

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: DRAFT

Region: Fayetteville Regional Office
County: Cumberland
NC Facility ID: 2600102
Inspector's Name: Joshua L. Harris
Date of Last Inspection: 11/18/2015
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): HQ XVIII ABN Corps & Fort Bragg</p> <p>Facility Address: HQ XVIII ABN Corps & Fort Bragg Bldg 3-1137 Fort Bragg, NC 28310</p> <p>SIC: 9711 / National Security NAICS: 92811 / National Security</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02D .0503, .0515, .0516, .0521 15A NCAC 02Q .0516 NSPS: 15A NCAC .0524 – Subpart III NESHAP: 15A NCAC .1111 – Subpart ZZZZ and 112(j) PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: N/A</p>
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Contact Data			Application Data
<p style="text-align: center;">Facility Contact</p> <p>Gary Cullen Air Program Manager (910) 432-8464 IMBG-PWE-C Fort Bragg, NC 28310+5000</p>	<p style="text-align: center;">Authorized Contact</p> <p>Gregory Bean Director, Directorate of Public Works (910) 396-4009 IMBG-PW Fort Bragg, NC 28310+5000</p>	<p style="text-align: center;">Technical Contact</p> <p>Gary Cullen Air Program Manager (910) 432-8464 IMBG-PWE-C Fort Bragg, NC 28310+5000</p>	<p>Application Number: 2600102.15A Date Received: 11/03/2015 Application Type: Modification Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 04379/T41 Existing Permit Issue Date: 07/24/2015 Existing Permit Expiration Date: 09/30/2016</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	1.34	93.50	44.35	61.32	6.78	5.02	1.87 [Toluene]
2013	1.41	85.86	44.56	58.00	6.57	5.82	2.02 [Toluene]
2012	1.66	59.46	42.77	35.54	5.87	4.64	2.02 [Toluene]
2011	2.07	70.14	45.28	47.36	5.78	4.82	2.11 [Toluene]
2010	3.37	68.82	44.44	44.07	5.93	4.98	2.12 [Toluene]

<p>Review Engineer: Kevin Godwin</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 04379/T42 Permit Issue Date: Permit Expiration Date: 09/30/2016</p>
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I. Introduction and Purpose of Application

- A. Ft. Bragg Army Post (Ft. Bragg) is home to both the 82nd Airborne Division and the XVIII Airborne Corps Headquarters. Ft. Bragg is a major source of both criteria pollutants and hazardous air pollutants (HAP). The current air permit 04379T41 covers sources including boilers, generators, incinerators, paint booths, engine test stands, and a cogeneration turbine.
- B. Ft. Bragg is requesting that the current permit be modified as follows:
1. Add three (3) natural gas-fired boilers (ID Nos. ES-908B, 909B, and 910B, 4.2, 3.2, and 2.7 million Btu per hour heat input, respectively),
 2. Add three (3) diesel-fired emergency generators (ID No. ES-198GI, 600 kilowatts and ID Nos. ES-196GI, ES-197GI, 100 kilowatts each),
 3. Add eighteen (18) natural gas-fired boilers and one (1) No. 2 fuel oil-fired boiler as insignificant activities under ID No. IES-00B,
 4. Add a soldering training and welding shop (ID Nos. IES-22W and IES-23W) as insignificant activities,
 5. Remove eighteen (18) small boilers, ten (10) emergency generators, one (1) air stripper, and one (1) welding shop,
 6. Add an existing brass deformer (ID No. ES-107BDI) to the insignificant activity list,
 7. Move existing hot water heaters to the insignificant activity list under source ID No. IES-00B) as they are categorically exempt from MACT DDDDD and qualify as insignificant activities under 15A NCAC 02Q .0503(8).
 8. Various administrative changes.
- C. Because this modification does involve a significant change in existing monitoring and recordkeeping requirements it is classified as a significant modification under 15A NCAC 02Q .0516. The applicant has requested that the application be processed using the one-step procedures provided in 15A NCAC 02Q .0501(d)(1).

II. Changes to Existing Permit

The following table provides a summary of changes made with this revision.

Page No.	Section	Description of Change
Cover letter	N/A	Amended application type; permit revision numbers, and dates.
Attachment	Insignificant Activities	Included nineteen (19) new and existing natural gas-fired sources that meet the definition of hot water heater under 40 CFR 63 DDDDD. Included welding shop (ID No. IES-22W) and soldering training shop (ID No. IES-23W). Moved brass deformer (ID No. ES-107BDI) from permit to insignificant activity list.
1	Permit cover page	Amended permit revision numbers and all dates.
N/A	All, Header	Updated permit revision number.
Global	Global	Updated testing, monitoring, recordkeeping, and reporting regulatory citation to 15A NCAC 02Q .0508(f).
3, 69, and 71	Table of Emission Sources, 2.2 G.3. and 2.2 G.4.	Included new sources associated with this application (ID Nos. ES-908B, ES-909B, ES-910B, ES-196GI, ES-197GI, and ES-198GI. Removed eighteen (18) small boilers, ten (10) emergency generators, one air stripper, and one welding shop.
39	2.1 L.	Included new emergency generators (ID Nos. ES-196GI, ES-197GI, and ES-198GI).
Global	Global	Made administrative changes as outlined in the application to source ID Nos. ES-87GI, ES-38B, ES-39B, ES-01C, ES-02C, ES-08C, ES-09C, and ES12C. Included

Page No.	Section	Description of Change
		standard I & M, Recordkeeping, and Reporting requirements for control equipment.
79	2.2 M.	Included new boilers (ID No. ES-908B, ES-909B, and ES-910B).
3, 79	Table of Emission Sources, 2.2 M.	Moved 122 propane, natural gas, No. 2 fuel oil fired sources to insignificant activity list under source (ID No. IES-00B) as they are categorically exempt from 40 CFR 63 DDDDD and emissions are below significance levels listed in 15A NCAC 02Q .0503(8).
79	2.2 M	Moved sources meeting the definition of hot water heater per 40 CFR 63 DDDDD (ID Nos. ES-00BI, ES-649B, ES-762B, ES-822B, ES-823B, ES-824B, ES-00BI69, ES-BI70, ES-00BI71, ES-00BI72, and ES-00BI73) from permit to insignificant activity list under source ID No. IES-00B.
83	3 - General Conditions	Included General Conditions from most recent shell version (v4).

III. Statement of Compliance

The facility was most recently inspected on November 18, 2015 by Mr. Joshua Harris, Fayetteville Regional Office (FRO). According to the Regional P&O Review, the facility was found to be in apparent compliance during this inspection.

Regarding the five-year compliance history, a Notice of Deficiency (NOD) was issued on August 25, 2015 for a late NESHAP Subpart ZZZZ notification.

IV. Regulatory Review – Specific Emission Source Limitations

- A. Existing Specific Emission Source Limitations are not affected by this modification. The proposed new generators and boilers will be subject to the requirements of 15A NCAC 02D .0503, .0516, and .0521. However, because the sources only fire distillate fuel oil and/or natural gas, no monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable regulations.
- B. 15A NCAC 02D .0503 “Particulates from Fuel Burning Indirect Heat Exchangers” – This regulation applies to the new hot water heaters. For the purpose of this Rule, the maximum heat input shall be the total heat content of all fuels which are burned in a fuel burning indirect heat exchanger, of which the combustion products are emitted through a stack or stacks. The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted pursuant to 15A NCAC 2Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning indirect heat exchanger. The allowable limit is calculated by the following equation:

$$E = 1.090 * Q^{-0.2594} \quad \text{where, } E = \text{allowable emissions in lb/million Btu}$$

$$Q = \text{maximum heat input in million Btu/hr}$$

For these sources E calculates to 0.19 lb/million Btu. Natural gas combustion in these sources will not cause the limit to be exceeded. Therefore, compliance is demonstrated.

- C. 15A NCAC 02D .0515 “Particulates from Miscellaneous Industrial Processes” – This regulation establishes an allowable emission rate for particulate matter from any stack, vent, or outlet resulting from any industrial process for which no other emission control standards are applicable. The regulation applies to Total Suspended Particulate (TSP) or PM less than 100 micrometers (µm). The allowable emission rate is calculated using the following equations:

$$E = 4.10 \times P^{0.67} \quad \text{for } P < 30 \text{ tph}$$

$$E = 55 \times P^{0.11} - 40 \quad \text{for } P \geq 30 \text{ tph}$$

where, E = allowable emission rate (lb/hr)
P = process weight rate (tph)

The existing paint spray booths (ID Nos. ES-08C, 09C, and 12C) are subject to this regulation. The spray booths will be controlled with fabric filters. Inspection and maintenance, as recommended by the manufacturer, is required for the control equipment. Standard recordkeeping and reporting requirements are included in the revised permit.

- D. 15A NCAC 02D .0516 “Sulfur Dioxide Emissions from Combustion Sources” - Emission of sulfur dioxide from any source of combustion that is discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU input. Natural gas combustion in these sources will not cause the limit to be exceeded. Therefore, compliance is demonstrated.
- E. 15A NCAC 02D .0521 “Control of Visible Emissions” - For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, except for sources required to comply with Paragraph (g) of this Rule, six minute averaging periods may exceed 20 percent opacity if:
 - (1) No six-minute period exceeds 87 percent opacity;
 - (2) No more than one six-minute period exceeds 20 percent opacity in any hour; and
 - (3) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.
 Compliance with this rule is expected.

V. Regulatory Review – Multiple Emission Source Limitations

- A. 15A NCAC 02D .0530 “Prevention of Significant Deterioration” – Ft. Bragg is a major PSD source with the potential to emit criteria pollutants greater than 250 tons per year.

As explained in the application, separate funding codes, in relation to federally-funded projects allow for disaggregation of emissions for PSD purposes. For simplification of this application, the emissions associated with this project have been summed. Calculations are included in Appendix B of the application. Because the summation of each of the proposed projects is less than the PSD significant emission rates, no single project exceeds a PSD threshold. Therefore, PSD review is not triggered for this application.

The PSD minor baseline dates for PM10, SO₂ and NO_x have been triggered for Cumberland County. For PSD increment tracking purposes, PM10 emissions from this modification are increased by less than pound per hour, sulfur dioxide emissions from this modification are increased by less than 1 pound per hour, and nitrogen dioxide emissions from this modification are increased by 2.8 pounds per hour.

- B. 15A NCAC 02D.0524 “New Source Performance Standards – Subpart Dc” – None of the boilers addressed in this application are rated greater than 10 million Btu per hour. Therefore, this rule does not apply.
- C. 15A NCAC 02D .0524 “New Source Performance Standards – Subpart IIII” – The diesel-fired generators at Ft. Bragg are subject to this rule. The application identifies three (3) new units (ID Nos. ES-196GI, ES-197GI, and ES-198GI) that are subject to the same requirements listed in condition 2.2 L. of the existing permit. Compliance is expected.
- D. 15A NCAC 02D .1111 “Maximum Achievable Control Technology – Subpart DDDDD and 112(j)” – Ft. Bragg currently has boiler MACT requirements for new sources based on the March 2011 rule. These requirements include initial notifications, work practice standards, and compliance reporting. The new applicable sources requested in this application were all constructed after June 4, 2010 and therefore are subject to the same permit requirements in existing condition 2.2 M. Pursuant to the rule, new small gas and oil-fired boilers are required to perform a tune-up within 5 years of the compliance date and every 5 years thereafter. The notification of compliance status is due for each boiler within 60 days after the first

tune-up. Sources meeting the definition of “hot water heater” under the Boiler MACT are exempt from regulation per 40 CFR 63.7491(d). Section 2.2 M of the current permit includes hot water heaters under requirements for the Case-by-Case MACT. The DAQ has specified that hot water heaters, as defined in Section 16 of the NC DAQ Part 2 Application Guidance, are not affected sources under the Case-by-Case MACT. Therefore the sources are removed from Section 2.2 M. The application identifies fifteen (15) new boilers subject to MACT. The sources removed are all less than 120 gallons capacity with the following ID Nos.:

ES-00BI1 through 00BI25, ES-00BI46, ES-00BI53, ES-00BI55 through 00BI58, ES-00BI60 through 00BI62, ES-649B, ES-762B, ES-822B through 824B, and ES-00BI69 through 00BI73.

- E. 15A NCAC 02D .1111 “Maximum Achievable Control Technology – Subpart ZZZZ” – All stationary internal combustion engines at Ft. Bragg are subject to the RICE MACT. The application identifies three (3) diesel-fired emergency generators that will be subject to existing requirements found in conditions 2.2 G.3. and 2.2 G. 4.
- F. 15A NCAC 02D .1100 “Control of Toxic Air Pollutants” – Ft. Bragg was required to submit a state-only toxics demonstration no later than January 13, 2012. The demonstration was required to include all permitted sources up through revision T35 with units operating at potential-to –emit rates. The results demonstrated that the modeled emission rates were in compliance with acceptable ambient levels (AAL) listed in 15A NCAC 02D .1104. No operating limitations were necessary to comply with the AAL.

Since the 2012 submittal, the Exemptions under 15A NCAC 02D .0702 were amended to include a categorical exemption for sources subject to a MACT standard. All sources in this application are subject to a MACT standard and thus meet the exemption. Addition of the natural gas-fired boilers and diesel-fired emergency generators does not pose an unacceptable health risk.

- G. 15A NCAC 02D .0614 “Compliance Assurance Monitoring” - The CAM rule applies to pollutant specific emission units at Title V facilities that are pre-control major sources and use a control device to comply with an emission limit. The CAM rule does not apply to units that are identified in this application. Therefore, CAM does not apply.

VI. Other Regulatory Considerations

- An application fee of \$918.00 is required and was included with the application package.
- The appropriate number of application copies was received on November 3, 2015.
- A Professional Engineer’s Seal is not required for this application.
- Ft. Bragg is located on Federal property and is therefore not subject to local zoning regulations. All of the proposed modifications have been approved by the installation planning and development authority and are in accordance with the Post master plan.
- Public notice is required for this significant modification under 15A NCAC 02Q .0501(d)(1).
- IBEAM TVEE update was verified on XXXX.
- According to the application, the facility does not handle any of the substances subject to 112(r).
- The application was signed by Mr. Gregory G. Bean, Director, Directorate of Public Works, on October 30, 2015.

VII. Draft/Proposed Permit Review Summary

- Mr. Joshua Harris (FRO) was provided a draft permit for review on February 23, 2016. Mr. Harris responded with comments on February 24, 2016. All comments have been addressed.
- Mr. Gary Cullen (Ft. Bragg) was provided a draft permit for review on February 23, 2016. Mr. Cullen responded with comments on March 4, 2016. All comments have been addressed.
- NCDAQ published a Public Notice of the proposed Title V permit revision on DAQ website on XXX, 2016.
- EPA, Region 4 was provided a draft permit for review on XXXX, 2016.

VIII. Recommendations

This permit application has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is expected to achieve compliance as specified in the permit with all applicable requirements.

XXXXX comments were received during the public comment or EPA review periods. Therefore, DAQ recommends XXXXXX of the permit revision.