San Diego County Air Pollution Control District

10124 Old Grove Rd.
San Diego, CA 92131
(858) 586-2600

DRAFT
TITLE V OPERATING PERMIT
960991

Issued To:
Solar Turbines Incorporated
Site ID # APCD1976-SITE-01130

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Responsible Official – KEN NOLEN, VICE PRESIDENT OIL AND GAS
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Issued by the San Diego County Air Pollution Control District on June 27, 2011.
This Title V Operating Permit expires on June 27, 2016.

Signed by June 27, 2011
Robert Kard, Air Pollution Control Officer Date

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PREAMBLE

This Title V Operating Permit consists of this document and all appendices, including District permits incorporated by reference. The facility is subject to all applicable requirements identified within this permit, unless a specific permit shield is specified within this permit. If an applicable requirement is omitted from this permit, the facility is still obligated to comply with such an applicable requirement. The permittee must comply with all of the terms listed in each section of this permit.

This permit contains five major sections: Section I contains the Regulation XIV requirements required to carry out the Title V Operating Permit program. Section II contains the requirements that are applicable to the facility on a facility-wide basis. Section III contains the requirements that are applicable to individual emission units which have been issued District permits or District registration, or which have been determined to be insignificant emission units. Section IV contains terms and requirements pertaining to variance procedures and compliance schedules, if applicable to the facility. Section V contains five appendixes. Appendix A contains all the District permits incorporated within this permit. Appendix B contains a table of all rules approved by the District, the rules contained in the State Implementation Plan (SIP), and federal rules that are potential applicable requirements. Appendix C contains a list of abbreviations used within this permit. Appendix D1 contains definitions of terms for the purpose of implementing 40 CFR Part 63 Subpart MMMM. Appendix D2 contains calculation procedures for implementing 40 CFR Part 63 Subpart MMMM. The basis for each condition is noted in brackets following each condition.

Copies of the Rules and Regulations of the Air Pollution Control District of San Diego County and the Rules and Regulations for San Diego County contained in the SIP approved by EPA may be obtained at the District. Copies are also available for review at the following locations:

SD Air Pollution Control District (Library & Public Review Area)	County of SD Law Library (Downtown)	County of SD Law Library (North County)
10124 Old Grove Rd.	1105 Front St.	325 S. Melrose Suite 300
San Diego, CA 92131	San Diego, CA 92101	Vista, CA 92083
(858) 586-2600	(619) 531-3900	(760) 940-4386

The current Rules and Regulations of the Air Pollution Control District of San Diego County may also be viewed and downloaded using the following internet address:

www.sdapcd.org

The following addresses should be used to submit any certifications, reports or other information required by this permit:

SD Air Pollution Control District	USEPA Region IX
Compliance Division	Director of the Air Division Attn: Air-3
10124 Old Grove Rd.	75 Hawthorne Street
San Diego, CA 92131	San Francisco, CA 94105

SECTION I. REGULATION XIV PERMIT REQUIREMENTS

A. ADMINISTRATIVE PERMIT TERMS

1. This Title V Operating Permit expires on June 27, 2016. [Rule 1410]
2. Commencing or continuing operation under this permit to operate shall be deemed acceptance of all terms and conditions specified within this permit. This does not limit the right of the applicant to seek judicial review or seek federal EPA review of a permit term or condition. [Rule 1421]
3. This permit may be modified, revoked, reopened and reissued, or terminated by the District for cause. [Rule 1421]
4. The filing of a request by the facility for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay the applicability of any permit condition. [Rule 1421]
5. This permit does not convey any property rights of any sort, nor any exclusive privilege. [Rule 1421]
6. The need for the permittee to halt or reduce a permitted activity in order to maintain compliance with any term or condition of this permit shall not be a defense for any enforcement action brought as a result of a violation of any such term or condition. [Rule 1421]
7. In the event of challenge to any portion of this permit, the rest of the permit remains valid. [Rule 1421]
8. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any applicable requirement in this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [Rule 1421]

B. RENEWAL REQUIREMENTS AND TERMS

1. The permittee shall submit a complete application for renewal of this permit to the Air Pollution Control Officer no later than June 27, 2015, and no earlier than December 27, 2014. [Rule 1410]
2. If an administratively complete application for renewal of this permit has been submitted to the Air Pollution Control Officer within the dates specified in Section I.B.1., the terms and conditions of this permit shall remain in effect and the source may continue operations under these terms and conditions after June 27, 2016, until the Air Pollution Control Officer issues or denies the permit renewal. [Rule 1410]

C. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

1. The permittee shall provide the District access to the facility and all equipment subject to this permit, and access to all required records pursuant to California Health and Safety Code Section 41510. [Rule 1421 (b)(2)(i)]

2. The permittee shall maintain all records required by this permit including any calibration, maintenance, and other supporting information and copies of all reports required by this permit for at least five years from their date of creation. Such records shall be maintained on-site for a minimum of three years. [Rule 1421(b)(1)(iii)]

3. The permittee shall submit monitoring and recordkeeping summary reports and all other monitoring and recordkeeping reports required by this permit to the District every six months, unless a shorter time frame is required by a specific permit condition contained in Section III of this permit. Unless other dates are specified in Section III, reports for data required to be collected from January 1 through June 30, shall be submitted no later than September 1 of the calendar year, and reports for data required to be collected from July 1 through December 31, shall be submitted no later than March 1 of the following calendar year. The report for the final six months of the year may be consolidated with the annual compliance certification required below. All instances of noncompliance from federally enforceable applicable requirements shall be clearly identified in these reports. (Timely completion of District Certification Reports Form J1 and Form J2, if applicable, and all indicated attachments, fulfills the requirements of this condition.) [Rule 1421]

4. Each calendar year, the permittee shall submit to the District and to the federal EPA an annual compliance certification, in a manner and form approved in writing by the District, for the previous calendar year that includes the identification of each applicable term or condition of the final permit for which the compliance status is being certified, the compliance status and whether the facility was in continuous or intermittent compliance during the previous calendar year, identification of the method used to determine compliance during the previous calendar year, and any other information required by the District to determine the compliance status. The annual compliance certification for a calendar year shall be submitted no later than March 1 of the following calendar year and may be consolidated with the monitoring and recordkeeping report for the last six months of the year for which compliance is certified. (Timely completion of District Certification Reports Form J1 and Form J2, if applicable, and all indicated attachments, fulfills the requirements of this condition.) [Rule 1421(b)(2)(iii) and Rule 1421 (b)(2)(iv)]

5. Any report submitted to the District or federal EPA pursuant to this permit to comply with a federally enforceable applicable requirement, shall be certified by a responsible official stating that, based on information and belief formed after reasonable inquiry, the report is true, accurate and complete. [Rule 1421 (b)(2)(iv)]

6. The permittee shall make any trade secret designations of records, documents, or other information submitted to the District or federal EPA in accordance with District Rule 176. [Rule 176]

7. The permittee shall report all deviations from any and all federally enforceable permit terms and conditions including: (a) breakdowns, whether or not they result in excess emissions, (b) deviations that result in excess emissions of any regulated air pollutant, and (c) deviations from monitoring, recordkeeping, reporting and other administrative requirements that do not result in excess emissions. For deviations that result from breakdowns under District Rule 98, the permittee shall report the breakdown within two hours of detection of the breakdown and provide a follow-up written report after corrective actions have been taken. For deviations not due to a breakdown but which result in excess emissions, the permittee shall report the deviation within ten calendar days of detection. For all other deviations where no specific time frame for reporting a deviation applies, the permittee shall report the deviation at the time of the next semi-annual monitoring summary or annual compliance certification, whichever occurs first. If an underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, then the criteria for the applicable requirement shall apply. The report must include the probable cause of such deviations and any corrective actions or preventive measures taken. [Rule 1421]

D. GENERAL PERMIT REQUIREMENTS

1. The permittee shall comply with all terms and conditions of this permit. This permit consists of this document and Appendices A, B, C, D1, and D2. Any noncompliance with the federally applicable terms and conditions of this permit shall constitute a violation of the federal Clean Air Act. Noncompliance with any federally applicable permit term or condition of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Noncompliance with any District permit term or condition is grounds for enforcement action by the District. [Rule 1421 (b)(1)(vi)]
2. Upon a written request by the District, the permittee shall furnish to the District any information needed to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; any information required to determine compliance with this permit; or any records required to be maintained pursuant to this permit. Such information shall be provided within a reasonable time, as specified within the District's written request. [Rule 1421 (b)(1)(x)]
3. The permittee shall pay annual fees in accordance with District Rule 40. [Rule 1421(b)(1)(xi)]
4. The permittee shall provide access, facilities, utilities and any necessary safety equipment for source testing and inspection upon request of the District. [Rule 19]
5. This permit shall be maintained on-site at all times and be made available to the District upon request. [Rule 1410 (c)]
6. The Rule Reference Table provided in Appendix B shall be used to determine whether a cited rule is a federally and District enforceable requirement or a District only enforceable requirement. Any new or revised District rule shall not be considered federally enforceable until the rule is approved by EPA into the SIP. In cases where

SIP approval is pending for a revised District rule, the rule citation shall refer to both the current SIP approved rule and the revised District rule. [Rule 1421]

SECTION II. FACILITY-WIDE REQUIREMENTS

A. GENERAL PERMIT PROGRAM APPLICABLE REQUIREMENTS

The permittee shall comply with the applicable requirements specified in the Rules and Regulations cited below, unless specifically exempted by the same Rule or Regulation.

Regulation	Rule Citation	Title
SDCAPCD Reg. II	10	Permits Required
SDCAPCD Reg. II	19	Provision of Sampling & Testing Facilities
SDCAPCD Reg. II	19.3	Emission Information
SDCAPCD Reg. II	21	Permit Conditions
SDCAPCD Reg. IV	60	Circumvention
SDCAPCD Reg. V	98	Breakdown Conditions: Emergency Variance
SDCAPCD Reg. VIII	131	Stationary Source Curtailment Plan
SDCAPCD Reg. VIII	132	Traffic Abatement Plan

B. GENERAL PROHIBITORY APPLICABLE REQUIREMENTS

The permittee shall comply with the generally applicable requirements specified in the Rules and Regulations cited below, unless specifically exempted by the same Rule or Regulation. These generally applicable requirements apply on a facility-wide basis to all permitted equipment, registered equipment, and insignificant activities. In cases where a requirement, in addition to being generally applicable, is also specifically applicable to one or more permitted emission units, the requirement is also included in Section III.A. of this permit.

Regulation	Rule Citation	Title
SDCAPCD Reg. IV	50	Visible Emissions
SDCAPCD Reg. IV	51	Nuisance
SDCAPCD Reg. IV	67.0	Architectural Coatings
SDCAPCD Reg. IV	67.17	Storage of Materials Containing VOC
SDCAPCD Reg. IV	71	Abrasive Blasting
SDCAPCD Reg. VI	102	Open Fires - Western Section
SDCAPCD Reg. VI	105	Burning Permits
SDCAPCD Reg. VI	106	Permit Duration
SDCAPCD Reg. VI	107	Burning Hours
SDCAPCD Reg. VI	108	Burning Conditions
SDCAPCD Reg. VI	111	Prior Notification
SDCAPCD Reg. VI	112	Burning Report
SDCAPCD Reg. XI	Subpart M, 361.145	Standard for Demolition and Renovation
SDCAPCD Reg. XI	Subpart M, 361.150	Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations
40 CFR Part 82	Subpart F	Recycling and Emissions Reduction

C. 40 CFR Part 68, Chemical Accident Prevention Provisions (RMP Requirements)

Not applicable to this source.

D. PERMIT SHIELDS

Not applicable to this source.

E. 40 CFR PART 63 SUBPART MMMM REQUIREMENTS

EMISSION LIMITATIONS AND GENERAL REQUIREMENTS

1. The permittee shall comply with all applicable requirements of 40 CFR Part 63 Subpart MMMM (Subpart MMMM) and 40 CFR Part 63 Subpart A.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

2. Terms used in this permit and associated calculation procedure addressing Subpart MMMM requirements are defined in Appendix D1, in the federal Clean Air Act, in 40 CFR §63.2, and in Subpart MMMM. If any term defined in Appendix D1, conflicts with a term in the federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM as it is defined for use in Subpart MMMM, the definition of the term federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM shall take precedence.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

3. During the initial compliance period and each and every compliance period thereafter, except for surface coating operations that occur at research or laboratory facilities or are part of janitorial, building, and facility maintenance operations and coating operations affected by other NESHAPs, all affected coating operations of miscellaneous metal parts at this facility including, but not limited, to coating operations under Permits to Operate Nos. 3977, 978792, and 050303 and portable coating operations with or without a valid District permit to operate including, but not limited to, contracted operations shall not emit more organic HAPs per gallon of coating solids than the applicable Subpart MMMM Emission Limit in the following table or a Facility-Specific Emission Limit, if applicable. [40 CFR Part 63 Subpart MMMM and Rule 1421]

Coating Subcategory	Limit, lbs/gal	Limit, kg/l
General use coatings	2.6	0.31
High temperature coatings	27.5	3.3
Rubber-to-metal coatings	37.7	4.5
Extreme performance fluoropolymer coatings	12.4	1.5

4. The permittee may elect to use a Facility-Specific Emission Limit calculated in accordance with the Subpart MMMM Calculation Procedures for any coating operation or group of coating operations in lieu of a Subpart MMMM Emission Limit(s). [40 CFR Part 63 Subpart MMMM and Rule 1421]

5. For the initial compliance period and each and every compliance period thereafter, compliance with the applicable Subpart MMMM Emission Limit or Facility-Specific Emission Limit shall be demonstrated by calculations performed in accordance with the procedures specified in the Subpart MMMM Calculation Procedures which are incorporated in this permit in Appendix D2 and 40 CFR Part 63 Subpart MMMM. Any mathematically and scientifically equivalent procedure may be used with the written approval of the District, including procedures implemented wholly or partially in an electronic spreadsheet(s). Any changes to procedures implemented after the effective date of this permit require the advanced written approval of the District.
Rules(s): [40 CFR Part 63 Subpart MMMM and Rule 1421]

6. The permittee may elect to use either the Compliant Material Option or the Emission Rate Option Without Add-On Controls (Emission Rate Option) as specified in the Subpart MMMM Calculation Procedure to demonstrate compliance with the Subpart MMMM Emission Limit or Facility-Specific Emission Limit during the initial compliance period and each successive compliance period thereafter. Either the Compliant Material Option or the Emission Rate Option may be used for any individual coating operation or group of coating operations as determined by the permittee. However, the Compliant Material Option or the Emission Rate Option cannot both be used during the same compliance period for an individual coating operation or group of coating operations. For purposes of this condition, for compliance periods with overlapping time periods, the use of a different compliance option for the different compliance periods is not considered use of different compliance options in the same compliance period.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

7. For the Compliant Material Option, compliance with the Subpart MMMM Emission Limit or Facility-Specific Emission Limit is demonstrated for a compliance period if each individual coating used during the compliance period in the coating operation or group of operations for which this option is applicable complies with the applicable Subpart MMMM Emission Limit or Facility-Specific Emission Limit and each thinner and/or other additive and each cleaning material used during the compliance period are non-HAP materials. [40 CFR Part 63 Subpart MMMM]

8. For the Emission Rate Option, the permittee may elect to account for the mass of organic HAP contained in waste in accordance with Subsection 3.5 of the Subpart MMMM Calculation Procedures. [40 CFR Part 63 Subpart MMMM and Rule 1421]

9. For the Emission Rate Option, if an operation or group of operations uses only coatings subject to a single Subpart MMMM Emission Limit and a Facility-Specific Emission Limit is not applicable, compliance with the Subpart MMMM emission limit is demonstrated for a compliance period if the organic HAP emission rate during the

compliance period for the coating operation or group of operations for which this option is applicable is less than the applicable Subpart MMMM Emission Limit. [40 CFR Part 63 Subpart MMMM]

10. For the Emission Rate Option, if compliance is being demonstrated for an operation that uses coatings in with more than one applicable Subpart MMMM Emission Limit, and a facility-specific emission limit is not applicable, compliance can be demonstrated for each subcategory separately provided that all of the following are complied with:

    a. Only non-HAP materials are used for thinning and cleaning or the amount of thinner and cleaning materials used is recorded separately for each coating subcategory and is not estimated from mixing ratios.

    b. No allowance for waste is made in the compliance demonstration or the amount of coating waste generated from the use of coatings in each coating subcategory is separately recorded for each coating subcategory.

    Otherwise, compliance must be demonstrated with the most stringent Subpart MMMM Emission Limit applicable to any of the coatings being used.
    [40 CFR Part 63 Subpart MMMM]

11. For the Emission Rate Option, if the permittee has elected to use a Facility-Specific Emission Limit for the compliance period, then the compliance demonstration for the Emission Rate Option must include all affected coating operations and all coating operations affected by another NESHAP as a single group.
    [40 CFR Part 63 Subpart MMMM]

12. For coatings that are composed of more than one component, not including thinners and additives, compliance shall be demonstrated for each individual component, when using the Compliant Material Option, and based on each individual component's emissions, when using the Emission Rate Option, except that, for two-component coatings purchased as a kit containing both components where there is a single, fixed mixing ratio for the components identified by the coating manufacturer, compliance may be demonstrated for the two components as mixed provide that all of the following conditions are met:

    a. Calendar monthly records are maintained of the use of each coating component.

    b. The excess use of each component calculated in accordance with Section 3.8 of the Subpart MMMM Calculation Procedures is less than 50 gallons for all affected coating operations at the facility.

    c. The total excess use of all such coating components at the facility when added to the total use of any other coatings used in quantities of less than 50 gallons, as applied, that the permitttee has elected to exclude from being subject to Subpart MMMM is less than 250 gallons, as applied.

    d. Any thinner or additive used with the coating is a non-HAP material.

If compliance for a two-component coating is being demonstrated as above for a coating as mixed, noncompliance with provisions of a–d of this condition is a deviation in addition to any deviation for noncompliance with the applicable emission limit.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

13. The permitee may elect to exclude coatings used in total volumes of less than 50 gallons, as applied, for the facility as a whole in a compliance period from any compliance demonstration for an affected coating operation and from compliance with the applicable Subpart MMMM Emission Limit or Facility-Specific Emission Limit, provided that the total volume of such excluded coatings at the facility does not exceed 250 gallons, as applied, in the compliance period.
[40 CFR Part 63 Subpart MMMM]

14. For purposes of demonstrating compliance with the applicable emission limit using the Emission Rate Option, the volume of thinning material used to thin coatings may be estimated from the recommended manufacturer or supplier thinning provided that all of the following conditions are met or a non-HAP thinner is used:

    a. The estimated amount does not exceed the manufacturer's or supplier's recommendation.

    b. The difference between the amount of virgin thinner, which is thinner that has not been recycled, dispensed during the month and the estimated amount used in thinning coatings is considered used as a cleaner, with no allowance for waste.

    c. All coating operations using the thinner for any reason (for example, coating thinning and/or cleaning) are grouped together for purposes of demonstrating compliance and all the thinner dispensed is assigned as used by these coating operations and compliance is demonstrated with the most stringent Subpart MMMM Emission Limit among the subcategories of the coatings being used or a Facility-Specific Emission Limit.

    In this case, the calendar monthly recordkeeping of the amount of virgin thinner dispensed shall satisfy the recordkeeping requirements for the volume of thinner used.
    [40 CFR Part 63 Subpart MMMM and Rule 1421]

15. The permittee shall perform and record the applicable calculations that demonstrate compliance with Subpart MMMM no later than the end of the calendar month following the end of each compliance period or 30 days following the end of each compliance period, whichever is later. The calculations and compliance demonstration for a compliance period may be revised by the District or, with the advanced written approval of the District, by the applicant based on new manufacturer or supplier information or test results received after the end of the compliance period that the District deems is applicable to the compliance period.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

16. Following the end of each compliance period, the permittee may elect to change the compliance option for any operation for that compliance period provided such a change is elected no later than the end of the calendar month following the end of that compliance period or 30 days following the end of that compliance period, whichever is later. [40 CFR Part 63 Subpart MMMM and Rule 1421]

17. A compliance option is applicable to the entire compliance period. For each operation subject to Subpart MMMM, the permittee shall record the date a change is made to the compliance option for that operation. [40 CFR Part 63 Subpart MMMM]

18. No later than July 31, 2011, the permittee shall identify the compliance option chosen for each subject coating operation for the initial compliance period and the date and each successive compliance period ending on or before June 30, 2011. [40 CFR Part 63 Subpart MMMM and Rule 1421]

RECORDKEEPING

19. The permittee shall maintain copy of each notification and report that is submitted to comply with Subpart MMMM, 40 CFR §63.9, or §63.10 and the documentation supporting each notification and report. [40 CFR Part 63 Subpart MMMM]

20. The permittee shall maintain a current copy of information provided by material suppliers or manufacturers, such as the manufacturer's formulation data or test data, used to determine the mass fraction of organic HAP and material density for each coating, thinner and/or other additive, and cleaning material and, for each coating, the volume fraction of coating solids. [40 CFR Part 63 Subpart MMMM]

21. For muli-component coatings, the permittee shall maintain records of the manufacturer's or supplier's recommended mix ratio(s), the recommended amount of thinner to be added, if necessary, to the mixed coating, and any recommended additives. [40 CFR Part 63 Subpart MMMM and Rule 1421]

22. Beginning on July 1, 2011, if the permittee elects to demonstrate compliance with a Subpart MMMM Emission Limit(s) or a Facility-Specific Emission Limit with two-component coatings as mixed, the permittee shall maintain calendar monthly records of the excess use of each component and records of the total excess use of each component for each compliance period calculated in accordance with Section 3.8 of the Subpart MMMM Calculation Procedures. [40 CFR Part 63 Subpart MMMM and Rule 1421]

23. The permittee shall maintain records that identify each coating that is excluded from the required compliance demonstration for an affected coating operation and record the total volume, as applied, of each such coating used at the facility and the total volume, as applied, of all such coating used at the facility during each calendar month and during each compliance period. [40 CFR Part 63 Subpart MMMM and Rule 1421]

24. The permittee shall maintain a copy of the complete test report used to measure the mass fraction of organic HAP, density, or volume fraction of coating solids, except that the permittee need only maintain a summary sheet of results provided by the manufacturer or supplier for information provided by the manufacturer or supplier that was based on testing. [40 CFR Part 63 Subpart MMMM]

25. For each compliance period, the permittee shall maintain the following records:

    a. Calendar monthly records for each coating operation that indicate, for each compliance period, whether compliance for that operation is being demonstrated with respect to a Subpart MMMM Emission Limit or a Facility-Specific Emission Limit, whether compliance for that coating operation is being demonstrated with the Compliant Material Option or the Emission Rate Option, whether compliance is being demonstrated for that coating operation individually or as part of a group of coating operations, and, if compliance is being demonstrated as part of a group of coating operations, the other coating operations that constitute the group;

    b. For each coating used in operations for which the permittee demonstrates compliance using the Compliant Material Option, if any, a calendar monthly record of the calculation of the organic HAP content in accordance with the Subpart MMMM Calculation Procedures ;

    c. For each coating operation or group of coating operations for which the permittee elected to use the Emission Rate Option, if any, a calendar monthly record of the calculation in accordance with the Subpart MMMM Calculation Procedures of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month; and, if applicable, the mass of organic HAP in waste materials; the total volume of coating solids used each month; and the organic HAP emission rate for the compliance period;

    d. A record of the name and calendar monthly records of the volume of each coating, thinner and/or other additive, and cleaning material used during each month of the compliance period and the total volume of each material used during the compliance period or, if the Compliant Material Option is used for all coatings at the source, may maintain purchase records for each material used rather than a record of the volume used;

    e. A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used;

    f. A record of the volume fraction of coating solids for each coating;

    g. A record of the density for each coating, thinner and/or other additive, and cleaning material used;

    h. For each coating operation for which the Emission Rate Option is used to demonstrate compliance, if any, and for which organic HAP in waste is accounted for in the demonstration of compliance, calendar monthly records of the organic HAP contained in waste materials for those operations that is sent to or designated

for shipment to a treatment, storage, and disposal facility (TSDF) and the following additional records:

i. The name and address of each TSDF to which waste materials were sent for which an allowance other than zero was used in Equation 3.4.1 of the Subpart MMMM Calculation Procedures; a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility; and the date of each shipment.

ii. Identification of the coating operations producing waste materials included in each shipment and the month or months in which an allowance other than zero for these materials was used in Equation 3.4.1 of the Subpart MMMM Calculation Procedures.

iii. The methodology used to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

and;

i. The date, time, and duration of each deviation.
[40 CFR Part 63 Subpart MMMM and Rule 1421]

REPORTING

26. The permittee shall file semiannual compliance reports in accordance with 40 CFR §63.3920. [40 CFR Part 63 Subpart MMMM]

27. Each semiannual compliance report that is subsequent to the initial compliance report required under 40 CFR §63.3920, must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each such semiannual compliance report shall be postmarked or delivered no later than March 1 or September 1, whichever date is the first date following the end of the semiannual reporting period. [40 CFR Part 63 Subpart MMMM and Rule 1421]

28. The semiannual compliance report must contain all the following information:.

a. Company name and address.

b. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

c. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will

be based on the last 12 months of data prior to the date of each calendar monthly calculation demonstrating compliance with Subpart MMMM.

d. The compliance option or options that were used for each coating operation during the reporting period. If compliance options for a coating operation were switched during the reporting period, the report shall indicate the beginning and ending dates for each option used.

e. If the Emission Rate Option is used to demonstrate compliance for one or more coating operations, the organic HAP emission rate as calculated by the Subpart MMMM Calculation Procedures for each such coating operation for each compliance period that ends during the 6-month reporting period.

f. If there were no deviations from the applicable Subpart MMMM Emission Limits or Facility-Specific Emission Limit, the semiannual compliance report must include a statement that there were no deviations from the applicable Subpart MMMM Emission Limits or the Facility-Specific Emission Limit, if applicable, during the reporting period.

g. If the Compliant Material Option is used and there was a deviation from the applicable Subpart MMMM Emission Limit(s) or Facility-Specific Emission Limit, the semiannual compliance report must contain the following information on or attached to District Form J2:

    i. Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used;

    ii. The calculation of the organic HAP content in accordance with the Subpart MMMM Calculation Procedures for each coating identified above—background data supporting this calculation (*e.g.,* information provided by coating suppliers or manufacturers, or test reports) does not need to be provided;

    iii. The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified—background data supporting this calculation (*e.g.,* information provided by coating suppliers or manufacturers, or test reports) does not need to be provided; and

    iv. A statement of the cause of each deviation.

h. If the Emission Rate Option is used and there was a deviation from the applicable Subpart MMMM Emission Limit(s) or Facility-Specific Emission Limit, the semiannual compliance report must contain the following information on or attached to District Form J2:

    i. The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the Subpart MMMM Emission Limit or Facility-Specific Emission Limit.

ii. The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. Calculations for the applicable sections and subsections of the Subpart MMMM Calculation Procedures must be submitted. However, background data supporting this calculation (*e.g.*, information provided by coating suppliers or manufacturers, or test reports) does not need to be provided.

iii. A statement of the cause of each deviation.

[40 CFR Part 63 Subpart MMMM and Rule 1421]

29. All semiannual compliance reports shall be submitted to the District Compliance Division and EPA, Region IX unless the Administrator of EPA waives the requirement to submit the report to EPA. [40 CFR Part 63 Subpart MMMM]

NOTIFICATIONS

30. The permittee shall comply with the notification requirements of 40 CFR §63.9 and 40 CFR §63.3910. [40 CFR Part 63 Subpart A and 40 CFR Part 63 Subpart MMMM]

TEST METHODS

31. For purposes of calculating HAP content, the mass fraction of each organic HAP in each material shall be determined from supplier or manufacturer information, including, but not limited to, the manufacturer's formulation data and/or material safety data sheets, provided that the manufacturer or supplier information represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR §1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds and, for reactive adhesives, in which some of the HAPs react to form solids that are not emitted to the atmosphere, the manufacturer's data expressly states the organic HAP or volatile matter mass fraction emitted, except that, when deemed necessary by the District, the mass fraction of organic HAP of any material shall be measured in accordance with EPA Method 311. [40 CFR Part 63 Subpart MMMM]

32. The permittee may elect to use Table 3 to Subpart MMMM to estimate the mass fraction of HAPs for blended solvents as described in Subpart MMMM when test data or manufacturer or supplier formulation data is not available.
[40 CFR Part 63 Subpart MMMM]

33. For purposes of this permit, the mass fraction of HAPs in recycled cleaning or thinning material shall be considered the same as for the virgin material.
[40 CFR Part 63 Subpart MMMM]

34. The volume fraction of solids in each material shall be determined by supplier or manufacturer information, including, but not limited to, the manufacturer's formulation

data and material safety data sheets, or by the method specified in the Subpart MMMM Calculation Procedures for this facility, except that, when deemed necessary by the District, the volume fraction of solids of any material shall be measured in accordance with ASTM Method D2697–86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings" or ASTM Method D6093–97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer." The nonvolatile volume percent obtained with these methods is divided by 100 to calculate volume fraction of coating solids. Alternative measurement methods may be used with the advanced written approval of the EPA. [40 CFR Part 63 Subpart MMMM and Rule 1421]

35. The average density of the volatile material in each coating shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, except that, when deemed necessary by the District, the average density of a material shall be measured in accordance with ASTM Method D1475–98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products." Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart MMMM and Rule 1421]

36. The density of each liquid material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, or, for pure materials, reference sources providing density or specific gravity, except that, when deemed necessary by the District, the density of a liquid material shall be measured in accordance with ASTM Method D1475–98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products." Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart MMMM and Rule 1421]

37. The total volatile matter content of each material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data, except that, when deemed necessary by the District, the total volatile matter content of any material shall be measured in accordance with EPA Method 24. Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart MMMM and Rule 1421]

38. For powder coatings, the density of each material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, except that, when deemed necessary by the District, the total volatile matter content of any material shall be measured in accordance with ASTM Method D5965–02, "Standard Test Methods for Specific Gravity of Coating Powders" (incorporated by reference, see 40 CFR §63.14). Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart MMMM and Rule 1421]

39. In the case there is a difference between the values of any parameter as measured by the applicable test method and the value provided by the manufacturer or supplier, the measured value shall take precedence unless the permittee, in consultation with the

District, demonstrates to the satisfaction of the District that the manufacturer or supplier information is correct. [40 CFR Part 63 Subpart MMMM and Rule 1421]

F. ADDITIONAL TERMS

1. Any emission unit described in this Title V operating permit as being fired on natural gas, shall only use Public Utility Commission (PUC)-quality natural gas, unless the emission unit permit specifies otherwise. Permittee shall provide records of the natural gas sulfur content to the District upon request. [Rule(s) 53, 62]
2. Records required by this permit shall be considered as being maintained "on-site" if records for the previous 12-month period are available at the stationary source and any additional records are maintained at Solar Turbines Harbor Drive Facility located at 2200 Pacific Highway, San Diego CA 92101, and made readily available to the District upon request. [Rule 21]

SECTION III. EMISSION UNIT REQUIREMENTS

A. DISTRICT PERMITTED EMISSION UNITS

The District Permits listed below and attached in Appendix A, including all terms and conditions of such permits, constitute the emission unit portion of this Title V Operating Permit document.

BY PERMIT NUMBER

Permit Numbers	Source Category
1582	Industrial Coatings
3886	Test Cell/Pad (08)
3977	Metal Parts Coating
4015	Test Cell/Pad (07)
4252	Test Cell/Pad (01)
4253	Test Cell/Pad (02)
4254	Test Cell/Pad (03)
4255	Test Cell/Pad (04)
4256	Test Cell/Pad (05)
4257	Test Cell/Pad (06)
4258	Test Cell/Pad (09)
4495	Test Cell/Pad (10)
4496	Test Cell/Pad (11)
4733	Test Cell/Pad (12)
7750	Abrasive Blasting
20875	Test Cell/Pad (19)

BY SOURCE CATEGORY

Source Category	Permit Numbers
Abrasive Blasting	7750
Duct Burner Test Pad	920710
Industrial Coatings	1582
Metal Inspection Tanks	930697
Metal Parts Coating	3977
Metal Parts Coating	50303
Metal Parts Coating	978792
Test Cell/Pad (01)	4252
Test Cell/Pad (02)	4253
Test Cell/Pad (03)	4254
Test Cell/Pad (04)	4255
Test Cell/Pad (05)	4256
Test Cell/Pad (06)	4257

20876	Test Cell/Pad (30)
20877	Test Cell/Pad (18)
20878	Test Cell/Pad (17)
20879	Test Cell/Pad (16)
20880	Test Cell/Pad (15)
20881	Test Cell/Pad (13)
20882	Test Cell/Pad (14)
50303	Metal Parts Coating
920710	Duct Burner Test Pad
930697	Metal Inspection Tanks
975790	Test Cell/Pad (16-4)
975791	Test Cell/Pad (21)
975792	Test Cell/Pad (22)
975793	Test Cell/Pad (23)
976905	Thermal Oxidizer
976913	Thermal Oxidizer
978792	Metal Parts Coating

Test Cell/Pad (07)	4015
Test Cell/Pad (08)	3886
Test Cell/Pad (09)	4258
Test Cell/Pad (10)	4495
Test Cell/Pad (11)	4496
Test Cell/Pad (12)	4733
Test Cell/Pad (13)	20881
Test Cell/Pad (14)	20882
Test Cell/Pad (15)	20880
Test Cell/Pad (16)	20879
Test Cell/Pad (17)	20878
Test Cell/Pad (18)	20877
Test Cell/Pad (19)	20875
Test Cell/Pad (30)	20876
Test Cell/Pad (16-4)	975790
Test Cell/Pad (21)	975791
Test Cell/Pad (22)	975792
Test Cell/Pad (23)	975793
Thermal Oxidizer	976705
Thermal Oxidizer	976713

B. REGISTERED AND LEASED EMISSION UNITS

The permittee shall comply with the source specific applicable requirements specified in the Rules and Regulations cited below for all registered and leased emission units, unless specifically exempted by the same Rule or Regulations.

Regulation	Rule Citation	Title
SDCAPCD Reg. IV	62	Sulfur Content of Fuels
SDCAPCD Reg. IV	69.4	Stationary Reciprocating Internal Combustion Engines

C. INSIGNIFICANT EMISSION UNITS AND ACTIVITIES

The permittee shall comply with the source specific applicable requirements specified in the Rules and Regulations cited below for all emission units not required to obtain a District Permit to Operate pursuant to Rule 11, unless specifically exempted by the same Rule or Regulations.

Regulation	Rule Citation	Title
SDCAPCD Reg. IV	62	Sulfur Content of Fuels
SDCAPCD Reg. IV	66	Organic Solvents
SDCAPCD Reg. IV	66.1	Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds
SDCAPCD Reg. IV	69.2.1	Small Boilers, Process Heaters, and SteamGenerators

D. PERMIT SHIELDS

Not applicable to this source.

SECTION IV. VARIANCE PROCEDURES & COMPLIANCE SCHEDULES

A. VARIANCE PROCEDURES

1. The permittee may seek relief from District enforcement action in the event of a breakdown in accordance with District Rule 98. Notwithstanding the foregoing, the granting by the District of breakdown relief or the issuance by the Hearing Board of a variance does not provide relief from federal enforcement or citizen's suits. [Rule 98]

B. COMPLIANCE SCHEDULES

Not applicable to this source.

SECTION V. APPENDICES

APPENDIX A: DISTRICT PERMITS (Attached)

Permit Numbers	Source Category
1582	Industrial Coatings
3886	Test Cell/Pad (08)
3977	Metal Parts Coating
4015	Test Cell/Pad (07)
4252	Test Cell/Pad (01)
4253	Test Cell/Pad (02)
4254	Test Cell/Pad (03)
4255	Test Cell/Pad (04)
4256	Test Cell/Pad (05)
4257	Test Cell/Pad (06)
4258	Test Cell/Pad (09)
4495	Test Cell/Pad (10)
4496	Test Cell/Pad (11)
4733	Test Cell/Pad (12)
7750	Abrasive Blasting
20875	Test Cell/Pad (19)
20876	Test Cell/Pad (30)
20877	Test Cell/Pad (18)
20878	Test Cell/Pad (17)
20879	Test Cell/Pad (16)
20880	Test Cell/Pad (15)
20881	Test Cell/Pad (13)
20882	Test Cell/Pad (14)
50303	Metal Parts Coating
920710	Duct Burner Test Pad
930697	Metal Inspection Tanks
975790	Test Cell/Pad (16-4)
975791	Test Cell/Pad (21)
975792	Test Cell/Pad (22)
975793	Test Cell/Pad (23)
976905	Thermal Oxidizer
976913	Thermal Oxidizer
978792	Metal Parts Coating

APPENDIX D1: DEFINITIONS—40 CFR PART 63 SUBPART MMMM

Terms used in this permit and associated calculation procedures for purposes of addressing 40 CFR Part 63 Subpart MMMM (Subpart MMMM) requirements are defined below, in the federal Clean Air Act, in 40 CFR §63.2, and in Subpart MMMM. If any term defined below, conflicts with a term in the federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM as it is defined for use in Subpart MMMM, the definition of the term federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM shall take precedence.

Additive means a material that is added to a coating after purchase from a supplier. Examples of additives are catalysts, activators, and accelerators.

Adhesive or adhesive coating means any chemical substance that is applied for the purpose of bonding two surfaces together. Products used on humans and animals, adhesive tape, contact paper, or any other product with an adhesive incorporated onto or in an inert substrate shall not be considered adhesives.

Affected coating operation means, except for surface coating operations that occur at research or laboratory facilities or are part of janitorial, building, and facility maintenance operations or coating operations affected by other NESHAPs, all surface coating operations of miscellaneous metal parts and products at this facility including, but not limited to, coating operations under Permits to Operate Nos. 3977, 978792, and 050303 and portable coating operations with or without a valid District permit to operate including, but not limited to, contracted operations. The affected coating operation includes the collection of all of the following items that are used for surface coating of miscellaneous metal parts and products at this facility, as applicable: all storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed; all manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and all storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

Affected by other NESHAPs means surface coating operations where plastic is extruded onto metal wire or cable or metal parts or products to form a coating, surface coating of metal parts intended for use in an aerospace vehicle or component using specialty coatings as defined in Appendix A to 40 CFR Part 63 Subpart GG; and surface coating of metal parts, metal product components, or metal products that meet the applicability criteria of 40 CFR Part 63 Subparts JJ, NNNN, RRRR, QQQQ, GG, II, JJJJ, SSSS, VVVV, PPPP, and IIII.

Cleaning material means a solvent used to remove contaminants and other materials, such as dirt, grease, oil, and dried or wet coating (*e.g.,* depainting or paint stripping), from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

Coating means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

Coating operation means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the facility where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations at the facility. Coating application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation.

Coatings solids means the nonvolatile portion of the coating that makes up the dry film.

Coating waste material means waste materials that are generated by coating operations during a compliance period for which the Emission Rate Option of the Subpart MMMM Calculation Procedures is used to demonstrate compliance and that will be treated or disposed of by a facility that is regulated as a hazardous waste treatment, storage and disposal facilities (TSDF) under 40 CFR Part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. Organic HAP contained in wastewater or any waste material from coatings that are excluded from a compliance demonstration are not included in coating waste materials.

Initial compliance period means the period that begins on September 6, 2008 and ends on September 30, 2009.

Compliance period means successive 12-consecutive-calendar-month periods except for the initial compliance period which may contain 13 complete or partial consecutive calendar months. Each calendar month that ends after the initial compliance period is the end of a compliance period consisting of that month and the preceding 11 calendar months.

Extreme performance fluoropolymer coating means coatings that are formulated systems based on fluoropolymer resins which often contain bonding matrix polymers dissolved in non-aqueous solvents as well as other ingredients. Extreme performance fluoropolymer coatings are typically used when one or more critical performance criteria are required including, but not limited to a nonstick low-energy surface, dry film lubrication, high resistance to chemical attack, extremely wide operating temperature, high electrical insulating properties, or that the surface comply with government (*e.g.,* USDA, FDA) or third party specifications for health, safety, reliability, or performance. Once applied to a substrate, extreme performance fluoropolymer coatings undergo

a curing process that typically requires high temperatures, a chemical reaction, or other specialized technology.

General use coating means any material that meets the definition of coating but does not meet the definition of high performance coating, rubber-to-metal coating, magnet wire coating, or extreme performance fluoropolymer coating.

High temperature coating means any coating applied to a substrate which during normal use must withstand temperatures of at least 538 degrees Celsius (1000 degrees Fahrenheit).

Manufacturer's formulation data means data on a material (such as a coating) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in 40 CFR §63.3941. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, volatile organic matter content, and coating solids content.

Mass fraction of organic HAP means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kilograms of organic HAP per kg of material or pounds of organic HAP per pound of material.

Miscellaneous metal parts and products means any metal part or item except metal parts or products where plastic is extruded onto metal wire or cable or metal parts or products to form a coating; metal parts intended for use in an aerospace vehicle or component that are coated using specialty coatings as defined in Appendix A to 40 CFR Part 63 Subpart GG; and metal parts, product components, or products that meet the applicability criteria of 40 CFR Part 63 Subparts JJ, NNNN, RRRR, QQQQ, GG, II, JJJJ, SSSS, VVVV, PPPP,and IIII. Miscellaneous metal parts and products include, but are not limited to, metal components of gas turbine engines and gas turbine engines themselves and any auxiliary equipment and their component parts that are for use with gas turbine engines.

Non-HAP material means a coating that contains no more than 0.1 percent by mass of any individual organic HAP that is an OSHA-defined carcinogen as specified in 29 CFR §1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP

Organic HAP content means the mass of organic HAP emitted per volume of coating solids used for a coating calculated using the Subpart MMMM Calculation Procedures. For purposes of this permit, the organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt except as specified for two-component coatings.

Organic HAP means, except for compounds deleted as HAPs by EPA, any compound, or any compound in a family of compounds, listed in Table D1-1 that contains at least one carbon atom and any VOC as defined as a VOC in 40 §CFR 51.100 (s) or identified in 40 §CFR 51.100 (s) as having negligible photochemical reactivity if that compound is also identified as a HAP. Notwithstanding this definition, any compound that the EPA Administrator has determined is an organic HAP is an organic HAP for purposes of this permit.

Protective oil means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils. Protective oils used on miscellaneous metal parts and products include magnet wire lubricants and soft temporary protective coatings that are removed prior to installation or further assembly of a part or component.

Research or laboratory facility means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a *de minimis* manner.

Rubber-to-metal coatings are coatings that contain heat-activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non-tacky surface and react chemically with the rubber and metal during a vulcanization process.

Surface coating is the application of coating to a substrate including any associated activities, such as surface preparation, cleaning, mixing, and storage provided that these activities are directly related to the application of the coating.

Surface preparation means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting or paint stripping.

Volatile organic compound (VOC) means any compound defined as a VOC in 40 CFR 51.100(s).

Volume fraction of coating solids means the ratio of the volume of coating solids (also known as the volume of nonvolatiles) to the volume of a coating in which it is contained; in gallons (liters) of coating solids per gallon (liter) of coating.

Table D1-1. Organic HAPs

Chemical Name	CAS No.
Acetaldehyde	75070
Acetamide	60355
Acetonitrile	75058
Acetophenone	98862
2-Acetylaminofluorine	53963
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Allyl chloride	107051

4-Aminobiphenyl	92671
Aniline	62533
o-Anisidine	90040
Benzene	71432
Benzidine	92875
Benzotrichloride	98077
Benzyl chloride	100447
Biphenyl	92524
Bis (2-ethylhexyl) phthalate (DEHP)	117817
Bis (chloromethyl) ether	542881
Bromoform	75252
1,3-Butadiene	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Carbonyl sulfide	463581
Catechol	120809
Chloroacetic acid	79118
2-Chloroacetophenone	532274
Chlorobenzene	108907
Chloroform	67663
Chloromethyl methyl ether	107302
Chloroprene	126998
Cresols (isomers and mixture)	1319773
o-Cresol	95487
m-Cresol	108394
p-Cresol	106445
Cumene	98828
2,4–D (2,4-Dichlorophenoxyacetic acid, including salts and esters)	94757
DDE (1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene)	72559
Diazomethane	334883
Dibenzofuran	132649
1,2-Dibromo-3-chloropropane	96128
Dibutylphthalate	84742
1,4-Dichlorobenzene	106467
3,3′-Dichlorobenzidine	91941
Dichloroethyl ether (Bis(2-chloroethyl)ether)	111444
1,3-Dichloropropene	542756
Diethanolamine	111422
N,N-Dimethylaniline	121697
Diethyl sulfate	64675

3,3′-Dimethoxybenzidine	119904
4-Dimethylaminoazobenzene	60117
3,3′-Dimethylbenzidine	119937
Dimethylcarbamoyl chloride	79447
N,N-Dimethylformamide	68122
1,1-Dimethylhydrazine	57147
Dimethyl phthalate	131113
Dimethyl sulfate	77781
4,6-Dinitro-o-cresol, and salts	534521
2,4-Dinitrophenol	51285
2,4-Dinitrotoluene	121142
1,4-Dioxane (1,4-Diethyleneoxide)	123911
1,2-Diphenylhydrazine	122667
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106898
1,2-Epoxybutane	106887
Ethyl acrylate	140885
Ethylbenzene	100414
Ethyl carbamate (Urethane)	51796
Ethyl chloride (Chloroethane)	75003
Ethylene dibromide (Dibromoethane)	106934
Ethylene dichloride (1,2-Dichloroethane)	107062
Ethylene glycol	107211
Ethylene oxide	75218
Ethylenethiourea	96457
Ethylidene dichloride (1,1-Dichloroethane)	75343
Formaldehyde	50000
Glycolethers[a] except for ethylene glycol monobutyl ether (EGBE or 2-Butoxyethanol)—CAS Number 111–76–2	
Hexachlorobenzene	118741
Hexachloro-1,3-butadiene	87683
Hexachloroethane	67721
Hexamethylene-1,6-diisocyanate	822060
Hexamethylphosphoramide	680319
Hexane	110543
Hydroquinone	123319
Isophorone	78591
Maleic anhydride	108316
Methanol	67561
Methyl bromide (Bromomethane)	74839
Methyl chloride (Chloromethane)	74873

Methyl chloroform (1,1,1-Trichloroethane)	71556
Methylhydrazine	60344
Methyl iodide (Iodomethane)	74884
Methyl isobutyl ketone (Hexone)	108101
Methyl isocyanate	624839
Methyl methacrylate	80626
Methyl tert-butyl ether	1634044
4,4′-Methylenebis (2-chloroaniline)	101144
Methylene chloride (Dichloromethane)	75092
4,4′-Methylenediphenyl diisocyanate (MDI)	101688
4,4′-Methylenedianiline	101779
Naphthalene	91203
Nitrobenzene	98953
4-Nitrobiphenyl	92933
4-Nitrophenol	100027
2-Nitropropane	79469
N-Nitroso-N-methylurea	684935
N-Nitrosodimethylamine	62759
N-Nitrosomorpholine	59892
Phenol	108952
p-Phenylenediamine	106503
Phosgene	75445
Phthalic anhydride	85449
Polychlorinated biphenyls (Aroclors)	1336363
Polycyclic Organic Matter[b]	
1,3-Propane sultone	1120714
beta-Propiolactone	57578
Propionaldehyde	123386
Propoxur (Baygon)	114261
Propylene dichloride (1,2-Dichloropropane)	78875
Propylene oxide	75569
1,2-Propylenimine (2-Methyl aziridine)	75558
Quinone	106514
Styrene	100425
Styrene oxide	96093
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016
1,1,2,2-Tetrachloroethane	79345
Tetrachloroethylene (Perchloroethylene)	127184
Toluene	108883
2,4-Toluenediamine	95807

Toluene-2,4-diisocyanate	584849
o-Toluidine	95534
1,2,4-Trichlorobenzene	120821
1,1,2-Trichloroethane	79005
Trichloroethylene	79016
2,4,5-Trichlorophenol	95954
2,4,6-Trichlorophenol	88062
Triethylamine	121448
Trifluralin	1582098
2,2,4-Trimethylpentane	540841
Vinyl acetate	108054
Vinyl bromide	593602
Vinyl chloride	75014
Vinylidene chloride (1,1-Dichloroethylene)	75354
Xylenes (isomers and mixture)	1330207
o-Xylene	95476
m-Xylene	108383
p-Xylene	106423

Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R\text{-}(OCH_2CH_2)_n\text{-}OR'$.

Where:

n = 1, 2, or 3;

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R′= H or alkyl C7 or less; or OR′ consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

[b]Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.