

**SIP CONSTRUCTION & OPERATING PERMIT AND TITLE V 502(b)10 CHANGE APPLICATION REVIEW**

Facility Name: **Lockheed Martin Aeronautics Company - Marietta**

City: Marietta

County: Cobb

AIRS #: 04-13-067-00027

Application #: 17263

Date SIP Application Received: 2/16/07

Date Title V Application Received: N/A

Permit No: 3721-067-0027-V-06-5

<b>Program</b>	<b>Review Engineers</b>	<b>Review Managers</b>
<b>SSPP</b>	Eric Cornwell	Eric Cornwell
<b>SSCP</b>	Travis Harris	James Eason
<b>ISMP</b>	Sid Stephens	Richard Taylor
<b>TOXICS</b>	NA	NA

**Introduction**

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and operate and Section 502(b)(10) change to the Part 70 source. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1), 391-3-1-.03(2), and 391-3-1-.03(10). of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the permit and is presented in the same general order as the permit amendment. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

**I. Facility Description**

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
3721-067-0027-V-06-0	6/28/02	x	
3721-067-0027-V-06-1	9/02/04	x	
3721-067-0027-V-06-2	2/03/05	x	
3721-067-0027-V-06-3	7/25/06	x	
3721-067-0027-V-06-4	3/26/07	x	

Table 2: Comments on Specific Permits

Permit Number	Comments
3721-067-0027-V-06-0	Initial Title V permit
3721-067-0027-V-06-1	502(b)(10) permit change for the installation and operation of an ultra low NOx boiler (Emission Unit ID No. 2580). (NOx increase 9.4 tpy)
3721-067-0027-V-06-2	Sig mod without Construction to revise hush-house fuel usage from 40,000 gal/yr to 55,000 gal/yr; change in emission factors
3721-067-0027-V-06-3	502(b)(10) permit to replace 5 emergency generators with 6 emergency generators
3721-067-0027-V-06-4	Sig mod without Construction to revise hush-house fuel usage from 55,000 gal/yr to 80,000 gal/yr

B. Regulatory Status

1. PSD/NSR/RACT

Lockheed Martin Aeronautics Company is a major source of VOC and NOx with respect to non-attainment NSR regulations because the facility has potential VOC and NOx emissions greater than 25 tpy in the a non-attainment area (Cobb County).

The following conditions in Title V Operating Permit No. 3721-067-0027-V-06-0 limit VOC and NOx emissions in order to avoid non-attainment NSR:

*Non-Attainment NSR Avoidance Conditions for NOx:*

- Condition 3.2.1. (amendment 4) Limits jet fuel consumption in F-22 Hush House to 80,000 gallons per year
- Condition 3.2.2. Limits NOx emissions from boilers in Emission Unit Group BF01 to 44 tons per year (tpy).
- Condition 3.2.3. Limits operation hours of diesel engines in Emission Unit Group EM01.
- Condition 3.2.8 (amendment 1) limits NOx emission from Boiler 9580 to 9.4 tpy

Condition 3.2.9 (amendment 3) limits emergency generator hours to 300 hr/yr combined total

*Non-Attainment NSR Avoidance Conditions for VOC:*

Condition 3.2.4. Limits VOC emissions from surface coating operations in Emission Unit Group FF01 to 24.7 tpy.

Condition 3.2.5. Limits VOC emissions from surface coating operations in Emission Unit Group FF02 to 50 tpy.

Condition 3.2.6. Limits VOC emissions from surface coating operations in Emission Unit Group FM01 to 1 tpy.

2. Title V Major Source Status by Pollutant

**Table 3: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	x			x
PM <sub>10</sub>	x			x
SO <sub>2</sub>	x			x
VOC	x	x		
NO <sub>x</sub>	x	x		
CO	x	x		
TRS				
H <sub>2</sub> S				
Individual	x	x		
Total HAPs	x	x		

**II. Proposed Modification**

A. Description of Modification

Lockheed proposes to construct and operate two natural gas and propane-fired boilers (Emission Units 2700 and 2701). Each boiler is rated at 24 MMBtu/hr input, and is of water-tube design. The boilers will be used predominately on a seasonal basis (cold weather months) to provide humidification to aircraft testing chambers. Lockheed has proposed a NO<sub>x</sub> limit of 2.2 tons per year for the two units combined. The units are each equipped with an low NO<sub>x</sub> burners with FGR capable of emissions rates around 20 ppm.

**B. Emissions Change**

NOx is the pollutant of primary concern. Lockheed has proposed a NOx limit of 2.2 tons per year for these two units combined. The estimated NOx emission factor is 30 lb/million cubic foot natural gas (testing may reveal a rate closer to 20 ppm), and the estimated actual usage is approximately 2100 hours per year each. Propane will be used only as backup; estimated hours of propane usage is 70 hours per year.

**Table 4: Emissions Change Due to Modification**

<b>Pollutant</b>	<b>Is the Pollutant Emitted?</b>	<b>Net Actual Emissions Increase (Decrease) (tpy)</b>	<b>Net Potential Emissions Increase (Decrease) (tpy)</b>
PM	x	~0	~0
PM <sub>10</sub>	x	~0	~0
SO <sub>2</sub>	x	~0	~0
VOC	x	~0	~0
NO <sub>x</sub>	x	2.2	2.2
CO	x	7	7
TRS			
H <sub>2</sub> S			
Individual	x	~0	~0
Total HAPs	x	~0	~0

**C. Title I Modification**

- PSD/NSR Applicability

The addition of boilers 2700 and 2701 will not trigger major PSD/NSR permitting. Lockheed has proposed a NOx limit of 2.2 tpy from these units to ensure that the 25 tons aggregated over 5 years is not exceeded. Per EPA guidance, PSD and NSR avoidance is non-major and hence not a Title V modification. The NOx and VOC increases from 2003 to 2007(NSR 5-year netting period) are estimated to be 15.25 tons and 6.21 tons, respectively. The addition of these two boilers will make the NOx increase 17.45 (15.25 + 2.2).

- NSPS Modification

The boilers will be subject to 40 CFR 60 Subpart Dc, and hence will be subject to NSPS as “new” units constructed after the NSPS applicability date. This is not a modification as defined under 40 CFR 60.14.

- NESHAP Modification

The boilers are not subject to any requirement of 40 CFR 61.

**III. Facility Wide Requirements**

- A. Emission and Operating Caps  
No changes.
- B. Applicable Rules and Regulations  
No changes. The facility already contains boilers that are subject to NSPS Dc and NESHAP DDDDD.
- C. Compliance Status  
No noncompliance issues noted.
- D. Operational Flexibility  
None requested
- E. Permit Conditions  
No changes.

**IV. Regulated Equipment Requirements**

- A. Brief Process Description

The two boilers (listed as Unit I.D.s 2700 and 2701) will be water tube units firing natural gas with propane backup. The heat input capacity of each unit is 24.2 MMBtu/hr. The boilers will be equipped with low NOx burners. The boilers will mainly be used in the winter, but may operate in “turn-down” mode during the remainder of the year.

- B. Equipment List for the New or Modified Process(es)

C. Equipment & Rule Applicability

- Emission and Operating Caps

Lockheed has proposed a NO<sub>x</sub> limit of 2.2 tpy on these units combined. This ensures that Nonattainment NSR is not violated.

- Applicable Rules and Regulations -

40 CFR 60 Subpart Dc

New Boilers 2700 and 2701 will be subject to Dc. However, because only gaseous fuels will be used, no testing or emissions monitoring is required under Subpart Dc. Per the recent amendments to Subpart Dc, no daily metering of natural gas is required but, monthly records of natural gas usage must be maintained for each boiler.

40 CFR 63 Subpart DDDDD

New Boilers 2700 and 2701 will be subject to DDDDD, classified as New (constructed after 2002), Large (over 10 MMBtu/hr), and gaseous fuel fired only. At the time the permit amendment is drafted, the Boiler MACT contains only a requirement to test initially and annually against the carbon monoxide work practice standard of 400 ppm. However, the future of the regulation in general is in question. EPA has requested that parts of the Boiler MACT be vacated, while other groups have sued to vacate the entire standard. Given this uncertainty, the permit will only contain a general reference to the Boiler MACT.

391-3-1-.02(2)(III)

New Boilers 2700 and 2701 will be subject to Georgia Rule (III), and must comply with an ozone season NO<sub>x</sub> limit of 30 ppm and follow PTM 2.119.

391-3-1-.02(2)(d)

New Boilers 2700 and 2701 will be subject to Georgia Rule (d).

391-3-1-.02(2)(g)

New Boilers 2700 and 2701 will be subject to Georgia Rule (g).

D. Compliance Status

No noncompliance issues are known.

E. Operational Flexibility

No operational flexibility was proposed.

**F. Permit Conditions**

Condition 3.2.10 limits NOx from new Boilers 2700 and 2701 combined to 2.2 tpy.

Condition 3.3.43 establishes general applicability to 40 CFR 63 Subpart DDDDD for these two new, large, gaseous fuel fired boilers.

Condition 3.3.44 establishes general applicability to 40 CFR 60 Subpart Dc and limits fuels fired to natural gas and propane, which subsumes Subpart Dc and Georgia Rule (g).

Condition 3.4.15 establishes Rule (d) as applicable to Boilers 2700 and 2701

Condition 3.4.16 establishes Rule (III) as applicable to Boilers 2700 and 2701

**V. Testing Requirements (with Associated Record Keeping and Reporting)**

As currently written, the Boiler MACT requires initial and annual performance testing to verify compliance with the 400 ppm CO work practice standard. Given that the MACT may be vacated, Condition 4.2.25 generally requires the Permittee to comply with the boiler MACT.

No NOx testing is prescribed in Section 4 because initial and periodic NOx measurements are already required by PTM 2.119 and Rule (III) (detailed in Condition 5.2.12).

**VI. Monitoring Requirements (with Associated Record Keeping and Reporting)**

The boilers will be subject to the NOx monitoring schedule prescribed in PTM 2119. This requires annual tune ups including NOx measurements. This is detailed in Condition 5.2.12

**VII. Other Record Keeping and Reporting Requirements**

Condition 6.1.10 details the exceedances associated with Boilers 2770 and 2701.

Conditions 6.2.63 through 6.2.66 detail the methods for determining NOx emissions from Boilers 2700 and 2701 based on monthly usage records (also kept per 40 CFR 60 Subpart Dc).