July 9, 2024

Mr. Michael P. McCarn, Director

Research and Development Services Division

Naval Research Laboratory

4555 Overlook Ave. SW

Washington DC 20375-5320

**RE: Permit No. 7354 to Construct and Operate a Dust Collector at Naval Research Laboratory, Building 49, 4555 Overlook Avenue SW, Washington DC**

Dear Mr. McCarn:

Pursuant to sections 200.1 and 200.2 of Title 20 of the District of Columbia Municipal Regulations (20 DCMR), a permit from the Department of Energy and Environment (“the Department”) shall be obtained before any person can construct or operate a stationary source in the District of Columbia. The application of U.S. Naval Research Laboratory (“the Permittee”) to construct and operate a Donaldson Torit UMA 450 dust collector, designated B49-DstCol, located in the Building 49, U.S. Naval Research Laboratory, Washington, DC, has been reviewed:

Based on the submitted plans and specifications as detailed in the application dated June 28, 2023, and subsequent supporting documents received on January 4, 2024 via email, your application to construct and operate is hereby approved subject to the following conditions:

I.General Requirements:

a. The dust collector shall be constructed and operated in accordance with the air pollution control requirements of 20 DCMR.

b. This permit will expire on July 8, 2029 [20 DCMR 200.4]. If continued operation after this date is desired, the Permittee shall submit an application for renewal by April 8, 2029.

c. Construction or operation of equipment under the authority of this of permit shall be considered acceptance of its terms and conditions.

1. The Permittee shall allow authorized officials of the District, upon presentation of identification, to:

1. Enter upon the Permittee’s premises where a source or emission unit is located, an emissions related activity is conducted, or where records required by this set of permits are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement.

1. This permit shall be kept on the premises and produced upon request.
2. Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [20 DCMR 202.2]
3. Within twelve months of issuance of this permit, the Permittee shall apply to have the equipment covered therein incorporated into the U.S. Naval Research Laboratory’s Title V operating permit. This application is due by July 9, 2025.

II. Emission Limitations:

a. Total suspended particulate matter (TSP) emissions from the dust collector shall not exceed 0.03 grains per dry standard cubic foot of exhaust gas or 249 lb/year. [20 DCMR 603.1]

b. Adding diluent air to the gas stream to comply with Condition II(a) is prohibited. [20 DCMR 603.3]

c. An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life or property is prohibited. [20 DCMR 903.1]

Violation of standards set forth in this section that occur as a result of unavoidable malfunction, despite the conscientious employment of control practices, shall be an affirmative defense for which the owner or operator shall bear the burden of proof. A malfunction shall not be considered unavoidable if the owner or operator could have taken, but did not take, appropriate steps to eliminate the malfunction within a reasonable time, as determined by the Department. [20 DCMR 903.13(b)]

d. No visible emissions shall be emitted into the outdoor atmosphere from this equipment; except that discharges shall be permitted for two (2) minutes during any startup, cleaning, adjustment of combustion or operational controls, or regeneration of emission control equipment; provided that such discharges shall not exceed twenty-seven percent (27%) opacity (unaveraged). This requirement shall not apply to visible emissions when the presence of uncombined water is the only reason for failure of a visible emissions to meet the visible emissions standards. [20 DCMR 606.1(a)(2), 20 DCMR 606.2(f) and 20 DCMR 606.6(a)]

III. Operational Limitations:

1. The dust collector shall be operated for no more than 2,920 hours in any 12-consecutive-month period. [20 DCMR 201]
2. The Permittee shall use industry best practice to properly operate and maintain the dust collection system, including collection trunks and blowers so as to minimize emissions of filterable particulate matter from woodworking operations to a level no more than 0.005 grains per dry standard cubic foot. [20 DCMR 201]
3. The dust collector shall be operated and maintained in accordance with good air pollution control practices for minimizing emissions, including during startup, shutdown, and malfunction, and in accordance with the manufacturer’s installation, operation and maintenance manuals and procedures in order to achieve at least 99.9% efficiency for dust control and to minimize emissions from woodworking operations. [20 DCMR 104.2(b)(2), 20 DCMR 201, and 20 DCMR 606.4(a) and (b)]
4. The Permittee shall establish a minimum differential pressure across the bag filters at the time of initial start-up with a full set of new bag filters. Whenever the differential pressure drops below this minimum level, the equipment shall be shut down and inspected and any worn or damaged filters shall be replaced. If a full set of new filters is not installed, the previous minimum differential pressure level shall be maintained. [20 DCMR 102.1 and 20 DCMR 201]
5. The Permittee shall maintain sufficient stores of filter bage in a readily available location to allow for prompt replacement of any worn or damaged filters. [20 DCMR 201]
6. The Permittee shall ensure that persons participating in the maintenance and operation of equipment are adequately trained and supervised to meet the requirements of Condition III(c). [20 DCMR 606.4(c)]

IV. Monitoring and Testing Requirements:

a. The Permittee shall monitor the physical condition of the dust collector and repair or replace any damaged components. [20 DCMR 201]

b. The Permittee shall periodically, and in accordance with manufacturer’s recommendations, check the shaker system of the dust collector and ensure that it is properly operating. If maintenance issues are identified, the Permittee shall promptly make repairs as necessary for proper operations.

1. The Permittee shall use a properly installed and maintained differential pressure monitoring device to monitor the pressure drop across the bag filters to assure normal operating conditions. The pressure drop shall be monitored at least once per day during operations to ensure that the differential pressure remains above the minimum pressure drop established pursuant to Condition III(d) and otherwise within proper operating parameters. In lieu of manual monitoring, an electronic monitoring system may be used if appropriate alarms are installed to ensure that operations are maintained within the proper operating range and that the system records a log of readings consistent with the record keeping requirements of this permit. [20 DCMR 201]
2. The Permittee shall monitor exhaust from the dust collector to ensure compliance with Condition II(d).
3. The Permittee shall visually inspect and, if necessary, empty the dust collector, at least quarterly and at a frequency that ensures proper operation of the dust collector. [20 DCMR 201]
4. The Permittee shall monitor dust disposal to minimize fugitive emissions [20 DCMR 201]
5. The Permittee shall inspect the filter media as needed and at least on an annual basis and shall replace the filters as needed to ensure continual proper operation of the dust collector. [20 DCMR 201]
6. The Permittee shall conduct and allow the Department access to conduct tests of air pollution emissions from any source as requested. [20 DCMR 502.1]
7. The Permittee shall investigate the cause of any malfunction of the dust collector. [20 DCMR 606.5(b)]

V. Record Keeping Requirements: [20 DCMR 200.7]

1. The following information shall be recorded, initialed, and maintained in a log at the facility (or at an electronic location readily accessible from the facility) for a period not less than five (5) years from the date the information is obtained [20 DCMR 302.1(c)(2)(B), 20 DCMR 605.5(d), and 20 DCMR 500.8]:
2. The documentation of the results of all inspections pursuant to Conditions IV(b), (e), and (g);

2. The total hours of operation each month, maintained in a 12-month rolling sum format to document compliance with Condition III(a).

3. Records of the date, description, and who performed any maintenance on the equipment *[Note that these records must be sufficient to document that the Permittee is complying with the requirements of Condition III(b) and (c)]*;

4. Records of the results of differential pressure monitoring performed upon start-up of the equipment each time a full set of bag filters are installed. These data shall be subsequently used as the minimum differential pressure allowable in across the filters, pursuant to Condition IV(c);

5. Records of all differential pressure monitoring performed pursuant to Condition IV(c);

6. Records of the results of any visible emissions monitoring performed;

7. Records of the date, time, and duration of any equipment manual startup, manual shutdown, cleaning, emission control regeneration, and malfunction [20 DCMR 606.5(a)];

8. Records of the investigatory activities and conclusions of any investigation of dust collector malfunction pursuant to Condition IV(i);

9. Records of the actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation;

10. Records of the quantity of dust collected from the operation of the dust collector, updated at the time at the time of emptying or replacement of the collection receptacle;

11. Records of the emissions of particulate matter from the unit, updated monthly maintained in a 12-month rolling sum format[[1]](#footnote-1); and

12. Records of the training performed to comply with Condition III(f).

1. The Permittee shall maintain a copy of the dust collector manufacturer’s maintenance and operating recommendations at the facility for the life of the unit. [20 DCMR 500.1]
2. The Permittee shall maintain a copy of the results of any tests performed pursuant Condition IV(h) at the facility for the life of the unit.

If you have any questions, please call me at (202) 498-8143 or John Nwoke at (202) 724-7778.

Sincerely,

Stephen S. Ours, P.E.

Chief, Permitting Branch

SSO:JCN

1. Emissions from the dust collectors shall be based on the total number of drums of sawdust collected over the previous 12-month period, multiplied by the volume of the drums in gallons, and converted to pounds based on an assumed sawdust density of 19.0 lb/ft3. Control efficiency shall be based on the applicable minimum control efficiency allowed pursuant to Condition III(c), unless other credible evidence exists indicating another control efficiency should be used. [↑](#footnote-ref-1)