



Ames Procedural Requirements

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COMPLIANCE IS MANDATORY

Ames Environmental Handbook

Chapter 8 Air Pollution Control

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8.1. Applicability

These procedures are applicable to all civil servant and contractor employees, partners, and tenant personnel at NASA Ames Research Center and Crows Landing Flight Facility.

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8.2. Purpose

This chapter prescribes the roles and responsibilities for air quality management.

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8.3. Policy

It is the policy of the NASA Ames to manage and control air emissions, and maintain compliance with all applicable Federal, State, and local regulations, Executive Orders, and NASA policies and requirements.

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8.4. Authority

All relevant Federal, State, and local laws and regulations pertaining to the management of air pollution, including but not limited to:

1. National Environmental Policy Act (NEPA) 1969; as amended, 42 U.S.C. 4321 et seq.
2. Clean Air Act (CAA) 1970, 42 U.S.C. s/s 7401 et seq. (1970); Pub. Law 101-549 amended Nov 15, 1990
3. Clean Air Act New Source Review and Conformity Determination Regulations
4. National Energy Conservation Policy Act (2 U.S.C. 8251 et seq.). as amended by the Energy Policy Act of 1992 Pub Law 102-486, 106 Stat. 2776
5. Executive Order (EO) 11738: Providing for Administration of The Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans

1973

6. Executive Order (EO) 12375: Motor Vehicle Information and Cost Saving Act, as amended (15 U.S.C. 1901 et seq.) and Section 301 of Title 3 of the United States Code 1984
7. Executive Order (EO) 12580: (amending EO 12088): Federal Compliance with Pollution Control Standards (Developing and Promoting Biobased Products and Bioenergy) 1999
8. Executive Order (EO) 13423: Strengthening Federal Environmental, Energy, and Transportation Management 2007
9. 14 Code of Federal Regulation (CFR), Part 1216, NASA NEPA regulations
10. 40 Code of Federal Regulation (CFR), Parts 50 to 99, Air Programs Regulations
11. NPR 8570.1, Energy Efficiency and Water Conservation
12. NPR 8580.1, Implementing The National Environmental Policy Act and E.O. 12114
13. NASA Ames Developmental Plan Programmatic Environmental Impact Statement 2002 Monitoring and Mitigation Plan: EIS 2002
14. California Air Pollution Control Act of 1947
15. California Clean Air Act (CCAA) of 1988
16. California Global Warming Solutions Act of 2006 (AB 32)

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8.5. Responsibilities

8.5.1 Operators of Air Emission Sources

1. Conduct operations, in compliance with all applicable regulations, requirements, and permit conditions. Permit conditions may change upon renewal. Types of operations normally requiring air permits are included in Appendix A.
2. Participate in Agency and Center initiatives to reduce or control green house gases.
3. Maintain and make available required records.
4. Inform the Environmental Services Division of any new/existing/changed operations that generate any air pollutants.
5. Submit documents/records to the Environmental Services Division for permit applications.
6. Serve as a co-signor or permit applications.
7. Preserve records in accordance with 8.8.
8. Report all breakdowns of air pollution control equipment to the Environmental Services Division immediately.
9. Report all failures to comply with permit conditions to the Environmental Services Division immediately.
10. Provide data to the Environmental Services Division input so that plans and reports can be completed on time.
11. Provide access and points of contact for inspections, assessments, and audits by the Environmental Services Division.
12. Implement corrective actions, if required.

13. Attend training, as required.
14. Follow applicable activity specific requirements below and the permit conditions.

8.5.1.1 Operators of Arc Jet Facilities

1. Review the requirements of your permit annually as permit conditions may change.
2. Ensure all emissions from the six Arc-Jet Heater Facilities ([REDACTED]) are routed to the NOx Scrubber System.
3. Measure the NOx concentration in the exhaust.
4. Ensure the NOx concentration at the outlet of the tower scrubber is compliant.
5. Continuously monitor the pH of each of the stages of the [REDACTED] Caustic NOx Scrubber System and properly manage the pH of each of these stages.
6. Record all NOx readings in a log (weekly).
7. Record all pH readings in a log (daily).
8. Ensure the NOx concentration for source [REDACTED] (DCAF Arc-Jet Heater) is properly measured and is compliant.
9. Ensure the volume of NOx emissions from Arc-Jet Facilities [REDACTED] are compliant by conducting a source test.

8.5.1.2 Operators of Boilers

1. Review the requirements of your permit annually as permit conditions may change.
2. Ensure NOx emissions at each boiler are compliant.
3. Submit monthly natural gas consumption records to the Environmental Services Division.

8.5.1.3 Operators of Coatings/Paints

1. Review the requirements of your permit annually as permit conditions may change.
2. Maintain a list of the all the materials (coatings, catalysts, reducers, thinners, resins, and clean-up solvents) used, and the VOC content for each material.
3. Record the type of components, the mix ratio, and the VOC content calculation for the coatings, resins as applied when coatings or resins are mixed before application.
4. Record the total usage amount for each type of coating or resin that was applied (weekly).
5. Record the total amount of each type of clean-up solvent used (monthly).

8.5.1.4 Operators of Engines (Engines > 50 HP)

1. Review the requirements of your permit annually as permit conditions may change.
2. Ensure standby/portable engines do not exceed the number of hours of non-emergency use set by the permit condition.
3. Ensure a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) is installed, operated and properly maintained where required.

4. Record the operating hours for reliability activities and for emergency activities.
5. Record the nature of the emergency condition, and fuel usage for each engine for emergencies (monthly).

8.5.1.5 Operators of Oil/Water Separators

1. Review the requirements of your permit annually as permit conditions may change.
2. Conduct visual inspection of the roof seals, access doors, and other openings to ensure that no cracks or gaps > 0.32 cm occur in the roof or between the roof and the wall; and that the access doors and other openings are properly gasketed (semi-annually).
3. Maintain a record of inspections in a log.

8.5.1.6 Operators of Outdoor Aircraft Engine Test Area

1. Review the requirements of your permit annually as permit conditions may change.
2. Ensure the operating times for testing aircraft engines are compliant.
3. Ensure the total fuel usage is compliant (daily).
4. Ensure the emissions for NO_x, CO, POC, particulate matter (PM₁₀), and SO₂ do not exceed the permit limits.

8.5.1.7 Operators of Solvent Wipe Cleaning Operations

1. Review the requirements of your permit annually as permit conditions may change.
2. Maintain a record of the type and net amount of each precursor organic solvent used; the solvent density; and the type and net amount of each non-precursor organic solvent used (monthly usage) on a log.

8.5.1.8 Operators of Spray Booths

1. Ensure the total volume of solvent is compliant with permit conditions.
2. Ensure only permitted solvents are used at this source.
3. Maintain the filtration system in good working condition.
4. Maintain a record of the monthly usage of ethyl alcohol in a log.

8.5.1.9 Operators of Ethylene Oxide Sterilizers

1. Ensure the combined usage of ethylene oxide is compliant.
2. Maintain a record of monthly usage of ethylene oxide in a log.

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8.5.2 Environmental Services Division Code QE

The Air Quality Program Manager in Code QE is charged with guiding current practices and operations of air pollution sources at Ames. This includes the following:

1. Represent Ames to the environmental regulators and public on air pollution issues.
2. Serve as a special approver for chemical purchases.
3. Develop Ames policies and procedures for compliance with statutory and regulatory requirements.
4. Provide technical guidance to Ames organizations.
5. Advise on pollution prevention, sustainability, green design and green purchasing strategies to reduce air emissions.
6. Advise on the ozone depleting substances and green house gases alternatives.
7. Assess the applicability of proposed and promulgated air regulations.
8. Participate in working groups and on other teams to develop, review or provide guidance on new Federal, State and local regulations.
9. Obtains permits for NASA Ames (new, renewals, modifications, and waivers).
10. Conduct permit administration (implementation, oversight, monitoring, tracking, and records management and database support).
11. Provide guidance for air construction permits and the associated issues related with construction or modification of new air sources at Ames.
12. Prepare external and internal regulatory reports.
13. Notify regulatory agencies of permit condition violations.
14. Conduct inspections, investigations, audits, and surveys and then advise, track, and report on corrective actions.
15. Attend professional development and training.
16. Provide guidance to operational personnel on various air quality issues including for example "Spare the Air" campaigns.
17. Measure program performance in accordance with section 8.9 (Metrics and E.O. 13423 goals).

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8.5.3 Line Management and Contracting Officers Technical Representatives

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8.6. Definitions

8.6.1 Air Pollutant

Any material that, when emitted, causes or tends to cause the degradation of air quality. Such material includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, solvents, fuels, paints, or any combination thereof (bay area air quality management district (BAAQMD) Regulation 1 Definition 1-201).

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8.6.2 Air Pollution Control Equipment

Any equipment which has as its primary purpose a significant reduction in either the emission of air contaminants or the effects of such emissions(BAAQMD) Regulation 1 Definition 1-202).

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8.6.3 Breakdown (Malfunction)

Any unforeseeable failure or malfunction of any air pollution control equipment or operating equipment that causes a violation of any emission standard or limitation prescribed by the BAAQMD, California or Federal rules, regulations, or laws (BAAQMD) Regulation 1 Definition 1-208).

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8.6.4 British Thermal Unit (BTU)

The amount of heat required to raise the temperature of one pound of water from 59° F to 60° F at one atmosphere.

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8.6.5 Greenhouse Gas (GHG)

Carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), or perfluorocarbons (PFCs) (California Code of Regulations title 17, section 95102 (a) (87)).

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8.6.6 Horsepower (HP)

The maximum horsepower rating at maximum revolutions per minute (rpm) specified for the

engine by the manufacturer or indicated on the engine nameplate.

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8.6.7 Operating Day

A 24 hours from midnight to midnight (BAAQMD) Regulation 1 Definition 1-220).

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8.6.8 Organic Compound

Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate (BAAQMD) Regulation 1 Definition 1-233).

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8.6.9 Organic Compound, Non-Precursor (NPOC)

Methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichlorotrifluoroethane (CFC-113), trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), dichlorotetrafluoroethane (CFC-114), and chloropentafluoroethane (CFC-115). In addition, any compound designated as having a negligible contribution to photochemical reactivity by the U.S. Environmental Protection Agency as published in the Federal Register shall be considered a NPOC. (BAAQMD) Regulation 1 Definition 1-234).

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8.6.10 Organic Compound, Precursor

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8.6.11 Ozone Depleting Substance (ODS)

[REDACTED]

8.6.12 Toxic Air Contaminants (TACs)

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8.6.13 Volatile Organic Compound (VOC)

Any organic compound which would be emitted during use, processing, application, curing or drying of a solvent, surface coating, or other material (BAAQMD) Regulation 1 Definition 1-236).

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8.7. Requirements

Operate air pollution sources in compliance with applicable laws, rules, regulations, and permit conditions. See Appendix D for a Table of Contents from the BAAQMD Rules and Regulations. For specific information, contact the Environmental Services Division prior to initiating construction or operation of an air pollution source, or prior to changing the operation of an air pollution source.

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8.8. Metrics and Executive Order (E.O.) 13423 Goals

1. Percent of sources that have permits.
Goal: 100%
2. Percent of noncompliances resolved within 30 days or within the corrective action plan.
Goal: 100%
3. Improve energy efficiency and reduce GHG emissions by reducing energy intensity 30% by FY 2015 (agency wide goals, baseline is FY03). This is an Agency wide goal. Ames Environmental Services Division will track Ames performance.

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8.9. Source of Additional Information or Assistance

1. Environmental Services Division internal website: <http://q.arc.nasa.gov>)
2. Environmental Services Division ([REDACTED])

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8.10. Appendices

8.10.1 Appendix A: List of Permitted Sources

[REDACTED]

[REDACTED]

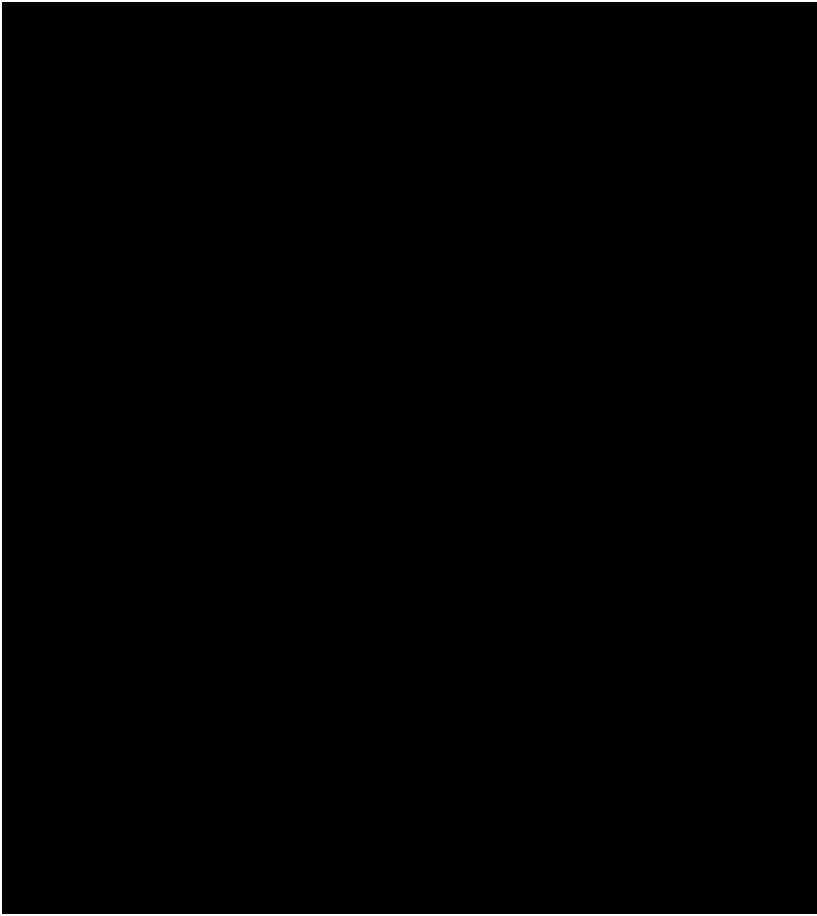
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