#### TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 45924 / Permit Activity Number: BOP190004

#### I. FACILITY INFORMATION

Joint Base McGuire-Dix-Lakehurst: Dix Area is located at 2403 Vandenberg Avenue, Joint Base MDL, Burlington County, NJ 08641 and consists of a US Army base. The facility is owned and operated by USDOD Joint Base McGuire-Dix-Lakehurst.

The facility is classified as a major facility based on its potential to emit 35.7 tons per year of volatile organic compounds (VOC) and 150.3 tons per year of nitrogen oxides (NOx).

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed: 2 pounds per year of mercury, 0.24 pounds per year of cadmium, 0.084 pounds per year of arsenic, 0.052 pounds per year of beryllium and 676 pounds per year of total HAPs from insignificant sources. Total HAPs emissions from insignificant sources are estimated values and are not speciated.

### **II. AREA ATTAINMENT CLASSIFICATION**

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are particulate matter, ground-level ozone, carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide (NO2), and lead. The US Environmental Protection Agency (USEPA) also classifies areas as "attainment" or "nonattainment" for each criteria pollutant, based on the magnitude of an area's problem. Nonattainment classifications are used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. Currently, the entire State of New Jersey is designated as nonattainment for the 8-hour ozone NAAQS. New Jersey is designated attainment for all other pollutants. For nonattainment classification refer to <a href="https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information">https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information</a>.

#### III. BACKGROUND AND HISTORY

The equipment that emits air contaminants from this facility include: 66 natural gas fired boilers/heaters/furnaces, 8 fuel oil boilers, 29 diesel-fired emergency generators, 6 gasoline underground storage tanks, 1 diesel underground storage tank, 1 gasoline aboveground storage tank, 2 site remediation operations controlled by a catalytic oxidizer with no less than 99.5% reduction efficiency for VOC emissions or a carbon adsorption system with no less than 95% reduction efficiency for VOC emissions, 2 paint booths equipped with a dry filter with no less than 99.4% reduction efficiency for particulates, 1 abrasive blaster equipped with a dry filter with no less than 80% reduction efficiency for particulates, 1 closed legacy landfill, and 1 mobile ordnance deformer.

This permit also incorporates 18 general operating permits that the facility obtained. BOP190003 was for an emergency diesel generator with a heat input rate of 1.66 MMBTU/hr (HHV). BOP190005, BOP190006 and BOP190008 were each for a natural gas boiler with a heat input rate of 2.0 MMBTU/hr (HHV). BOP190007, BOP190009, BOP190010 and BOP190011 were each for a natural gas boiler with a heat input rate of 1.3 MMBTU/hr (HHV). BOP190012 was for a natural gas boiler with a heat input rate of 1.25 MMBTU/hr (HHV). BOP190013 was for a natural gas boiler with a heat input rate of 1.0 MMBTU/hr (HHV). BOP190014 and BOP190015 were each for a natural gas boiler with a heat input rate of 1.38 MMBTU/hr (HHV). BOP200002 and BOP200003 were each for a natural gas boiler with a heat input rate of 1.04 MMBTU/hr (HHV). BOP210001 was for an emergency diesel generator with a heat input rate of 1.38 MMBTU/hr (HHV). BOP210002 was for an emergency diesel generator with a heat input rate of 4.7 MMBTU/hr (HHV). BOP210004 was for an emergency diesel generator with a heat input rate of 4.7 MMBTU/hr (HHV). The emergency generators are permitted to operate up to 100 hours per year on fuel oil for testing and maintenance. The total increase in facility emissions due to the addition of the new general operating permits is 8.68 tons of NOx, 0.04 tons of VOC and 9,930 tons of CO2(e) per year.

Table 1 - Operating Permit Revision History (located at the end of this document) provides a summary of all the changes that have been incorporated into the operating permit through seven-day notice changes, administrative amendments, minor modifications, or significant modifications since the approval of the initial operating permit or the most recent renewal thereof. Please refer to the attached explanation sheet

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for the structure and configuration of conditions of approval, included in the Facility Specific Requirements section of this permit.

A Facility-Wide Risk Assessment was conducted as part of the review of this permit application and health risk was determined to be negligible consistent with NJDEP Technical Manual 1003.

This is a Permit Renewal and includes the following changes:

Modification Application BOP210003 was incorporated

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The following general operating permits were incorporated:
BOP190003 (U3:OS33, E6, 1.66 MMBTU/hr D EG)
BOP190005 (U1:OS55, E7, 2 MMBTU/hr NG Boiler)
BOP190006 (U1:OS56, E8, 2 MMBTU/hr NG Boiler)
BOP190007 (U1:OS57, E14, 1.3 MMBTU/hr NG Boiler)
BOP190008 (U1:OS58, E9, 2 MMBTU/hr NG Boiler)
BOP190009 (U1:OS59, E18, 1.3 MMBTU/hr NG Boiler)
BOP190010 (U1:OS60, E23, 1.3 MMBTU/hr NG Boiler)
BOP190011 (U1:OS61, E28, 1.3 MMBTU/hr NG Boiler)
BOP190012 (U1:OS62, E29, 1.25 MMBTU/hr NG Boiler)
BOP190013 (U1:OS63, E35, 1.0 MMBTU/hr NG Boiler)
BOP190014 (U1:OS64, E40, 1.38 MMBTU/hr NG Boiler)
BOP190015 (U1:OS65, E41, 1.38 MMBTU/hr NG Boiler)
BOP200001 (U1:OS66, E43, 1.04 MMBTU/hr NG Boiler)
BOP200002 (U1:OS67, E50, 1.04 MMBTU/hr NG Boiler)
BOP200003 (U1:OS68, E51, 1.04 MMBTU/hr NG Boiler)
BOP210001 (U3:OS34, E250, 1.60 MMBTU/hr D EG)
BOP210002 (U3:OS35, E52, 1.38 MMBtu/hr D EG)
BOP210004 (U3:OS36, E53, 4.7 MMBtu/hr D EG)
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The following items have been removed from the permit: U3:OS1. E1. 275 kW. 2.744 MMBtu/hr Diesel EG

U3:OS4, E73 750 kW 7.1 MMBtu/hr Diesel EG

U3:OS12, E208, 250 kW, 2.34 MMBtu/hr Diesel EG

U3:OS27, E242 eGen

U3:OS28, E343 eGen

U3:OS29, E244 185 kW 1.74 MMBtu/hr Diesel EG #4

U1:OS14, E191 1.44 MMBtu/hr heater

U1:OS47, E195 1.44 MMBtu/hr heater

U6:OS1&2, E232, Site Remediation TU970 by Building 6045

Corrections were made to the heat input, emissions, power rating and/or location for various equipment in U1 Natural Gas Boilers, U2 Diesel Boilers and U3 Emergency Generators.

HAP emissions above reporting thresholds at N.J.A.C. 7:27-17 were added to U1 OS20, U1 OS25-OS26, U1 OS55-OS62, U1 OS64-OS65, U2 OS2, U2 OS5 and U2 OS8.

Total significant source emissions were updated as follows: VOC emissions decrease from 36.3 tons per year (TPY) to 35.7 TPY, CO emissions increase from 92.2 TPY to 97.9 TPY, TSP emissions decrease from 11.5 TPY to 10.8 TPY, PM-10 and PM-2.5 emissions increase from 6.09 TPY to 9.38 TPY and total HAP emissions decrease from 1.38 TPY to 0.34 TPY.

2 insignificant emergency generators were added in IS1, 2 insignificant natural gas boilers were removed from IS2, 4 insignificant #2 fuel oil boilers were added to IS3, 48 insignificant natural gas space heaters/hot water heaters were removed from IS4, 44 insignificant #2 fuel oil space heaters/hot water heaters were removed from IS5. One 1,000 gallon diesel storage tank was removed from IS8. IS15

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Tactical Diesel Hauler was removed

The Emission Point Inventory was updated. PT 9, 10, 19, 20, 29, 31 were removed. U1:OS56, E8 2 MMBTU/hr boiler and U1:OS58, E9, 2 MMBTU/hr boiler were reassigned to PT8. U1:OS59, E18, 1.3 MMBTU/hr boiler, U1:OS61, E28, 1.3 MMBTU/hr boiler, U1:OS60, E23, 1.3 MMBTU/hr boiler, were reassigned to PT14. Stack information was updated for PT6, 7, 8, 14, 21, 28, 32, 35, 40, 87, 161, 194.

PM-2.5 emissions have been added to U3, Thirty-three Diesel-Fired Emergency Generators, and U7, Two paint booths, consistent with N.J.A.C. 7:27-22.

The applicable requirements for U4, Gasoline USTs, and U5, Gasoline AST, based on the latest version of N.J.A.C. 7:27-16.3, Gasoline Transfer Operations were updated. Applicable 40 CFR 63 Subpart CCCCCC requirements were added.

CD11, Stage II VRU was decommissioned in accordance with N.J.A.C. 7:27-16.3(e) and removed from the permit.

SO2 emissions were updated for U2 and U3 based on the new fuel sulfur content requirements in N.J.A.C. 7:27-9. U2 SO2 emissions of 7.22 tons/year were removed. U3 SO2 emissions were reduced from 0.77 tons/year to 0.69 tons/year.

A correction was made to the equipment and emission point for U3:OS30. U3:OS30 is now linked to E245, a 1.89 MMBTU/hr Emergency Generator, which was accidentally removed.

The changes made during this permitting action result in allowable annual emissions changes as follows: VOC emissions decrease from 36.3 tons per year (TPY) to 35.7 TPY, CO emissions increase from 92.2 TPY to 97.9 TPY, TSP emissions decrease from 11.5 TPY to 10.8 TPY, PM-10 and PM-2.5 emissions increase from 6.09 TPY to 9.38 TPY and total HAP emissions decrease from 1.38 TPY to 0.34 TPY.

#### IV. BASIS FOR MONITORING AND RECORDKEEPING REQUIREMENTS

The facility's operating permit includes monitoring, recordkeeping and reporting requirements that are sufficient to demonstrate the facility's continued compliance with the applicable requirements consistent with the following:

- 1. Provisions to implement the testing and monitoring requirements of N.J.A.C. 7:27-22.18, the recordkeeping and reporting requirements of N.J.A.C. 7:27-22.19, and all emissions monitoring and analysis procedures or compliance assurance methods required under the applicable requirements, including any procedures and methods promulgated pursuant to 40 CFR 64; and
- 2. Where the applicable requirement does not require direct periodic monitoring of emissions, the Department requires periodic monitoring of surrogate parameters sufficient to yield reliable data from the relevant time period that are representative of the facility's compliance with the permit.

For boilers in U1 and U2 the facility monitors fuel use as the surrogate for the long-term (TPY) emission limits for NOx, CO and HAPs.

For emergency generators in U3, the facility monitors the hours of operation for testing and maintenance as the surrogate for the long-term (TPY) emission limits for VOC, NOx, CO, TSP, PM10, and PM2.5.

For gasoline transfer operations in U4 and U5, the facility monitors the total throughput (MMgal/yr) as a surrogate for the long-term (TPY) emission limits for VOC.

For paint booths in U7, the facility monitors the coating usage (gal/yr) and VOC content (lb/gal) of all surface coating formulations as surrogates for the long-term (TPY) emission limit for VOC. For

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each surface coating formulation, the facility monitors the coating usage (gal/hr) and VOC content as surrogates for the short-term (lb/hr) emission limits for VOC.

For U10 Mobile Ordnance Deformer the facility monitors fuel use as the surrogate for the long-term (TPY) emission limit for CO.

- 3. In some cases, direct periodic monitoring of emissions and/or surrogate parameters is not required due to one or more of the following:
  - Equipment size and capacity limitations.
  - Subject equipment being permitted at the maximum rated capacity,
  - There is no specific state or Federal standard that applies to this piece of equipment,
  - Not a pollutant of concern for this piece of equipment,
  - Agreements with EPA on the frequency of testing and monitoring for combustion sources.

Based on the above criteria, there is no direct or surrogate monitoring for the following piece of equipment:

E74 (U9) Closed Legacy Landfill

### V. APPLICABLE STATE AND FEDERAL RULES

The facility is subject to New Jersey Air Pollution Control Regulations, codified in N.J.A.C. 7:27-1 through 34, as applicable. A complete text of these regulations is available at: <a href="http://www.nj.gov/dep/aqm/rules27.html">http://www.nj.gov/dep/aqm/rules27.html</a>

The facility is also subject to Federal regulations listed below.

NSPS Subpart A: General Provisions

NSPS Subpart IIII: Stationary Compression Ignition Internal Combustion Engines

MACT Subpart A: General Provisions

MACT Subpart CCCCCC: Gasoline Dispensing Facilities

MACT Subpart JJJJJJ: Industrial, Commercial, and Institutional Boilers Area Sources

The Greenhouse Gas (GHG) emissions from this facility are 99,360 TPY CO2e. This renewal is not subject to PSD rules at 40 CFR 52.21

# VI. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved.

The facility has submitted a timely and complete application to renew their operating permit and an application shield is in effect.

This operating permit also includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. A permit shield provides that compliance with the relevant conditions of the operating permit shall be deemed compliance with the specific applicable requirements that are in effect on the date of issuance of the draft operating permit, and which form the basis for the conditions in the operating permit.

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Also, prior to the expiration of the five-year period, the facility will be required to apply for a renewal of this operating permit, at which time the Department will evaluate the facility and issue a public notice with its findings.

# **VII. EXEMPT ACTIVITIES**

The facility's operating permit does not include exempt activities such as office and interior maintenance activities, maintenance shop activities, food preparation facilities, cafeterias and dining rooms, etc. A complete list of exempt activities, as allowed by the Operating Permit rule, can be found at N.J.A.C. 7:27-22.1.

Table 1 - Operating Permit Revision History

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP210004	General Operating Permit	4.70 MMBTU/hr (HHV) Emerg. Gen. (285 kW) Diesel fuel, 100 hrs/yr Emission Unit U53	11/8/2021
BOP210002	General Operating Permit	1.38 MMBTU/hr (HHV) Emerg. Gen. (148 kW) Diesel fuel, 100 hrs/yr Emission Unit U52	7/22/2021
BOP210001	General Operating Permit	1.60 MMBTU/hr (HHV) Emerg. Gen. (177 kW) Diesel fuel, 100 hrs/yr Emission Unit U250	6/1/2021
BOP200003	General Operating Permit	1.04 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U51	2/28/2020
BOP200002	General Operating Permit	1.04 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U50	2/28/2020
BOP200001	General Operating Permit	1.04 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U43	2/28/2020
BOP190015	General Operating Permit	1.38 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U41	11/13/2019
BOP190014	General Operating Permit	1.38 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U40	11/13/2019
BOP190001	Significant Modification	This modification is adding to the permit one 80 kW Diesel Fired Mobile Ordnance Deformer as U10 - OS1- E245, PT245 - Additionally, the BOP190002 - GOP-007-3 Boiler 1.01 MMBTU/hr heat input was incorporated in the permit BOP190001 as U2-OS8 - E5 - PT6. Additionally the facility profile was updated to incorporate new facility contacts at the facility. This modification results in a facility-wide potential emissions increase of 0.684 tons per year of nitrogen oxides (NOx), and 0.678 tons per year of carbon monoxide (CO).	11/4/2019
BOP190013	General Operating Permit	1.0 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U35	9/13/2019
BOP190012	General Operating Permit	1.25 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U32	9/13/2019
BOP190011	General Operating Permit	1.3 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U31	9/13/2019
BOP190010	General Operating Permit	1.3 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U29	9/13/2019
BOP190009	General Operating Permit	1.3 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U28	9/13/2019
BOP190008	General Operating Permit	2 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U21	9/13/2019
BOP190007	General Operating Permit	1.3 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U23	9/13/2019

BOP190006	General Operating Permit	2 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U20	9/13/2019
BOP190005	General Operating Permit	2 MMBTU/hr (HHV), Boiler Natural Gas Only Emission Unit U19	9/13/2019
BOP190003	General Operating Permit	1.66 MMBTU/hr (HHV) Emerg. Gen. (177 kW) Diesel fuel, 100 hrs/yr Emission Unit U18	9/4/2019
BOP190002	General Operating Permit	1.01 MMBTU/hr (HHV), Boiler No. 2 Fuel Oil Only Emission Unit U14	4/17/2019
	Minor Modification	This minor modification operating permit reorganized the emission units for like sources. The new emission units with the applicable sources are as follows:	11/13/2018
		U1: Natural Gas Boilers/Heaters/Furnaces >= 1 MMBtu/hr and < 5 MMBtu/hr	
		U2: Diesel/Fuel Oil Boilers >= 1 MMBtu/hr and < 5 MMBtu/hr	
		U3: Diesel-fired Emergency Generators	
		U4: Gasoline/Diesel Underground Storage Tanks (USTs)	
BOP180001		U5: Gasoline Aboveground Storage Tanks (ASTs)	
		U6: Remediation Activities	
		U7: Paint Booths	
		U8: Abrasive Blaster	
		U9: Landfill	
		This modification also removes two small natural gas boilers (E16, and E193), and includes the incorporation of three GOPs emergency generators to the permit (BOP170001, BOP170002, and BOP170003) as U3-OS30-E245, OS31-E246, and OS32-E247 respectively, and facility contact updates as well.	
BOP170003	General Operating Permit	1.65 MMBTU/hr (HHV) Emerg. Gen. (177 kW) Diesel fuel, 100 hrs/yr Emission Unit U4	10/30/2017
BOP170002	General Operating Permit	1.89 MMBTU/hr (HHV) Emerg. Gen. (180 kW) Diesel fuel, 100 hrs/yr Emission Unit U2	9/11/2017
BOP170001	General Operating Permit	1.89 MMBTU/hr (HHV) Emerg. Gen. (180 kW) Diesel fuel, 100 hrs/yr Emission Unit U3	9/11/2017

BOP160003 Significant Modification	Joint-Base McGuire-Dix-Lakehurst: Dix Area (JB MDL: Dix) is requesting New Jersey Department of Environmental Protection (NJDEP) approval for significant modification of its permit for the following:  Addition of Sources:  -E239, PT239, & U239/OS1: 125 kW Diesel Fired Emergency Generator in Range 1 Area  -E240, PT240, & U240/OS1: 125 kW Diesel Fired Emergency Generator in Range 1 Area  -E241, PT241, & U241/OS1: 100 kW Diesel Fired Emergency Generator in Range 1-9979  -E242, PT242, & U242/OS1: 100 kW Diesel Fired Emergency Generator in Range 1-9984  -E243, PT243, & U243/OS1: 200 kW Diesel Fired Emergency Generator in Range 1 Area  -E244, PT244, & U244/OS1: 185 kW Diesel Fired Emergency Generator in Range 1 Area  Remove Sources:  -E238: Duplicate remediation source in inventory  -E101, PT90, & U101/OS1: Source has been removed  -E106, PT95, & U106/OS1: Source has been removed	2/28/2017
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		Addition of Sources:	4/15/2016
BOP160001	Minor Modification	E235, PT235, & U160/OS13: 1.529 MMBtu/hr Natural Gas Fired Boiler in Bldg. 2101	
		E236, PT236, & U160/OS14: 1.230 MMBtu/hr Natural Gas Fired Boiler in Bldg. 5320	
		E237, PT237, & U160/OS15: 1.358 MMBtu/hr Natural Gas Fired Boiler in Bldg. 5610	
		Remove Existing Sources:	
		E172, PT172, & U172/OS1: Unit has been removed	
		E156, PT156, & U156/OS1: Unit has been removed	
		E145, PT145, & U145/OS1: Unit has been removed	
		E146, PT146, & U145/OS2: Unit has been removed	
BOP160002	General Operating Permit	2.744 MMBTU/hr (HHV) Emerg. Gen. (275 kW) Diesel fuel, 100 hrs/yr Emission Unit U1	3/15/2016

#### FACILITY NAME (FACILITY ID NUMBER) BOP050001 **New Jersey Department of Environmental Protection Activity Number assigned Facility Specific Requirements** by the Department **Emission Unit Number** Brief description of assigned by the Facility emission unit **U40** Sewage Sludge Incinerators **Emission Unit:** OR **Operating Scenario: OS2 Fluidized Bed Incinerator OS Summary** OS Summary lists all rules and requirements OSX denotes the operating scenario number and lists the rules that apply to an emission unit. An emission unit and requirements that apply to a scenario. An operating may contain one or more pieces of equipment scenario represents various ways (or scenarios) a piece of and corresponding operating scenarios. equipment is permitted to operate. Monitoring method to Item Description of applicable Recordkeeping to show Actions and submittals ensure compliance facility's compliance required for the facility Number requirement Monitoring Requirement Ref.# Applicable Requirement Recordkeeping Requirement Submittal/Action Requirement 3 The permittee shall conduct an annual Other: Conduct the performance test using Other: (1) Maintain records of the Submit a report: Annually to the performance test for each pollutant in the test methods, averaging methods and results of initial, annual and any Administrator and to the Department. Table 2 of 40CFR62 Subpart LLL minimum sampling volumes or durations subsequent performance tests conducted The permittee shall submit an annual between 11 and 13 calendar months after as specified in 40CFR62 Subpart LLL and to determine compliance with the compliance report as specified in 40 the previous performance test or within according to the testing, monitoring and emission limits and standards and/or to CFR 62. [40 CFR 62.16000(d)] calibration requirements specified in 40 60 days of a process change. [40 CFR establish operating limits, as applicable. 62.16000(a)] CFR 62.16015(a). [40 CFR 62.16000(a)]. [40 CFR 62.16025(e)]. Rule citation for Rule citation for Rule citation for Rule citation for submittal/ applicable requirement monitoring requirement recordkeeping requirement action requirement

**Explanation Sheet for Facility Specific Requirements**