



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

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Director

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Regional Director

**STATE AIR POLLUTION CONTROL BOARD
ENFORCEMENT ACTION - ORDER BY CONSENT
ISSUED TO
HOWARD HUGHES MEDICAL INSTITUTE
FOR
JANELIA FARM
Registration No. 73280**

SECTION A: Purpose

This is a Consent Order issued under the authority of Va. Code §§ 10.1-1309 and -1316, between the State Air Pollution Control Board and Howard Hughes Medical Institute, regarding the Janelia Farm Research Campus for the purpose of resolving certain violations of the Virginia Air Pollution Control Law and the applicable permit and regulations.

SECTION B: Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "Board" means the State Air Pollution Control Board, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and -1301.
2. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.

3. "Director" means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.
4. "Facility" means Howard Hughes Medical Institute's Janelia Farm Research Campus located at 19700 Helix Drive in Ashburn, Virginia.
5. "HHMI" means Howard Hughes Medical Institute, a non-profit medical research organization with headquarters in Chevy Chase, Maryland. HHMI is a "person" within the meaning of Va. Code § 10.1-1300.
6. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 10.1-1309.
7. "NRO" means the Northern Regional Office of DEQ, located in Woodbridge, Virginia.
8. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the Virginia Air Pollution Control Law.
9. "PCE" means a partial compliance evaluation by DEQ staff.
10. "Permit" means a Minor New Source Review permit (and its amendments) to construct and operate a medical research facility which was issued under the Virginia Air Pollution Control Law and the Regulations to Howard Hughes Medical Institute. The Permit was originally issued to HHMI on September 30, 2005. A significant amendment to the Permit was issued on September 28, 2010, a minor amendment to the Permit was issued on August 10, 2011, and a significant amendment to the Permit was issued on December 6, 2016.
11. "Regulations" or "Regulations for the Control and Abatement of Air Pollution" mean 9 VAC 5 chapters 10 through 80.
12. "Va. Code" means the Code of Virginia (1950), as amended.
13. "VAC" means the Virginia Administrative Code.
14. "Virginia Air Pollution Control Law" means Chapter 13 (§ 10.1-1300 *et seq.*) of Title 10.1 of the Va. Code.

SECTION C: Findings of Fact and Conclusions of Law

1. HHMI owns and operates the Facility in Ashburn, Virginia. The Facility is a medical research facility which houses multiple emergency diesel engine generators and multiple natural gas and propane fired boilers. The Facility is the subject of the Permit which allows HHMI to construct and operate a medical research facility.

2. HHMI submitted a permit application to DEQ on December 30, 2015, requesting an amendment to their current Permit to allow for the installation of a 2,000 ekw diesel engine generator set and remove selective catalytic reduction (SCR) systems – post combustion control for nitrogen oxides (NOx) on the three existing diesel engine generator sets (Ref. No. G1, G2 and G3). These three units are the same make and model with identical rated capacities (2000 ekW each). A permit amendment which allowed HHMI to remove the SCR units from the three engines with subsequent testing requirements became effective December 6, 2016. This amendment stipulated that within 60 days of removal of the SCR units, HHMI was to conduct stack testing on two of the three units (G1, G2 and G3) for NOx and CO and visible emission evaluations.
3. On February 28, 2017, DEQ staff went to the Facility to observe stack testing scheduled to take place on two Cummins engine generators (G1 and G2) to meet the requirements of Condition 19 and 20 of the Permit and to verify that emissions do not exceed the limits in Conditions 13 and 15 of the Permit. Upon arrival, an HHMI representative informed DEQ that the testing company had informed him that there were issues with the testing results and the stack test had been halted. A stack test was submitted to DEQ on April 14, 2017. Based on the information submitted in the stack test report, DEQ staff observed the following:
 - a. The following emissions were reported for this stack testing event: G1-NOx-69.255lbs/hr, G1-CO- 0.811lbs/hr, G2-NOx-69.518lbs/hr, G2-CO-0.801lbs/hr. EPA methods 2-4 (i.e., stack exhaust velocity traverse, molecular weight and moisture determination) were not performed on Unit G2. The hourly pollutant (NOx and CO) emission rates (lb/hr) for Unit G2 were calculated using the volumetric air flow measurements conducted on unit G1.
 - b. The test program outlined in the stack test protocol received by DEQ on January 19, 2017, and approved by DEQ on February 3, 2017, was not completed within the 60 days of SCR removal. The SCR systems were removed from the engines on January 24, 2017.
 - c. No visible emissions evaluations were recorded during the stack testing event. No written notification was provided to DEQ regarding the rescheduling and the testing was not rescheduled within 30 days of this testing date. The report indicates that approximately 15 minutes of data was observed but not recorded in for the VEE.
4. Permit Condition 13 (Hourly Emission Limits) states in relevant part that, a. Hourly emissions from the operation of each Cummins Generator (Ref Nos. G1-G3) shall not exceed the limits specified below: PM-10: 0.64 lbs/hr, Sulfur Dioxide: 0.04 lbs/hr, Carbon Monoxide: 5.83 lbs/hr, Volatile Organic Compounds: 1.29 lbs/hr, Nitrogen Oxides (as NO₂): 45.05 lbs/hr ...
5. Permit Condition 19 (Stack Tests) states in relevant part that initial performance tests shall be conducted on two of the three engine generator sets (Ref. No. G1-G3) for nitrogen oxides (as NOx) and CO to determine compliance with the emission limits

contained in Condition 13.a. The tests shall be performed, reported, and demonstrate compliance within 60 days after the Selective Catalytic Reduction (SCR) system is removed.

6. Permit Condition 20 (Visible Emissions Evaluations) states that concurrently with the initial performance tests Visible Emissions Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted on the two engine-generator sets (Ref. No. G1-G3) selected for testing in Condition 19, to determine compliance with the opacity limits contained in Condition 15. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the Northern Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. The evaluation shall be performed, and reported within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the Northern Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. One copy of the test result shall be submitted to the Northern Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.
7. On April 27, 2017, based on results submitted in the April 14, 2017 stack test report, the Department issued Notice of Violation (No. ANRO000632) to HHMI for the violations described in paragraphs C(1) through C(6), above.
8. HHMI had the engine exhausts modified to eliminate cyclonic flow issues, retested, and completed the required initial performance testing on April 28, 2017. HHMI submitted the stack test report to DEQ on May 12, 2017 for the testing completed on April 28, 2017. No further compliance issues were noted.
9. On May 18, 2017, Department staff met with representatives of HHMI to discuss the violations and requested permit amendment.
10. Based on the results submitted in the April 14, 2017, stack test report, the Board concludes that HHMI has violated Permit Conditions 13, 19 and 20, as described in paragraphs C(1) through C(6), above.

SECTION D: Agreement and Order

Accordingly, by virtue of the authority granted it in Va. Code §§ 10.1-1309 and -1316, the Board orders HHMI, and HHMI agrees to pay a civil charge of \$23,257.80 within 30 days of the effective date of the Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and delivered to:

Receipts Control
Department of Environmental Quality
Post Office Box 1104
Richmond, Virginia 23218

HHMI shall include its Federal Employer Identification Number (FEIN) with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund (VEERF). If the Department has to refer collection of moneys due under this Order to the Department of Law, HHMI shall be liable for attorneys' fees of 30% of the amount outstanding.

SECTION E: Administrative Provisions

1. The Board may modify, rewrite, or amend this Order with the consent of HHMI for good cause shown by HHMI, or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.
2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility; or (3) taking subsequent action to enforce the Order.
3. For purposes of this Order and subsequent actions with respect to this Order only, HHMI admits the jurisdictional allegations, findings of fact, and conclusions of law contained herein.
4. HHMI consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.
5. HHMI declares it has received fair and due process under the Administrative Process Act and the Virginia Air Pollution Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.
6. Failure by HHMI to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
8. HHMI shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other unforeseeable circumstances beyond its control and not due to a lack of good faith or diligence on its part. HHMI shall demonstrate that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. HHMI shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:
 - a. the reasons for the delay or noncompliance;
 - b. the projected duration of any such delay or noncompliance;
 - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
 - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which the parties intend to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on the parties hereto and any successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and HHMI. Nevertheless, HHMI agrees to be bound by any compliance date which precedes the effective date of this Order.
11. This Order shall continue in effect until:
 - a. The Director or his designee terminates the Order after HHMI has completed all of the requirements of the Order;
 - b. HHMI petitions the Director or his designee to terminate the Order after it has completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or
 - c. The Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to HHMI.

Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve HHMI from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

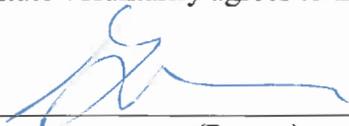
12. Any plans, reports, schedules or specifications attached hereto or submitted by HHMI and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
13. The undersigned representative of HHMI certifies that he or she is a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind HHMI to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of HHMI.
14. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.
15. By its signature below, HHMI voluntarily agrees to the issuance of this Order.

And it is so ORDERED this 17th day of August, 2017.


Thomas A. Faha, Regional Director
Department of Environmental Quality

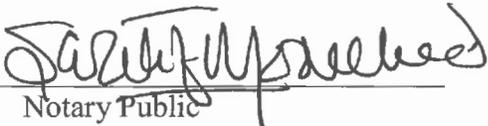
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Howard Hughes Medical Institute voluntarily agrees to the issuance of this Order.

Date: 8/16/2017 By: , _____
(Person) (Title)
[Howard Hughes Medical Institute]

Commonwealth of Virginia
City/County of Ashburn, Loudoun

The foregoing document was signed and acknowledged before me this 16th day of August, 2017, by Gerald M. Rubin who is HHMI Vice President & Executive Director, Janelia Research Campus of Howard Hughes Medical Institute, on behalf of the Howard Hughes Medical Institute.


Notary Public

358490
Registration No.

My commission expires: 2/28/2021

Notary seal:

