



**CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH
AIR MANAGEMENT SERVICES**

RACT II PLAN APPROVAL

RACT Plan Approval No. IP16-000235

Effective Date: 3/20/2020

Expiration Date: None

In accordance with provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and after due consideration of a Reasonably Available Control Technology (RACT) proposal received under the Pennsylvania Code, Title 25, Chapter 129.96 through 129.100, of the rules and regulations of the Pennsylvania Department of Environmental Protection (PADEP), Air Management Services (AMS) approved the RACT proposal of the facility below for the source(s) listed in section 1.A. Emission Sources of the attached RACT Plan Approval.

*This RACT Plan Approval has been revised to remove sources (CU-B108, CU-M115, CU-M116, CU-M155, and CU-G101) that have shut down since the latest RACT determination from the RACT permit issued March 22, 2016 (PA Permit No. 51-0924 dated 2/9/2016).

Facility:	Naval Surface Warfare Center - Philadelphia Division (NSWCPD)
Permittee:	NSWCPD
Location:	5001 South Broad Street, Code 1023, Philadelphia, PA 19112
Mailing Address:	5001 South Broad Street, Code 1023, Philadelphia, PA 19112
SIC Code(s):	9722
Plant ID:	9724
Facility Contact:	Mark Donato
Phone:	(215) 897-7607
Permit Contact:	Mark Donato
Phone:	(215) 897-7607
Responsible Official:	Dana F. Simon
Title:	Captain, US Navy Commanding Officer

A handwritten signature in blue ink, appearing to read "Edward Wiener".

Edward Wiener, Chief of Source Registration

3/20/20

Date

In accordance with provisions of the Pennsylvania Code, Title 25, Chapters 129.96 through 129.100, Air Management Services (AMS) has approved the RACT proposal plans for Naval Surface Warfare Center – Philadelphia Division (NSWCPD) on the above indicated air contamination source(s).

The RACT plan approval is subject to the following conditions:

1. Purpose:

The purpose of this Plan Approval is to establish Nitrogen Oxides (NO_x) Reasonably Available Control Technology (RACT) for NSWCPD. This includes the following emission sources and control equipment:

A. Emission Sources

i. Seven (7) testing engines and turbines:

Unit	Description	Heat Input	Fuel Burned
CU-M111	B77H; Engine Testing Gas Turbine DDG-51	226.9 MMBTU/hr (6,180.7 bhp)	Diesel
CU-M112	B77H; Engine Testing Gas Turbine DDG-51	226.9 MMBTU/hr (6,180.7 bhp)	Diesel
CU-M113	B77H; Engine Testing Gas Turbine CG-47	40.6 MMBTU/hr (1,212.8 bhp)	Diesel
CU-M114	B77H; Engine Testing Gas Turbine GTG #2	37.4 MMBTU/hr (1,117.2 bhp)	Diesel
CU-M119	B824; Engine Testing TF-40 Gas Turbine	≤ 42.1 MMBTU/hr (≤ 1,257.6 bhp)	Diesel
CU-M139	B77H; Engine Testing Gas Turbine GTG#1	37.4 MMBTU/hr (1,117.2 bhp)	Diesel
CU-M151	B77H; DD(X) LM-500	51.4 MMBTU/hr (1,535.5 bhp)	Diesel

2. Approval and Authorization:

- A. The testing engines and gas turbines will continue to adhere to the standard Navy Planned Maintenance program as defined for shipboard use.
- B. The following testing engines and gas turbines will continue to adhere to the following NO_x emission limits as listed below:

Unit	NO _x Emission Limitation
CU-M111	244 lbs/hr
CU-M112	263 lbs/hr
CU-M113	24.8 lbs/hr
CU-M114	30.3 lbs/hr

Unit	NO _x Emission Limitation
CU-M119	9.14 tons in any rolling 12-month period
CU-M139	29.1 lbs/hr
CU-M151	514.60 lbs/hr (for entire DDX Test Cell*)

* The short term emission limit given for CU-M151 is the emission limit for the entire DDX Test Cell, which can contain up to three turbines whose combined emission rate cannot exceed 514.60 lbs/hr of NO_x.

3. RACT II Implementation Schedule:

- A. Upon issuance of this approval, NSWCPD shall begin immediate implementation of the measures necessary to comply with the approved RACT proposal.

4. Monitoring, Recordkeeping, and Reporting Requirements:

- A. NSWCPD shall maintain a file containing all the records and other data that are required to be collected to demonstrate compliance with the RACT requirements of 25 Pa Code §§129.96-129.99. These records shall include:
- i. Details of the maintenance program for testing engines/turbines at the facility.
 - ii. Stack test results for each of the seven (7) testing engines and turbines listed above.
- B. NSWCPD shall perform an AMS-approved stack test on each of the seven testing engine and gas turbines one time in each 5-year calendar period to demonstrate compliance with 25 Pa Code §129.100(a)(4) and the NO_x emission limits in Condition 2.B.
- i. For CU-M111, CU-M112, CU-M113, CU-M114, and CU-M139 each unit shall be tested to demonstrate compliance with its respective NO_x emission limit one time in each 5-year calendar period.
 - ii. NSWCPD shall conduct a source test on the marine gas turbine ETF-40B (CU-M119) to establish nitrogen oxide (NO_x), carbon monoxide (CO), and particular matter-10 (PM-10) emission factors no later than 90 days after attaining full power of operation. The stack test protocol must be submitted to Air Management Services (AMS) at least 30 days before the test date. The test results must be submitted to AMS within 60 days of testing. If at any time AMS has cause to believe that air contaminant emissions from this source is in excess of the limits specified in this permit, NSWCPD shall be required to conduct whatever tests deemed necessary by AMS to determine the actual emission rates. CU-M119 shall be tested to demonstrate compliance with the NO_x emission limit one time in each 5-year calendar period thereafter.

- iii. CU-M151 shall be tested to demonstrate compliance with the NO_x emission limit within 60 days of achieving full capacity—but not later than 180 days after initial start-up—and one time in each 5-year calendar period thereafter.
- C. Records shall be retained for at least five years and shall be made available to AMS on request.

5. Revisions:

- A. Revisions to any emission limitations incorporated in this RACT Approval will require resubmission as revision to the PA State Implementation Plan. The applicant shall bear the cost of public hearing and notification required for EPA approval as stipulated in 25 Pa Code §129.99(h).