# COMMONWEALTH of VIRGINIA

*DEPARTMENT OF ENVIRONMENTAL QUALITY*
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Maria R. Nold
Regional Director


February 10, 2014

Mr. Theodore J. Meyer
Acting Associate Chief, Medical & Environmental Management
NASA Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

Location: Accomack County
**Registration No.: 40909**
AFS Id. No.: 51-001-00031

Dear Mr. Meyer:

Attached is a significant amendment to your state operating permit to operate a Space Flight Test Facility in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit supersedes your permit dated February 21, 2013.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

In the course of evaluating the application and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on October 24, 2013 and solicited written public comments by placing a newspaper advertisement in the Eastern Shore News newspaper on Wednesday, January 8, 2014. The required comment period, provided by 9 VAC 5-80-1170 D, expired on Friday, February 7, 2014.

This permit approval to operate shall not relieve the NASA Goddard Space Flight Center (WFF) of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-200 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, Director
Department of Environmental Quality
PO Box 1105
Richmond, VA 23218-1105

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

It has been determined that the 3000 kW generators (U-12-01 and U-12-02) are affected units under 40 CFR 60, New Source Performance Standards (NSPS) Subpart IIII and 40 CFR 63, Maximum Achievable Control Technology (MACT), Subpart ZZZZ, and are therefore subject to owner/operator requirements of the NSPS and MACT. In summary, the unit is required to comply with certain federal emission standards and operating limitations over its useful life. The Department of Environmental Quality (DEQ) advises you to review the attached NSPS and MACT to ensure compliance with applicable emission and operational limitations. As the owner/operator you are also responsible for monitoring, notification, reporting, and recordkeeping requirements of the NSPS and MACT. Notifications shall be sent to EPA, Region III.

Associate Director
Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

If you have any questions concerning this permit, please contact Cindy Keltner by phone at (757) 518-2167 or by e-mail at **cindy.keltner@deq.virginia.gov**.

Sincerely,

Troy D. Breathwaite
Regional Air Permits Manager

TDB/CLK/40909_015_14_SOPsigamd_NASA GSFC WFF.docx

Attachments: Permit
NSPS, Subpart IIII
MACT, Subpart ZZZZ

Link for NSPS and MACT Regulations: NSPS, Subpart IIII
NESHAP, Subpart ZZZZ

**http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=27d0dad4dd3d4c1969aad205b798e315&c=ecfr&tpl=/ecfrbrowse/Title40/40tab_02.tpl**

cc: Manager, Data Analysis (electronic file submission)
Manager/Inspector, Air Compliance
Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III (electronic file submission)

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Molly Joseph Ward
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**STATIONARY SOURCE PERMIT TO OPERATE**
This permit supersedes your permit dated February 21, 2013.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

NASA Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337-5099
**Registration No.: 40909**
AFS Id. No.: 51-001-00031

is authorized to operate

a Space Flight Test Facility

located at

Wallops Island
Accomack County, Virginia

in accordance with the Conditions of this permit.

Approved on: **February 10, 2014**.

Troy D. Breathwaite
Regional Air Permits Manager

**February 10, 2014**
Signature Date

Permit consists of 13 pages.
Permit Conditions 1 to 31.

## INTRODUCTION

1. This permit approval is based on the permit application dated September 20, 1996, August 8, 2001, May 11, 2004, May 19, 2004, August 23, 2004, October 19, 2007, November 9, 2007, May 5, 2009, and July 22, 2010, including amendment information dated October 28, 1996, May 24, 2000, June 30, 2000, July 25, 2000, April 20, 2004, May 19, 2004, June 20, 2006, December 21, 2007, January 9, 2008, August 24, 2010, May 3, 2012, July 5, 2013, and supplemental information dated June 30, 2009, October 1, 2010, June 4, 2012, July 24, 2012, September 18, 2012, October 5, 2012, October 12, 2012, October 18, 2012, December 7, 2012, and October 24, 2013. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

   Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

   Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

   The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

## PROCESS REQUIREMENTS

2. **Equipment List** - Equipment at this facility consists of the following:

| **Equipment permitted prior to the date of this permit** | | | |
|---|---|---|---|
| **Unit Ref. Number** | **Equipment Description** | **Rated Capacity** | **Original Permit Date** |
| U-12-01<br>U-12-02 | Two (2) Diesel fired generators – Caterpillar C175 (**ELRP**) (NSPS IIII MACT ZZZZ) | 3000 kW Each | 2/21/13 |
| U-25-01 | One (1) LPG fired generator – Kohler 30REYG | 30 kW | 2/21/13 |
| V-55-01 | One (1) LPG fired boiler – Harsco Model N750MFD | 0.64 mmBtu/hr | 2/21/13 |
| V-55-02 | One (1) LPG fired water heater – Nortiz Model NC250 | .25 mmBtu/hr | 2/21/13 |
| V-55-03 | One (1) LPG fired humidifier – Nortic Model GSTC 200 | 210 lb/hr | 2/21/13 |
| X-79-01<br>X-79-02<br>X-79-03 | Three (3) LPG fired boiler – Fulton Pulse | 0.90 mmBtu/hr Each | 2/21/13 |
| X-79-04 | One (1) LPG fired air makeup – Innovent E-Laser-2B | 0.40 mmBtu/hr | 2/21/13 |

| Equipment permitted prior to the date of this permit | | | |
|---|---|---|---|
| **Unit Ref. Number** | **Equipment Description** | **Rated Capacity** | **Original Permit Date** |
| Pad 2 | One (1) - test stand, equipped with different interchangeable rocket motor adapters, for the static test-firing of solid propellant rocket motors | 2,500 meters/sec. exhaust gas velocity | 12/18/2007 |
| X-15-1 | One (1) - Distillate oil-fired boiler - HB Smith, Series 19-9 | 0.744 MMBTU/hr | 10/5/2004 |
| U-30 | One (1) - Distillate oil-fired boiler - HB Smith, Series 19-7, Installed 1990 | 0.661 MMBTU/hr | 10/5/2004 |
| U-55 | One (1) - Distillate oil-fired boiler - Burnham, V9A/V11, Installed 2005 | 0.218 MMBTU/hr | Unknown |
| U-70 | One (1) - Distillate oil-fired boiler - HB Smith, unknown model, Installed 1995 | 0.420 MMBTU/hr | 10/5/2004 |
| W-40 | One (1) - Distillate oil-fired boiler - Weil Mclain ABL6765W | 0.500 MMBTU/hr | 10/5/2004 |
| V-45 | One (1) - Distillate oil-fired boiler - HB Smith 2000L4SEC, Installed 1990 | 0.350 MMBTU/hr | 10/5/2004 |
| V-50 | One (1) - Distillate oil-fired boiler - HB Smith, unknown model, Installed 1990 | 0.175 MMBTU/hr | 10/5/2004 |
| V-55 | One (1) - Distillate oil-fired boiler - Burnham PV904WOB | 0.483 MMBTU/hr | Unknown |
| W-15 | One (1) - Distillate oil-fired boiler - Weil Mclain BL-688-WS, Installed 1992 | 1.650 MMBTU/hr | 10/5/2004 |
| W-20 | One (1) - Distillate oil-fired boiler - Weil Mclain, unknown model, Installed 1992 | 0.490 MMBTU/hr | 10/5/2004 |
| W-65 | One (1) - Distillate oil-fired boiler - Cleaver Brooks CB100-50, Installed 1992 | 2.100 MMBTU/hr | 10/5/2004 |
| W-100 | One (1) - Distillate oil-fired boiler - Burnham PF307 | 0.994 MMBTU/hr | Unknown |
| X-35 | One (1) - Distillate oil-fired boiler - Bryan AB120-W-FDO, Installed 1994 | 1.200 MMBTU/hr | 10/5/2004 |
| X-75 | One (1) - Distillate oil-fired boiler - HB Smith, BB14, Installed 1990 | 0.168 MMBTU/hr | Unknown |
| X-85 | One (1) - Distillate oil-fired boiler - HB Smith, Series 14-6, Installed 1995 | 0.526 MMBTU/hr | Unknown |
| Y-15 | One (1) - Distillate oil-fired boiler - HB Smith Series 19-9, Installed 1996 | 1.190 MMBTU/hr | 10/5/2004 |
| Y-55 | One (1) - Distillate oil-fired boiler - Peerless ECT-05-0200-WU | 0.241 MMBTU/hr | Unknown |
| Y-60 | One (1) - Distillate oil-fired boiler - Peerless SC-06, Installed 1993 | 0.405 MMBTU/hr | Unknown |
| Z-41-1 | One (1) - Distillate oil-fired boiler - Cleaver Brooks, CB100-40, Installed 1991 | 1.680 MMBTU/hr | 10/5/2004 |
| U-25 | One (1) - LPG-fired generator - Generac | 15 kW | Unknown |
| U-65 | One (1) - Diesel-fired generator - Caterpillar 3306 - 339 HP | 2.110 MMBTU/hr | 10/5/2004 |
| W-20 | One (1) - Diesel-fired generator - Kohler 15ROZJ81 - 15 HP | 0.141 MMBTU/hr | 10/5/2004 |
| X-15-2 | One (1) - Diesel-fired generator - Kohler 30ROZJ81 - 30 HP | 0.329 MMBTU/hr | 10/5/2004 |
| X-76 | One (1) - Diesel-fired generator - Kohler 40ROZJ81 - 40 HP | 0.378 MMBTU/hr | 10/5/2004 |
| V-66 | One (1) - LPG-fired emergency generator - Kohler, 80 RZG - 80 kW, Installed 2003 | 0.524 MMBTU/hr | 10/5/2004 |
| U-48 | One (1) - Fire pump powered by a Detroit Diesel Allison, PTA ISD 273 | 0.350 MMBTU/hr | 10/5/2004 |
| X-5 | One (1) - LPG-fired furnace, Modine PA200SF | 0.152 MMBTU/hr | 10/5/2004 |
| X-30 | One (1) - Paint Spay Booth | 346 gallons paint/yr | 10/5/2004 |

| Equipment Exempt from permitting | | | |
|---|---|---|---|
| **Equipment Description** | | **Rated Capacity** | **Exemption Citation** |
| --- | Multiple # 2 distillate oil above-ground fuel storage tanks | < 4,000 gallons (each tank) | 9 VAC 5-80-1320.B.8.e.(1) |
| Y-15-2 | Ground serving equipment (GSE) for hydrazine fueling of NFIRE spacecraft | --- | 9 VAC 5-80-1320.E.1 |
| Z-41-2 | One (1) Diesel-powered emergency generator – Isuzu Model #3LD1; Serial #449602. Mfg 2005 **(MACT ZZZZ)** | 15.5 kW | 9 VAC 5-80-1320.B.2.b |

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 5-80-850 and 9 VAC 5-80-1180)

3. **Emission Controls** - Emissions from the fuel-burning equipment shall be controlled by good combustion practices. The boilers, generators, fire pump, furnace, water heater, humidifier and air make-up shall be provided with adequate access for inspection.
(9 VAC 5-80-850)

4. **VOC Work Practice Standards** - At all times the disposal of volatile organic compounds shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.
(9 VAC 5-50-20 F and 9 VAC 5-80-850)

## OPERATING LIMITATIONS

5. **Operating Hours** - The operation of the fire pump and generators shall be limited to the number of operating hours per year, specified below, calculated monthly as the sum of each consecutive 12-month period:

| Unit Ref. No. | Description | Operating Hours |
|---|---|---|
| Z-41-2 | Diesel-fired Emergency Generator 15.5 kW | 500 |
| V-66 | LPG-fired Emergency Generator 80 kW | 500 |
| U-65 | Diesel-fired Generator 2.11 mmBtu/hr | 4,238 |
| W-20 | Diesel-fired Generator 0.141 mmBtu/hr | 1,811 |
| X-15-2 | Diesel-fired Generator 0.329 mmBtu/hr | 8,641 |
| X-76 | Diesel-fired Generator 0.378 mmBtu/hr | 8,652 |

| | | |
|---|---|---|
| U-48 | Diesel-fired Emergency Fire Pump 0.350 mmBtu/hr | 8,635 |

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Exceedance of the equipment operating hours may be considered as credible evidence of the exceedance of emission limits.
(9 VAC 5-80-850)

6. **Open Burning** - All open burning of disposed rocket motors within the open burn area of the facility shall be conducted only when other means of disposal are not available.
(9 VAC 5-130-40 A.1.a)

7. **Emergency Generators** - Operation of the emergency generators listed in Condition 5 of this permit are only for providing electrical power at this facility location during the interruption of service from the normal power supplier, periodic equipment maintenance checks, and operational training.
(9 VAC 5-80-850)

8. **Throughput** - The annual throughput of coating media used in the paint spray booth shall not exceed the limit specified below, calculated monthly as the sum of each consecutive 12-month period:

| Unit Ref. No. | Gallons per Year |
|---|---|
| X-30 | 346 |

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-850)

9. **Fuel** - The approved fuels are specified in the table below:

| Unit Ref. No. | | Description | Approved Fuel |
|---|---|---|---|
| X-15-1<br>U-30<br>U-55<br>U-70<br>W-40<br>V-45<br>V-50<br>V-55<br>W-15<br>W-20 | <br>W-65<br>W-100<br>X-35<br>X-75<br>X-85<br>Y-15<br>Y-55<br>Y-60<br>Z-41-1 | Boilers | Diesel/Distillate Fuel Oil<br>Off-specification Jet Fuels<br>(JP-5, JP-10, and JPTS) |
| Z-41-2<br>U-25<br>U-65 | X-76<br>V-66<br>U-12-01 | Generators | Diesel/Distillate Fuel Oil<br>Off-specification Jet Fuels<br>(JP-5, JP-10, and JPTS) |

| | | | |
|---|---|---|---|
| W-20<br>X-15-2 | U-12-02 | | |
| U-48 | | Fire Pump | Diesel/Distillate Fuel Oil |
| X-5 | | Furnace | LPG |
| U-25-01 | | Generator | LPG |
| V-55-01<br>X-79-02 | X-79-01<br>X-79-03 | Boilers | LPG |
| V-55-02 | | Water Heater | LPG |
| V-55-03 | | Humidifier | LPG |
| X-79-04 | | Air Makeup | LPG |
| Pad 2 | | Rocket Motor Static Firing Events | "Composite" and "Double Base" Solid Fuel Propellants |

The "composite" solid fuel propellant shall consist of an aluminum powder fuel and an ammonium perchlorate oxidizer embedded in a rubberized binder. The "double base" solid fuel propellant shall consist of a mixture of nitrocellulose and nitroglycerine. Various lead compounds may be present in small quantities as burn rate modifiers. A change in the fuel may require a permit to modify and operate. (9 VAC 5-80-850, 9 VAC 5-80-1180, and Condition Number 3 of NSR Permit 40909 issued 12-18-2007)

10. **Fuel Throughput** - The fuel throughput limits, each calculated monthly as the sum of each consecutive 12-month period, are specified in the table below:

| **Equipment** | **Fuel Type** | **Throughput** |
|---|---|---|
| All boilers, generators, fire pump and furnace (COMBINED) | Diesel/Distillate Fuel Oil | 485,530 gallons/year |
| | LPG | 500,000 gallons/year |
| All Boilers and Generators (COMBINED) | Off-spec Jet Fuel | 6,000 gallons/year |
| Rocket Motor Static Firing Events | "Composite" Solid Fuel Propellant | 77,000 pounds/year (38.3 tons/year) |
| | "Double-Base" Solid Fuel Propellant | 67,000 pounds/year (33.5 tons/year) |

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. (9 VAC 5-80-850, 9 VAC 5-80-1180, and Condition Numbers 4 and 5 of NSR Permit 40909 issued 12-18-2007)

11. **Fuel -** The off-specification fuel oil, diesel/distillate fuel oil and LPG shall meet the specifications below:

    OFF-SPECIFICATION FUEL OIL which meets the specifications for JP5, JP10, and JPTS fuels:
    Maximum sulfur content per shipment: 0.5%

    LPG, including butane and propane, which meets ASTM specification D1835

    DIESEL/DISTILLATE OIL which meets the ASTM D396 or D975 specification for numbers 1 or 2 fuel oil:
    Maximum sulfur content per shipment: 0.0015%

    (9 VAC 5-80-850, 9 VAC 5-80-1180, and 9 VAC 5-50-410)

12. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of diesel/distillate oil. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;
    b. The date on which the diesel/distillate oil was received;
    c. The quantity of diesel/distillate oil delivered in the shipment;
    d. A statement that the diesel/distillate oil complies with the American Society for Testing and Materials specifications (ASTM D396 or D975) for numbers 1 or 2 fuel oil; or
    e. The sulfur content of the diesel/distillate oil.

    Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition number 11. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
    (9 VAC 5-80-850 and 9 VAC 5-50-410)

## EMISSION LIMITS

13. **Emission Limits -** The VOC emissions from the operation of the paint spray booth (X-30) shall not exceed the limits specified below:

| Ref. No. | Lbs/hr | Lbs/day | Tons/yr |
|---|---|---|---|
| X-30 | 3.0 | 15.0 | 2.7 |

    Exceedance of the operating limits may be considered credible evidence of the exceedance of annual VOC emission limits. Compliance with these emission limits may be determined as stated in Condition 8 of this permit.
    (9 VAC 5-80-850 and 9 VAC 5-40-4760)

14. **Emission Limits** - Criteria pollutant emissions from the combined operation of the boilers, furnace, water heater, humidifier and air make-up shall not exceed the limits specified below:

| Pollutant | Tons/yr |
|---|---|
| Particulate Matter (PM) | 0.5 |
| Sulfur Dioxide | 13.1 |
| Nitrogen Dioxide | 6.4 |
| Carbon Monoxide | 2.5 |

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 3, 9, 10, 11, 12, 18, and 20.
(9 VAC 5-80-850 and 9 VAC 5-80-1180)

15. **Emission Limits** - Criteria pollutant emissions from the combined operation of the fire pump and the generators shall not exceed the limits specified below:

| Pollutant | Tons/yr |
|---|---|
| Particulate Matter (PM) | 2.2 |
| PM-10 | 2.1 |
| Sulfur Dioxide | 3.7 |
| Nitrogen Dioxide | 76.2 |
| Carbon Monoxide | 15.8 |
| Volatile Organic Compounds | 4.6 |

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 3, 5, 7, 9, 10, 11, 12, 18, and 20.
(9 VAC 5-80-850 and 9 VAC 5-80-1180)

16. **Emission Limits** - Criteria pollutant emissions from the combustion of the solid fuel propellants during Rocket Motor Static Firing Events shall not exceed the limits specified below:

| Pollutant | Tons/yr |
|---|---|
| Particulate Matter (PM) | 10.3 |
| Carbon Monoxide | 21.5 |
| Lead | 0.9 |

These emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 9, 10, 19, 20, 29, and 31.
(9 VAC 5-80-850 and Condition numbers 6 and 7 of NSR Permit 40909 issued 12-18-2007)

17. **Facility-wide Emission Limits** - Total criteria pollutant emissions from the space flight test facility (Wallops Flight Facility) shall not exceed the limits specified below:

| Pollutant | Tons/yr |
|---|---|
| Particulate Matter (PM) | 13.0 |
| PM-10 | 2.2 |
| Sulfur Dioxide | 18.0 |
| Nitrogen Dioxide | 79.0 |
| Carbon Monoxide | 39.8 |
| Volatile Organic Compounds | 4.8 |
| Lead | 0.9 |

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 3, 5-12, and 18-20.
(9 VAC 5-80-850 and 9 VAC 5-80-1180)

18. **Visible Emission Limit** - Visible emissions from each of the boilers, generators, fire pump, and the furnace shall not exceed twenty percent (20%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed thirty percent (30%) opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-80-850, 9 VAC 5-50-80, 9 VAC 5-80-1180, and 9 VAC 5-50-410)

19. **Visible Emission Limit** - Visible emissions, excluding condensed water vapor, emitted from the static test-firing of any solid propellant rocket motor shall not exceed twenty percent (20%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-850 and Condition number 8 of NSR Permit 40909 issued 12-18-2007)

## RECORDS

20. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Tidewater Regional Office. These records shall include, but are not limited to:

    a. The annual hours of operation for each of the generators and fire pump listed in Condition 5, calculated monthly as the sum of each consecutive 12-month period;

b. The annual throughput of LPG in gallons, calculated monthly as the sum of each consecutive 12-month period;

c. The annual throughput of distillate oil in gallons, calculated monthly as the sum of each consecutive 12-month period;

d. The annual throughput of off-specification jet fuel in gallons, calculated monthly as the sum of each consecutive 12-month period;

e. The annual throughput of "composite" solid fuel propellant consumed (in pounds or tons), calculated monthly as the sum of each consecutive 12-month period;

f. The annual throughput of "double-base" solid fuel propellant consumed (in pounds or tons), calculated monthly as the sum of each consecutive 12-month period;

g. The annual throughput of coating media used in gallons, calculated monthly as the sum of each consecutive 12-month period;

h. Annual emissions calculations for PM, CO, and Pb from the Rocket Motor Static Firing Events using calculation methods approved by the Director, Tidewater Regional Office to verify compliance with the ton/yr emissions limitations in Condition 16;

i. Annual emission calculations for hydrazine, using calculation methods approved by the DEQ Tidewater Regional Office (Air Compliance Inspector) to verify compliance with the emission limitations specified in Condition 30 of this permit. The annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

j. Log of each event when the Open Burning area is used; and

k. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years and be maintained on-site at the Wallops Flight Facility.
(9 VAC 5-80-900, 9 VAC 5-50-50, and Condition number 9 of NSR Permit 40909 issued 12-18-2007)

## GENERAL CONDITIONS

21. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130 and 9 VAC 5-80-850)

22. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
(9 VAC 5-20-180 J and 9 VAC 5-80-850)

23. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Tidewater Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone, or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Tidewater Regional Office in writing.
(9 VAC 5-20-180 C and 9 VAC 5-80-850)

24. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-850)

25. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.
(9 VAC 5-50-20 E and 9 VAC 5-80-850)

26. **Permit Suspension/Revocation** - This permit may be revoked if the permittee:
    a. Knowingly makes material misstatements in the permit application or any amendments to it;
    b. Fails to comply with the terms or conditions of this permit;
    c. Fails to comply with any emission standards applicable to a permitted emissions unit;
    d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted; or

f. Fails to comply with the applicable provisions of Articles 6, 8, and 9 of 9 VAC 5 Chapter 80.

(9 VAC 5-80-1010)

27. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Tidewater Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-940)

28. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)

## STATE-ONLY ENFORCEABLE REQUIREMENTS

29. **HAP Emission Limits** - Hazardous air pollutant emissions from the combustion of solid fuel propellants during Rocket Motor Static Firing Events events at the space flight test facility (Wallops Flight Facility) shall not exceed the limits specified below:

| | |
|---|---|
| Hydrogen Chloride (CAS# 7647-01-0) | 9.4 tons/yr |

These emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 10, 16, and 20.
(9 VAC 5-80-850, 9 VAC 5-60-320, and Conditions 6 and 7 of NSR Permit 40909 issued 12-18-2007)

30. **HAP Emission Limits** - Hazardous air pollutant emissions from fueling operations involving spacecraft at the space flight test facility (Wallops Flight Facility) shall not exceed the limits specified below:

| | | |
|---|---|---|
| Hydrazine (CAS# 302-01-2) | 0.0176 lbs/30 min* | 0.0185 tons/yr |

* Average time required per single fueling event.

Compliance with the HAP emission limits shall be determined from the emission calculations required by Condition 20.i.
(9 VAC 5-80-850 and 9 VAC 5-60-320)

31. **Facility wide HAP Emission Limits** - Total Hazardous air pollutant emissions from the operation of the space flight test facility (Wallops Flight Facility) shall not exceed the limits specified below:

| | |
|---|---|
| Total Hazardous Air Pollutants | 9.5 tons/yr |

Compliance with these HAP emission limits shall be determined as stated in Conditions 10, 16, and 20.

The permittee may use additional HAPs (listed in Attachment A) on the premises of the space flight test facility (Wallops Flight Facility) under 9 VAC 5, Chapter 60, Article 5 without obtaining a new permit provided that the following conditions are met:

a. Notification shall be given to the DEQ Tidewater Regional Office (Air Compliance Inspector). Such notification shall be made prior to the change in HAP emissions, and shall include identification of the new HAP, the projected date a new HAP will be used, the maximum expected HAP concentration, and expected throughput in lbs/hr and tons/yr. Additional details of the notification should be arranged with the DEQ Tidewater Regional Office (Air Compliance Inspector);

b. The permittee shall continue to operate the WFF facility in compliance with 9 VAC 5, Chapter 60, Article 5 for all HAPs used at the facility;

c. The permittee shall not use any HAP which would make the WFF facility subject to federal emission standards in 40 CFR 61 or 40 CFR 63 (i.e.: exceed 9.4 tons/yr for any individual HAP or 24.4 tons/yr for any combination of HAPs); and

d. Should a permit be required for the use of any additional HAP, failure to obtain the necessary permit prior to the use of the HAP may result in enforcement action.

(9 VAC 5-80-850 and 9 VAC 5-60-320)