

MARTIN MARIETTA COMMUNICATIONS SYSTEMS

TELECOMMUNICATIONS
POST OFFICE BOX 4906
BALTIMORE, MARYLAND 21220

June 28, 1995

Federal Communications Commission
2000 M St., N.W.
Suite 230
Washington, DC 20554

Attn: Frequency Liaison Office
Office of Engineering & Technology
Re: File Number: 4507-EX-PL-94

We, the Lockheed Martin Corporation, are requesting the following modifications to the original application filed in September 1994 under the Martin Marietta Corporation. Due to the merger of the two companies, Lockheed Corporation and Martin Marietta Corporation, this authorization now needs to be issued in the name of Lockheed Martin Corporation.

Also the application site, **Moorestown, Burlington County, NJ**, wishes to change several technical details of the original application, as several factors regarding the program have changed since the original filing. I have attached copies of the affected pages of the FCC Form 443 and attachment pages which have changed. The areas which have been modified since the original filing are hi-lighted for easier review and the new attachment pages reference the addition of a second test tower in the immediate vicinity of the first tower site.

We are still attempting to obtain FAA regional coordination, as required, but the site personnel are experiencing extreme difficulty in getting cooperation from the regional coordinator. As soon as they have obtained the necessary coordination from the FAA, I will forward a copy of the coordination to you. If you should have any problems regarding the technical details being changed, please feel free to call the new contact names for the program. If you should have any other questions, please feel free to call me on (410) 682-0156.

Very Truly Yours,



Claude E. Wells
Corporate
Radio Frequency Specialist

Federal Communications Commission
Washington, D.C. 20554

Approved by OMB
3060-0065
Expires 12/31/89

**APPLICATION FOR NEW OR MODIFIED RADIO STATION AUTHORIZATION UNDER PART 5 OF FCC RULES
EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)**

A. Applicant's Name and Post Office address (Give street, city, state, and ZIP Code. See Instruction No. 4)	DO NOT WRITE IN THIS BLOCK File No. 4507 - EX - PL - 94
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2.(a) Application for (check only one box) ☒ New Station ☐ Modification of existing authorization	2.(b) For Modification indicate below File No.: Call Sign:
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3. Application for modification indicate change in (check all that apply)

☐ Frequency ☐ Emission ☐ Power ☐ Location

☐ Other particulars (describe below or in attached Exhibit No. _____)

4. Particulars of Operation (See instructions below)

Frequency (State Whether kHz or MHz) (A)	POWER			EMISSION (E)	MODULATING SIGNAL (F)	NECESSARY BANDWIDTH (kHz) (G)
	(B)	(C)	(D)			
Source A (AUT) TRANSMIT	631 watts (1)	25.119 KW (1)	PEAK	PON	Pulsewidth:	4.2 MHz (1)
2700 MHz to				FXN	1us to 100us	
2900 MHz					PRF=1.0 KHz	
					to 10.0 KHz	
					20% max duty	
Source B RECEIVING	1.0 watt	3.2 KW (1)		(cw) NON	N/A	N/A
700 MHz to						
2900 MHz						

- (A) List each frequency or frequency band separately. (If more space is required, attach as Exhibit No. _____).
- (B) Insert maximum R.F. output power at the transmitter terminals. Specify units.
- (C) Insert maximum effective radiated power from the antenna (If pulsed emission specify peak power).
- (D) Insert "MEAN" or "PEAK" (See definitions in Part 5).
- (E) List each type of emission separately for each frequency. (See Section 2.201 FCC Rules.)
- (F) Insert as appropriate for the type of modulation:
- (1) the maximum speed of keying in bauds;
 - (2) maximum audio modulating frequency;
 - (3) frequency deviation of carrier;
 - (4) pulse duration and repetition rate.
- For complex emissions, describe in detail in the space provided below.
- (G) Describe how the necessary bandwidth was determined in space provided below.
- (1) See Exhibit 1

5(a). Proposed location of transmitter and transmitting antenna (Check only one box)			
☒ FIXED/BASE		☐ MOBILE	
☐ BASE & MOBILE			
(b) If permanently located at a fixed location, give below		(d) If mobile, describe the exact area of operation	
State NJ	County Burlington	City or Town Moorestown	
Number and street (or other indication of location)			
(c) Geographical coordinates exact to the nearest second		(e) Geographical coordinates of the approximate center of proposed area of operation (mobile applications)	
North Latitude 39 58 45	West Longitude 74 54 54	North Latitude	West Longitude
6. Is a directional antenna (other than radar) used? ☒ Yes ☐ No			
If "YES", give the following information:			
(a) Width of beam in degrees at the half-power point <u>6° nominal</u> Source B			
(b) Orientation in horizontal plane <u>* WSW</u>			
(c) Orientation in vertical plane <u>consult Exhibit 2 and</u>			
Is this authorization to be used for fulfilling the requirement of a government contract with an agency of the United States Government?			
☒ Yes ☐ No			
If "Yes", attach as EXHIBIT No. <u>3</u> , a narrative statement describing the government project, agency, and contact number.			
8. Is this authorization to be used for the exclusive purpose of developing radio equipment for export to be employed by stations under the jurisdiction of a foreign government?			
☐ Yes ☒ No			
If "Yes", attach as EXHIBIT No. _____, the following information:			
(a) The contract number and the name of the foreign government concerned.			
9. Is this authorization to be used for providing communications essential to a research project? (The radio communication is not the objective of the research project).			
☐ Yes ☒ No			
If "Yes", attach as EXHIBIT No. _____, a narrative statement providing the following information:			
(a) A description of the nature of the research project being conducted.			
(b) A showing that the communications facilities requested are necessary for the research project involved.			
(c) A showing that existing communications facilities are inadequate.			
10. If all the answers to Items 7, 8, and 9, are "No", attach as EXHIBIT No. _____, a narrative statement describing in detail the following:			
(a) The complete program of research and experimentation proposed including description of equipment and theory of operation.			
(b) The specific objectives sought to be accomplished.			
(c) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.			
11. (a) Give an estimate of the length of time that will be required to complete the program of experimentation proposed in this application.			
(b) If less than 2 years, give the length of time in months that the authorization requested in this application will be required. <u>2 years</u>			
12. Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?			
☐ Yes ☒ No			
If you answer yes, submit an Environmental Assessment required by Section 1.1311.			

13. List below transmitting equipment to be installed (if experimental, so state):

MANUFACTURER

TYPE

NO. OF UNITS

Source B - TBD

Standard Lab Signal Source
(+10 dBm output power)

1

Source A -

Martin Marietta/Alenia

Prototype Test Set
Waveform Generator
(631 watts peak; 126 watts average)

1

14. Is the equipment listed in Item 13 capable of station identification pursuant to Section 5.152?

☐ Yes☒ No

15. Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building?

☒ Yes☐ No

If "Yes", give the following (See Instruction 9):

- (a) Overall height above ground to tip of antenna is 52.42 on Tower 76 and 8.23 (Source A) meters. Source A: 24.38 meters
- (b) Elevation of ground at antenna site above mean sea level is _____ meters. Source B: 21.34 meters at Tower 76
- (c) Distance to nearest aircraft landing area is 7.2 (approximately) kilometers. So. Jersey Regional Airport
- (d) List any natural formations of existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna.
- The aeronautical hazard of the Source B antenna is minimized because the main beam is fixed to point below the horizontal (see Exhibits 2 and the maximum side-lobe level is 18db below main beam level. The FAA has determined that Tower 76 & _____ are not an aeronautical hazard (see Exhibits 4 _____)
- (e) Submit as EXHIBIT No. 2 & 2A, a vertical profile sketch of total structure including supporting building, if any, giving heights in meters above ground for all significant features. Clearly indicate existing portion, noting particulars of aviation obstruction lighting already available.

16. Applicant is (check only one box)

☐ Individual☐ Association☐ Partnership☒ Corporation☐ Other (describe below)

17. Is applicant a foreign government or a representative of a foreign government?

☐ Yes☒ No

18. Has applicant or any party to this application had any PCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission?

☐ Yes☒ No

If "Yes", attach as EXHIBIT No. _____, a statement giving call sign of license or permit revoked and relate circumstances.

19. Will applicant be owner and operator of station?

☒ Yes☐ No

20. Give name, title and telephone number (include area code) of person who can best handle inquiries pertaining to this application.

1. Mr. R. Weiss, Manager, Integration & Test, 609/722-3219
1. Mr. M. Perry, Senior Member Engineering Staff, 609/722-6051

21. List below all exhibits in numerical sequence and the item number of form requiring the exhibit identified.

EXHIBITS AND ITEM NO. OF FORM

Exhibit Number	Item No. of Form	Exhibit Number	Item No. of Form	Exhibit Number	Item No. of Form
1	4	4, 4A	15		
2, 2A	6, 15				
3	7				