Engineering Analysis
Lockheed Martin Missile & Fire Control
Facility Number 210-0019

On May 1, 2020, the Department received an application from Lockheed Martin Missiles and Fire Control to construct a new missile assembly building with eleven paint booths, four boilers, and three emergency generators. One of the emergency generators for this project will be located some distance from the building. This facility, in Troy, currently has ten Synthetic Minor Operating Permits for similar sources. Lockheed Martin manufactures missiles used by the United States and allied governments. This facility manufactures the AGM-158 JASSM, AGM-114 Hellfire, FGM-148 Javelin, and THAAD missiles.

Emissions

The air emissions from this facility are currently limited to 95 tons per year of Volatile Organic Compounds, 24.5 tons of Hazardous Air Pollutants, and 9 tons of any single Hazardous Air Pollutant in any twelve-month period. Emissions in 2019 were reported to be 24 tons of Volatile Organic Compounds, 11 tons of Hazardous Air Pollutants, and 4 tons of diglycidyl ether of bisphenol-A, the greatest individual HAP. The proposed new building (P072) is currently called the Long Range Strike System All Up Rounds (LRSS AUR). Potential air emissions from the new paint booths are estimated to be 16 tons per year of VOC, 12 tons per year of HAP, and 7 tons per year of hexone. Lockheed has requested the same facility wide VOC and HAP limits that air in the current Synthetic Minor Operating Permits.

The four new 21 MMBTU/hr boilers proposed for building P072 will bring the potential NOx emissions from this facility above the major source thresholds. Lockheed has requested limiting the facility to 13,000,000 gallons of liquid propane in any twelve-month period to limit the NOx emissions from the facility to 97 tons. This estimate is based on AP-42 emissions factors for propane fired boilers and 500 operating hours for the diesel emergency generators. The application for the LRSS AUR includes 16 small propane fired ovens.
This building will have a central vacuum system to remove dust from drilling and sanding. Emissions will be controlled by a cyclone and filter. Particulate emissions from this system are estimated to be less than one ton per year.

Potential air emissions from all stationary combustion sources at this facility with the proposed propane limit and 500 hours operating time of the emergency diesel generators are estimated to be 97 tons per year of NOx, 55 tons per year of CO, 7 tons per year of VOC, and 84,463 tons per year of CO2e.

NSPS / NESHAP / MACT

The four new boilers will be subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 subpart Dc. This facility meets the requirements of 40 CFR 60.48c(g)(3) by keeping records of annual propane usage for the entire facility.

The three new emergency generators will be subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60 subpart IIII and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63 subpart ZZZZ. 40 CFR 63.6590(c)(1) lets the generators meet the requirements of subpart ZZZZ be met by complying with subpart IIII. 40 CFR 60.4205(b) requires new CI ICE to meet the standards in 40 CFR 89.112, Control of Emissions from New and In-use Nonroad Compression-Ignition Engines. Lockheed may comply with these requirements by keeping a certificate of compliance from the manufacturer with records of operating hours and routine maintenance.
The surface coating of military munitions is not subject to 40 CFR 63 subpart HHHHHH. The exemption to this area source NESHAP is in 40 CFR 63.11169d2.

State Regulations
This facility is not subject to the state VOC limits because ADEM Code R. 335-3-6-.01(1)(b) exempts sources with potential VOC emissions less than 100 tons per year. All of the stacks will be subject to the opacity limits of ADEM Code R. 335-3-4-.01.

PSD
This facility is a minor source for PSD and will remain a minor source.

Air Toxics
Air toxics were not modeled because the proposed project would only result in a small increase in emissions of air toxics. Air toxics have not been a problem at this facility in the past because it is located on a wooded 5,000-acre site, and all air sources are distant from the property lines.

Class I Area
The closest class I area is Bradwell Bay. Because this is a minor source, and the class I area is over 100 kilometers away, this facility should not significantly affect the air quality in this class I area.

112(g) Case-by-Case Review
Section 112(g) does not apply to this facility because it has taken synthetic minor HAP limits.

Public Comment
A 15 day public comment period is required for the new facility wide propane limit.

Recommendations
Since it appears that this facility would be capable of meeting all applicable state and federal regulations, I recommend that permits for the new paint booths, generators, and boilers be issued to Lockheed after the required comment period and receipt of their application fees.

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Air Division

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HHB:hhb

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