a facility uses a coating which does not comply with the VOC limits, the source shall keep daily records regarding the use, including the lack of use, of that non-compliant coating during the applicable reporting period.
[SMAQMD Rule 463]

EQUIPMENT SPECIFIC REQUIREMENTS – (2) RDX DRYING FACILITIES

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

RDX Drying Facilities		
Local PO #*	Equipment Description	Location* (Building #)
7779 7780	RDX Drying facility no. 1 APC Condenser : 1. Heat exchanger 2. Expansion Coil, refrigerant cooled 3. Refrigeration unit, Whirlpool, model no. NCAD-024AB, 3 ton capacity 4. Incoming air blower, 500 cfm, 0.33 hp 5. Exhaust air blower, 500 cfm, 0.33 hp	01024

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**

EQUIPMENT SPECIFIC REQUIREMENTS – (2) RDX DRYING FACILITIES

2. Emissions from the RDX drying facilities shall not exceed the following limits. **[SMAQMD P/O #7779 & 7780]**

Pollutant	Emission Factor	Maximum Allowable Emission (B)
		lb/day for the drying facility
ROC	(A)	150

- (A) Aerojet shall provide calculations acceptable to the Air Pollution Control Officer verifying the daily ROC emissions for each day the RDX batch is processed in the drying facility. ROC emissions shall be calculated based on emitting 100% of the isopropanol which is initially present in each RDX batch processed in the drying facility. The ROC emission level may use a factor less than 100% when Aerojet demonstrates that the APC condenser achieves a consistent level of ROC emission reduction and is approved by the Air Pollution Control Officer.
- (B) Maximum allowable ROC emissions are based on not being subject to the BACT requirement of the 1984 version of Rule 202-New Source Review, by operating at a ROC emission level of less than 150 lb/day.

RECORD KEEPING REQUIREMENTS:

3. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. **[SMAQMD P/Os #7779 & 7780]**

Frequency	Information to be Recorded
Daily when process is operating	A. Dates when drying process operated. B. Wet weight of each RDX batch (lb/batch). C. Amount of isopropanol associated with each batch (lb ROC/batch) D. Daily ROC emission for each day the drying process operated (lb ROC/day)

EQUIPMENT SPECIFIC REQUIREMENTS – COLD DEGREASERS

- A. EQUIPMENT DESCRIPTION:** The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Cold Degreasing Units		
Local PO #*	Equipment Description	Location* (Building #)
6968	Description: Degreaser. Used for soaking and cleaning propellant-contaminated toolings. Type: non-vapor type Size: 30"W x 18"D x 48"L	01048
7075	Description: Degreaser. Used for soaking and cleaning propellant-contaminated toolings. Type: non-vapor type Size: 30"W x 18"D x 48"L	01048

* For reference purposes only – PO # and equipment location are not federally enforceable.

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Rule 401, §301]**

EQUIPMENT OPERATION:

2. The degreasers shall comply with the following requirements: **[SMAQMD Rule 454, §301]**
 - A. A cover designed so that it can be opened and closed easily with one hand.
 - B. A facility for draining cleaned parts so that the drained solvent is returned to the container.
 - C. A permanent, conspicuous label which summarizes operating requirements contained in Sections 306 through 308 of SMAQMD Rule 454.
 - D. Use only solvent containers free of all liquid leaks. Auxiliary equipment such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks.
3. The non-vapor degreasers shall operate with a freeboard height of at least 6 inches.

EQUIPMENT SPECIFIC REQUIREMENTS – COLD DEGREASERS

[SMAQMD Rule 454, §302.1b]

4. Except as allowed under Rule 454, §110.9 (cleaning of aerospace tooling and equipment), the non-vapor degreasers shall use solvents with a VOC content of 50 grams per liter or less, including water and exempt compounds.

[SMAQMD Rule 454, §302.2]

5. Any person who uses a degreaser must conform to the following operating requirements: **[SMAQMD Rule 454, §308]**
- A. Operate and maintain the degreaser in proper working order.
 - B. Do not allow any solvent to leak from any portion of the degreaser.
 - C. Do not store or dispose of any solvent from the degreaser, including waste solvent, in a manner that causes or allows any volatile organic compounds emissions.
 - D. Do not remove or open any device designed to cover the solvent unless processing work in the degreaser or performing maintenance on the degreaser.
 - E. Drain cleaned parts after cleaning until dripping ceases (non-vapor degreaser only).
 - F. Do not degrease porous or absorbent materials such as cloth, leather, wood, or rope.
 - G. Minimize solvent carryout by the following measures, as applicable:
 - 1. Rack workload to facilitate drainage;
 - 2. Move workload in and out of the degreaser at less than 3.3 m/min (11 ft/min);
 - 3. Allow workload to dry within the degreaser until visually dry;
 - 4. For manual operation, tip out any pools of solvent remaining on the workload before removing it from the degreaser.
 - H. All waste solvent shall be stored in properly identified and closed containers;
 - I. Spills during solvent transfer shall be wiped up immediately and the used wipe rags shall be stored in closed containers.

RECORD KEEPING REQUIREMENTS:

6. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request.

[SMAQMD Rule 454, §501]

Frequency	Information to be Recorded
At all times	A list shall be maintained of all solvents currently used and/or stored at the site. The list shall include the following information: <ul style="list-style-type: none">A. Cleaning material type by name/code/manufacture.B. The actual VOC content of cleaning materials used, as applied including water and exempt compounds.C. The actual mixing ratio for the cleaning material as applied.
When cleaning equipment not exempt under §110.9 of Rule 454	<ul style="list-style-type: none">A. Monthly records of total applied volume in gallons for each cleaning material used.B. Monthly record of solvent cleaning activity associated with each solvent used.

EQUIPMENT SPECIFIC REQUIREMENTS – BOWL CLEANING

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Bowl Cleaning Units		
Local PO #*	Equipment Description	Location* (Building #)
154	Description: Bowl cleaning station no. 1. Elevated platform for propellant mixing bowls 6'3" dia. X 7'H. This unit is used to clean propellant mix bowls. Size: 16'W x 13'L	01036
155	Description: Bowl cleaning station no. 2. Elevated platform for propellant mixing bowls 6'3" dia. X 7'H. This unit is used to clean propellant mix bowls. Size: 16'W x 13'L	01036

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

OPERATING REQUIREMENTS:

1. Hand-wipe cleaning operations shall use cleaning solvents that meet one of the requirements specified below: **[40 CFR 63.744(b)]**
 - A. Aqueous solvents: Cleaning solvents in which water is the primary ingredient (>=80% of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F) as reported by the manufacturer, and the solution must be miscible with water.
 - B. Hydrocarbon-based solvents: Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mmHg at 20 °C (3.75 in. H₂O and 68 °F). These cleaners also contain no HAPS.
 - C. Other solvents: Must have a composite vapor pressure of 45 mmHg (24.1 in H₂O) or less at 20 °C (68 °F)

2. Aerojet shall not perform cleaning of surface preparation unless the VOC content of the material used does not exceed 200 grams per liter (1.67 pounds/gallon) or the material has a VOC composite partial pressure of 45 mmHg or less at 68 °F (20 °C). **[SMAQMD**

EQUIPMENT SPECIFIC REQUIREMENTS – BOWL CLEANING

Rule 456, §304]

3. Cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container. **[40 CFR 63.744(a)(1) and SMAQMD Rule 456, §304]**
4. VOC containing materials shall be stored in closed containers when not in use. **[40 CFR 63.744(a)(2) and SMAQMD Rule 456, §304]**
5. Except as provided in §63.741(e), HAP-containing waste shall be handled and transferred to and from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills. **[40 CFR 63.748]**
6. Cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills. **[40 CFR 63.744(a)(3)]**

MONITORING AND RECORDKEEPING REQUIREMENTS:

7. Aerojet shall fulfill all recordkeeping requirements specified in 40 CFR §63.10(a), (b), and (c) for all operations subject to 40 CFR, Part 63, Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities. **[40 CFR 63.752(a)]**
8. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter or year respectively. **[40 CFR, Part 63, Subpart GG and SMAQMD Rule 456]**

RECORD KEEPING REQUIREMENTS	
Process/Operation	Information to be Recorded
For All Cleaning Operations	<ol style="list-style-type: none">A. Name of each cleaning solvent usedB. Vapor pressure each of cleaning solvent used.C. Documentation showing the organic HAP constituent of each cleaning solvent used.D. The appropriate category as designated by the coating categories in SMAQMD Rule 456.

EQUIPMENT SPECIFIC REQUIREMENTS – BOWL CLEANING

<p>For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in §63.744(b)(1)</p>	<p>A. Name of each cleaning solvent used. B. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements. C. Monthly and annual records of the volume of solvent used (gallons), as determined by facility purchase records or usage records. D. The appropriate category as designated by the coating categories in SMAQMD Rule 456.</p>
<p>For each solvent used hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1) but does comply with the vapor pressure requirements in §63.744(b)(2)</p>	<p>A. Name of each cleaning solvent used. B. The composite vapor pressure of each cleaning solvent used. C. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent. D. The amount (in gallons) of each cleaning solvent used each month at each operation.</p>
<p>For each solvent used for the exempt hand-wipe cleaning operations specified in §63.744(e) that does not conform to the vapor pressure or composition requirements of §63.744(b).</p>	<p>A. The identity and amount (in gallons) of each cleaning solvent used each month at each operation. B. A list of the processes set forth in §63.744(e) to which the cleaning operation applies.</p>

REPORTING REQUIREMENTS:

9. Aerojet shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 1st through June 30th and July 1st through December 31st, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period. **[40 CFR 63.753 and Rule 456]**

<p>Reporting Requirements for Aerospace Coating Operations</p>	
<p>Process/Operation</p>	<p>Information to be Submitted</p>
<p>Cleaning Operations</p>	<p>A. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations. B. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR, §63.774(b)(1). C. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.</p>

EQUIPMENT SPECIFIC REQUIREMENTS – LIQUID WASTE VOLUME REDUCTION

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Liquid Waste Reduction Process		
Local PO #*	Equipment Description	Location* (Building #)
18118	Description: Liquid waste reduction process consisting of: 1. Storage tank, 90.5' x 90.5' x 4.75' (153,000 gal) 2. Five evaporators, Marley, Model 496A, Series 4900, 38,210 cfm capacity each, 5 hp each 3. Supply pump, 20 hp	00028

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

- The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann no. 1 or equivalent to or greater than 20% opacity. **[SMAQMD Permit #18118]**
- Emissions from the liquid waste volume reduction process (PO #18118) shall not exceed the following limits. **[SMAQMD Permit #18118]**

Pollutant	Maximum Allowable Emission (A) (pounds/quarter)
ROC	105

- (A) Emission factor based on information from original application and evaluation.
 (B) Quarterly emissions based on the calculation method outlined in condition #3.

EQUIPMENT SPECIFIC REQUIREMENTS – LIQUID WASTE VOLUME REDUCTION

3. Compliance with the emission limitations specified in condition #2 shall be determined as follows: **[SMAQMD Permit #18118]**

$$\text{ROC Emissions} = \Sigma [\text{AW} \times \text{C} \times \text{DW} \div 1\text{E}6]$$

Where:

- AW = Added Waste (gal/quarter)
- C = VOC Concentration of Added Waste by Volume, ppmv
- DW = VOC Density, lb/gal

EQUIPMENT OPERATION:

4. Any changes in the character of the waste that would be expected to significantly change the type or level of organic emissions to the atmosphere shall be reported in advance to the Air Pollution Control Officer. **[SMAQMD Permit #18118]**
5. Access to the facility must be controlled to prevent unauthorized additions to the liquid waste.

RECORD KEEPING REQUIREMENTS:

6. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the air pollution control officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter. **[SMAQMD Permit #18118]**

Frequency	Information to be Recorded
Upon each occurrence	Identify every addition to the waste water resevoir. These records shall include, but not be limited to: <ul style="list-style-type: none"> A. Date when waste was added. B. Volume of waste added (gallons/day) B. Chemical composition and concentration of the waste as determined by generator knowledge of waste streams as listed in the EHS database (ppm) C. Location and description of process from where the waste was generated. The records shall be maintained in log form so that the information above can be ascertained readily.
Quarterly	Quarterly ROC (VOC) emissions by the method specified in condition #3 (lbs ROC/quarter)

EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND DISPENSING FACILITY

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Gasoline Storage and Dispensing Facility				
Local PO #*	Equipment Description			
17375	Phase I Equipment	Phase II Equipment		
	Number and Size of Tanks (Gallons)	Phase I Type	No. of Nozzles	Phase II Type
	1-5,200	Two-point	1	Balance
	1-2,000	Exempt (Diesel)	1	Exempt (Diesel)

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

1. Reactive organic compound (roc) emissions and gasoline throughput from this facility shall not exceed: **[SMAQMD Permit #17375]**

Pollutant	Emission Factor (A) lb/mgal	Gasoline throughput (all grades combined) (gal/quarter)	Maximum allowable emissions (lb/quarter)
ROC	1.52	37,500	57

(A) Emission factor is from the California Air Pollution Control Officers Association (CAPCOA) *Gasoline Service Station Industrywide Risk Assessment Guidelines*, December 1997, Appendix A-5, Scenario 6-B.

EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND DISPENSING FACILITY

EQUIPMENT OPERATION:

2. The gasoline dispensing facility shall be maintained, and operated in accordance with the following California Air Resources Board (CARB) executive orders. Section 41954(f) of the California Health and Safety Code prohibits the installation of any vapor control system unless the system has been certified by the state board. **[SMAQMD Permit #17375]**

Number	Description
G-70-116-F	Convault aboveground tank vapor recovery system
G-70-199AI	Relating to certification of gasoline dispensing nozzles to the liquid retention standard of 350 milliliters per 1,000 gallons dispensed

3. The vapor recovery system shall be operated in accordance with the applicable California Air Resources Board certification, the manufacturer's specifications, and maintained to be leak-free, vapor tight, and in good working order. **[SMAQMD Permit #17375]**
4. All equipment shall be operated and maintained without any of the applicable defects listed in California Administrative Code Title 17, Part III, Chapter 1, Subchapter 8, Section 94006. **[SMAQMD Permit #17375]**
5. The owner/operator of a vapor recovery system shall have available an operation and maintenance manual. The manual shall be kept on-site and made available to any person who operates, inspects, maintains, repairs, or tests the vapor recovery equipment as well as the Air Pollution Control Officer upon request. The manual shall, at minimum, include the following current information: **[SMAQMD Permit #17375]**
- A. All applicable CARB executive orders, approval letters, and SMAQMD permits,
 - B. Manufacturer's manual(s) for installation, operation, and maintenance procedures as required to be provided by CARB certification procedure CP-201 and any additional instructions provided by the manufacturer,
 - C. System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests listed in SMAQMD Rule 449, Section 402, and
 - D. Protocol for performing daily maintenance inspections, including the components to be inspected and the defects requiring repair.
6. Maintenance inspections, except as provided in condition number 7, shall be conducted for each day the vapor recovery system is operated to ensure that vapor recovery system components that are verifiable through direct measurement or observation are in proper working order. Any equipment with a major defect listed in California Code of Regulations, Title 17, Part III, Chapter 1, Subchapter 8, Section 94006, shall be removed from service and tagged to ensure that it is not used until it is repaired and brought into compliance before being returned to service. **[SMAQMD Permit #17375]**

EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND DISPENSING FACILITY

7. The maintenance inspection requirements in condition number 6 shall not be required on Saturdays, Sundays, and holidays for gasoline dispensing facilities with a six month average monthly gasoline throughput of less than 100,000 gallons. **[SMAQMD Permit #17375]**
8. The owner or operator of a vapor recovery system shall ensure that the removal from service of one component of a vapor recovery system with multiple components will not result in gasoline liquid or vapors entering the atmosphere. If the removal of the defective component of the vapor recovery system does not ensure the integrity of the rest of the vapor recovery system, then the entire vapor recovery system shall be shutdown and repaired prior to returning to service. **[SMAQMD Permit #17375]**
9. Defects discovered during the maintenance inspection and repaired in accordance with Title 17, Division 3, Subchapter 7.5, Chapter 1, Section 93101 of California Code of Regulations such that after repair gasoline liquid or vapors do not enter the atmosphere shall not constitute a violation of Rule 449. **[SMAQMD Permit #17375]**

TESTING:

10. The following performance and reverification tests shall be conducted and passed according to the schedule listed in condition 11. **[SMAQMD Permit #17375]**
 - A. Static pressure (leak decay) test, according to the Bay Area Air Quality Management District Manual of Procedures, source test procedure ST-38 or CARB test procedure TP-201.3B
 - B. Any other tests required by an applicable CARB executive order.
11. The performance and reverification tests specified in condition no. 10 shall be conducted and passed according to the following frequency: **[SMAQMD Permit #17375]**

Test Name	Average Monthly Gasoline Throughput (six month average) (A)	Testing Frequency
Static Pressure Test	Less than 100,000 gallons	Once every 12 months
	Greater than or equal to 100,000 gallons	Once every 6 months (B)

(A) The six month period shall begin on the first of the month immediately following the most recent successful test.

(B) Gasoline dispensing facilities with a six month average monthly gasoline throughput of 100,000 gallons or greater shall conduct and pass all reverification tests within 30 days of

EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND DISPENSING FACILITY

the end of the six-month period.

NOTIFICATION AND REPORTING:

12. At least 7 days prior to the performance or reverification testing, the owner or operator shall notify the air pollution control officer of the exact date and time of the test. If the vapor recovery system fails any of the applicable tests and the necessary repairs are performed that same day, the owner or operator may retest the vapor recovery system on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are properly documented in the test reports and repair records. **[SMAQMD Permit #17375]**
13. Results of the reverification tests shall be delivered to the air pollution control officer within thirty days of completion of the test. The test results shall contain the following information: **[SMAQMD Permit #17375]**
 - A. Name, location, address, and telephone number of the facility tested, and smaqmd permit number
 - B. Name, address and phone number of the person or company performing the test
 - C. Date of the test
 - D. Test data
 - E. Number of nozzles tested
 - F. Statement of pass or fail

RECORD KEEPING:

14. The following record shall be continuously maintained on site for the most recent three year period and shall be made available to the air pollution control officer upon request. Yearly records shall be made available for inspection within 30 days of the end of the previous year. **[SMAQMD Permit #17375]**

Frequency	Information to be Recorded
At all times	<ol style="list-style-type: none">A. Maintenance records for the vapor recovery system.B. Repair records for the vapor recovery system.C. Daily maintenance inspection reports.D. Records of repairs performed as a result of defects discovered during daily maintenance inspections.E. Performance test results.F. Reverification of performance test results.G. Six-month average monthly gasoline throughput. The six-month period shall begin on the first of the month immediately following the most recent successful reverification tests.

**EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND
 DISPENSING FACILITY**

Daily	Daily maintenance inspection reports including at least the following: A. Date and time of inspection. B. List of defects from the California Code of Regulations, Title 17, Part III, Chapter 1, Subchapter 8, Section 94006 that are applicable to the vapor recovery equipment and have a verification procedure of “direct observation” or “direct measurement”. C. Notation by person performing inspection whether each defect is present. D. Description of any defects discovered. E. Action taken upon discovery of a defect. F. Name and signature of person performing inspection.
Monthly	Total gasoline throughput (gallons per month)
Quarterly	Total gasoline throughput (gallons per quarter)

EMISSION OFFSETS:

15. Aerojet shall provide sufficient emission reduction credits to fully offset the following roc emissions: **[SMAQMD Permit #17375]**

Permit No.	Emission Offsets lb/quarter			
	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
17375	57	57	57	57

16. Emission reduction credits for ROC have been provided by Aerojet to fully offset the amounts in condition no. 15 as follows: **[SMAQMD Permit #17375]**

Permit No.	Amount of Loan tons/year	Loan No.	Term of Loan year(s)	ERC Expiration
17375	0.15	C041003	20	01-01-2024

17. Emission Reduction Credits (ERCs) in the amount specified in condition no. 15 shall be provided at all times that the permitted equipment is allowed to operate: **[SMAQMD Permit #17375]**

- A. This permit to operate shall expire on the date the ERCs expire unless replacement ERCs have been provided as specified in (B).
- B. When ERCs are provided that have an expiration date, **and prior to their expiration only**, the permittee can provide replacement ERCs.

EQUIPMENT SPECIFIC REQUIREMENTS –GASOLINE STORAGE AND DISPENSING FACILITY

- 1) The owner/operator shall submit a valid permit application to modify the current permit to operate and shall pay the required permit fees. The application shall be filed prior to the ERC expiration date such that sufficient time is available to SMAQMD staff to process the application.
- 2) The application shall be evaluated in accordance with the requirements of the current Rule 202-New Source Review and Rule 204-Emission Reduction Credits.
- 3) ERCs shall be required in an amount which is the larger of:
 - a) The originally specified amount, or
 - b) The amount specified by the current rule 202 new source review at the time of replacement.
- C. Failure to provide replacement ERCs **prior to the expiration date of the current ERCs** associated with the Permit to Operate shall require that the owner/operator reapply for a Permit to Construct and Permit to Operate the subject equipment if continued operation of the equipment is desired. The equipment will be subject to Best Available Control Technology requirements and offsetting requirements of Rule 202-New Source Review at the time of re-permitting.

EQUIPMENT SPECIFIC REQUIREMENTS –CHEMICAL MANUFACTURING PROCESS

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

Chemical Manufacturing Process		
Local PO #*	Equipment Description	Location* (Building #)
18793	BN-7, Utilizing Cold Finger E-22 Heat Exchanger Heat Exchanger: Make: NMI Industrial Contractors Material: Stainless Steel Surface Area: 9 sq. ft.	01020

* For reference purposes only – PO # and equipment location are not federally enforceable.

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this subsection are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS:

- The chemical manufacturing process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringlemann 1 or equivalent to or greater than 20% opacity. **[SMAQMD Permit #18793]**
- The emissions from the chemical manufacturing process shall not exceed the following limits: **[SMAQMD Permit #18793]**

Pollutant	Emission Factor lb/batch	Proposed Potential to Emit ^A	
		lb/quarter	lb/year
Methylene chloride	1.13 ^B	14	54
ROC	0.51 ^C	6	24

- The emission limit is based on 12 batches per quarter.
- The emission is based on ETPE process, which yields the highest methylene chloride emission.
- The emission is based on NMMO purification process, which yields the highest ROC emission.

EQUIPMENT SPECIFIC REQUIREMENTS –CHEMICAL MANUFACTURING PROCESS

EQUIPMENT OPERATION:

3. A person shall not, during any one day, dispose of a total of more than 5 liters (1.3 gallons) of any photochemically reactive solvent or any material containing more than 5 liters (1.3 gallons) of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere. **[SMAQMD Permit #18793]**

RECORD KEEPING:

4. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Monthly and quarterly records shall be made available within 30 days following the close of the respective month and quarter. **[SMAQMD Permit #18793]**

Frequency	Information to be recorded
At all times	Material data sheet for currently used VOC and methylene chloride containing materials
Daily	A. The total ROC and methylene chloride emissions from the use of all ROC and methylene chloride containing material (lb ROC/day). B. A statement as to whether the daily ROC or methylene chloride limitation of Condition no. 2 was exceeded.
Quarterly	C. The total ROC and methylene chloride emissions from the use of all ROC and methylene chloride containing material (lb ROC /quarter). D. A statement as to whether the quarterly ROC or methylene chloride limitation of Condition no. 2 was exceeded.

INSIGNIFICANT EMISSION UNITS

The following systems are considered insignificant emissions units and are not subject to equipment-specific requirements. However, these units are required to comply with all applicable general requirements:

MISCELLANEOUS EXEMPT EQUIPMENT	
Equipment	Basis for Exemption
CERCLA Activities: Aerojet operates a number of air stripping towers (see Section B of application for more detail).	CERCLA Activities. These activities do not exceed the major source thresholds and are therefore not subject to the MACT hammer.-
Unregulated Tanks: Aerojet operates a number of etching tanks, cleaning tanks, rinse tanks, storage tanks, dip tanks, etc. (see pages 2-4 of application for more detail).	Rule 201, §122 < 2 lb/day (Do not contain regulated materials)
Hosty Cleaner, electric	Rule 201, §122 < 2 lb/day
Hosty Cleaner, electric	Rule 201, §122 < 2 lb/day
Small IC Engines	Rule 201, §112.1 IC engine < 50 hp
Small Space Heaters	Rule 201, §112.2 Heat input < 1MM Btu/hr total per process
Boilers (11)	Rule 201, §112.2 Heat input < 1MM Btu/hr total per process
HVAC Equipment (approx. 600 units)	Rule 201, §115 Cooling and Vacuum Cleaning
Tanks Containing Liquefied or Compressed Gases: Aerojet has approximately 139 tanks that fall under this category. These tanks contain mainly LPG, liquid nitrogen, liquid argon, liquid and gaseous H ₂ , liquid and gaseous O ₂ , and helium (see pages 8-14 of application for more detail).	Rule 201, §117.1 Liquefied or compressed gases

INSIGNIFICANT EMISSION UNITS

<p><u>Tanks Containing Liquids With Vp < = 77.5 mm Hg & < 6076 Gal Capacity:</u> Aerojet has approximately 37 tanks that fall under this category. These tanks contain mainly diesel fuel, motor oil, kerosene, JP10, Kodak Rp developer solution, butyl acetate, xylene, IPA and hydraulic oil. (see pages 15-16 of application for more detail).</p>	<p>Rule 201, §117.2 and §117.3 Organic liquids with a vapor pressure of 5mm Hg or less or with a vapor pressure of 77.5 mm Hg or less and having a capacity of less than 23,000 liters (6076 gallons)</p>
<p><u>Unheated, Non-Conveyorized Solvent Rinsing Containers and Dip Tanks:</u> Aerojet has approximately 15 degreasing containers and 1 dip tanks that fall under this category. (see page 17 of application for more detail).</p>	<p>Rule 201, §118.3 -- Unheated non-conveyorized solvent rinsing containers or unheated non-conveyorized coating dip tanks of 380 liters (100 gallons) capacity or less</p>
<p><u>Laboratory Equipment:</u> Aerojet has approximately 78 units that fall under this category. These units include general lab operations, hoods, process areas and such. (see pages 18-21 of application for more detail).</p>	<p>Rule 201, §120 -- Laboratory equipment used exclusively for chemical or physical analysis and bench scale tests, including associated vacuum-producing equipment.</p>
<p><u>General Repairs and Maintenance:</u> This includes operations such as the weld shop, plant-wide janitorial services and general maintenance. (see page 22 of application for more detail).</p>	<p>Rule 201, §121 -- Repairs or maintenance not involving changes to any equipment for which a permit has been granted under Section 301 of Rule 201.</p>
<p><u>Emission Units Emitting Less Than 2 lb/day:</u> Aerojet operates approximately 72 emission units that emit less than 2 lb/day and an additional 41 units that emit 0 lb/day. (see pages 23-29 of application for more detail).</p>	<p>Rule 201, §122 -- Other equipment deemed by the Air Pollution Control Officer and which would emit any pollutants without the benefit of air pollution control devices less than 2 pounds in any 24 hour period.</p>