SUPPORTING STATEMENT

A. Justification:

1. The Federal Communications Commission ("Commission") is requesting that the Office of Management and Budget (OMB) approve an extension of OMB Control Number 3060-1106 titled, "Licensing and Service Rules for Vehicle Mounted Earth Stations (VMES)," for three years.

A Vehicle-Mounted Earth Station (VMES) terminal is an earth station operating from a motorized vehicle that travels primarily on land, receives from and transmits to geostationary satellite orbit (GSO) Fixed-Satellite Service (FSS) space stations, and operates within the United States pursuant to the requirements set out in Part 25 of the Commission's rules. VMES service has the potential to deliver advanced mobile applications through satellite technology, including broadband, which will be beneficial for public safety and commercial purposes.

The purposes of this information collection are to maintain the licensing and service rules for VMES in the Ku-band, promote innovative and flexible use of satellite technology, provide new opportunities for a variety of uses including U.S. military training needs on VMES technology, increase the potential that broadband communications capabilities will be made available for various emergency preparedness and commercial purposes, and ensure, at the same time, that VMES operations will avoid interfering with existing and future FSS operators and their customers. Additionally, the collection of information is required to obtain technical information needed for Commission staff to evaluate and grant or deny applications for VMES licenses. Technical information also is required to assist in identifying and resolving sources of radio frequency interference.

The Commission has authority for this information collection pursuant to Sections 1, 4(i), 4(j), 7(a), 301, 303(c), 303(f), 303(g), 303(r), 303(y) and 308 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 151, 154(i), 154(j), 157(a), 301, 303(c), 303(f), 303(g), 303(r), 303(y), and 308.

This information collection does not affect individuals or households, thus, there are no impacts under the Privacy Act.

2. The Commission established allocation, technical and licensing rules to govern VMES operations and to prevent interference to other FSS satellite operators and their customers within the Ku-band. VMES applicants must submit applications (FCC Form 312) and exhibits (Schedule B) to the Commission to demonstrate that they comply with the Commission's legal and engineering rules.

3. Applicants must file the **FCC Form 312 and Schedule B** in the International Bureau Filing System (IBFS). It is estimated that 100 percent of all applications are filed in the IBFS electronically. The Commission received approval for mandatory electronic filing of all satellite

and earth station applications under OMB Control No. 3060-0678. Additionally, the FCC Form 312 and Schedule B are approved by the OMB under OMB Control No. 3060-0678.

4. This information collection requirement is not duplicated elsewhere.

5. The information collection requirements do not have a significant economic impact on small entities. The 15-year license term and primary protection from interference in the conventional Ku-bands are beneficial to licensees. Additionally, the application process has been streamlined to permit blanket licensing of multiple VMES terminals in a single application, as an alternative to requiring all VMES terminals to be licensed individually. These changes have reduced the costs associated with obtaining and maintaining authority to operate a VMES network.

6. The consequence to the Commission if the collection were not conducted is that there would continue to be regulatory uncertainty with respect to VMES and other satellite services that operate in the Ku-band within the United States. Furthermore, without such information the Commission would not be able to take the necessary measures to prevent harmful interference to satellite services from VMES. Finally, the Commission would not be able to advance its goals of managing spectrum efficiently and promoting broadband technologies to benefit American consumers throughout the United States.

7. The collection of information is not being conducted in any manner known to be inconsistent with the guidelines in 5 CFR 1320. There are no special circumstances associated with this collection.

8. On October 5, 2011, the Commission published a 60-day notice (see 76 FR 61699) in the *Federal Register* seeking public comment on the information collection requirements contained in this Supporting Statement. The comment period ended on December 5, 2011. The Commission did not receive any comments from the public.

9. The Commission does not provide any payment or gift to respondents.

10. The Commission does not provide assurances of confidentiality to entities submitting their filings and applications. However, entities may request confidential treatment of their applications and filings under 47 C.F.R. 0.459 of the Commission's rules. With regard to certifications filed pursuant to 47 C.F.R. 2.907 of the Commission's rules, parties receive minimal exemption from the Freedom of Information Act (FOIA).

11. This collection does not address any private matters of a sensitive nature.

12. The Commission estimates that 10 applicants will file 10 FCC Form 312 and Schedule B applications[1] annually with the Commission to demonstrate that they comply with the Commission's legal and engineering rules.

Explanation of Burden Estimate	Number of Responses That Will Be Filed with the Form 312 and Schedule B	Frequency of Response	Time Per Response	Total Annual Burden Hours[2]
47 CFR 25.226(b)(1)(i) OR 47 CFR 25.226(b)(1)(ii) (i) Any VMES applicant filing an application pursuant to paragraph (a)(1) of this section shall file three tables showing the off-axis EIRP level of the proposed earth station antenna in the direction of the plane of the GSO; the co-polarized EIRP in the elevation plane, that is, the plane perpendicular to the plane of the GSO; and cross polarized EIRP. Each table shall provide the EIRP level at increments of 0.1° for angles between 0° and 10° off-axis, and at increments of 5° for angles between 10° and 180° off-axis. OR (ii) A VMES applicant shall include a certification, in Schedule B, that the VMES antenna conforms to the gain pattern criteria of § 25.209(a) and (b), that, combined with the maximum input power density calculated from the EIRP density less the antenna gain, which is entered in Schedule B, demonstrates that the off-axis EIRP spectral density envelope set forth in paragraphs (a)(1)(i)(A)	5	1	6 hours	30 hours

[1] Various documents (responses) have to be filed as attachments to the Form 312 and Schedule B application by the respondent. Please see the chart for the various responses that will be filed.

[2] All certifications and requirements involving contact information contained within this supporting statement have true burden attached to them. Therefore, OMB approval and review are needed for the requirements.

through (a)(1)(i)(C) of this section will be met under the assumption that the antenna is pointed at the target satellite.				
47 CFR 25.226(b)(1)(iii) (iii) A VMES applicant proposing to implement a transmitter under paragraph (a)(1)(ii)(A) of this section shall provide a certification from the equipment manufacturer stating that the antenna tracking system will maintain a pointing error of less than or equal to 0.2º between the orbital location of the target satellite and the axis of the main lobe of the VMES antenna and that the antenna tracking system is capable of ceasing emissions within 100 milliseconds if the angle between the orbital location of the target satellite and the axis of the main lobe of the VMES antenna exceeds 0.5°.	7	1	2 hours	14 hours
47 CFR 25.226(b)(1)(iv)(A), (B) A VMES applicant proposing to implement a transmitter under paragraph (a)(1)(ii)(B) of this section shall: (A) declare, in its application, a maximum antenna pointing error and demonstrate that the maximum antenna pointing error can be achieved without exceeding the off-axis EIRP spectral-density limits in paragraph (a)(1)(i) of this section; and (B) demonstrate that the VMES transmitter can detect if the transmitter exceeds the declared maximum antenna pointing error and can cease transmission within 100 milliseconds if the angle between the orbital location of the target satellite and the axis of the main lobe of the VMES antenna	3	1	24 hours	72 hours

exceeds the declared maximum antenna pointing error, and will not resume transmissions until the angle between the orbital location of the target satellite and the axis of the main lobe of the VMES antenna is less than or equal to the declared maximum antenna pointing error.				
47 CFR 25.226(b)(2)(i), (ii), (iii), (iv) A VMES applicant proposing to implement a transmitter under paragraph (a)(2) of this section and using off-axis EIRP spectral-densities in excess of the levels in paragraph (a)(1)(i) of this section shall provide the following certifications and demonstration as exhibits to its earth station application: (i) A statement from the target satellite operator certifying that the proposed operation of the VMES has the potential to create harmful interference to satellite networks adjacent to the target satellite(s) that may be unacceptable. (ii) A statement from the target satellite operator certifying that the power-density levels that the VMES applicant provided to the target satellite operator are consistent with the existing coordination agreements between its satellite(s) and the adjacent satellite systems within 6° of orbital separation from its satellite(s). (iii) A statement from the target satellite operator certifying that it will include the power-density levels of the VMES applicant in all future coordination agreements. (iv) A demonstration from the VMES operator that the VMES system is capable of detecting and	2	1	6 hours	12 hours

automatically ceasing emissions within 100 milliseconds when the transmitter exceeds the off-axis EIRP spectral-densities supplied to the target satellite operator.				
47 CFR 25.226(b)(3) A VMES applicant proposing to implement VMES system under paragraph (a)(3) of this section and using variable power-density control of individual simultaneously transmitting co-frequency VMES earth stations in the same satellite receiving beam shall provide the following certifications and demonstration as exhibits to its earth station application: (i) The applicant shall make a detailed showing of the measures it intends to employ to maintain the effective aggregate EIRP-density from all simultaneously transmitting co-frequency terminals operating with the same satellite transponder at least 1 dB below the EIRP-density limits defined in paragraphs (a)(1)(i)(A)-(C) of this section. In this context the term "effective" means that the resultant co-polarized and cross-polarized EIRP-density experienced by any GSO or non-GSO satellite shall not exceed that produced by a single VMES transmitter operating at 1 dB below the limits defined in paragraphs (a)(1)(i)(A)-(C) of this section. The International Bureau will place this showing on Public Notice along with the application. (ii) An applicant proposing to implement a VMES under (a)(3)(ii) of this section that uses off-axis EIRP spectral-densities in excess of the levels in paragraph (a)(3)(i) of this section shall provide the	3	1	6 hours	18 hours

following certifications, demonstration and list of satellites as exhibits to its earth station application: (A) A detailed showing of the measures the applicant intends to employ to maintain the effective aggregate EIRP-density from all simultaneously transmitting co-frequency terminals operating with the same satellite transponder at the EIRP-density limits supplied to the target satellite operator. The International Bureau will place this showing on Public Notice along with the application. (B) A statement from the target satellite operator certifying that the proposed operation of the VMES has the potential to create harmful interference to satellite networks adjacent to the target satellite(s) that may be unacceptable. (C) A statement from the target satellite operator certifying that the aggregate power density levels that the VMES applicant provided to the target satellite operator are consistent with the existing coordination agreements between its satellite(s) and the adjacent satellite systems within 6° of orbital separation from its satellite(s). (D) A statement from the target satellite operator certifying that it will include the aggregate power-density levels of the VMES applicant in all future coordination agreements. (E) A demonstration from the VMES operator that the VMES system is capable of detecting and automatically ceasing emissions within 100 milliseconds when an individual transmitter exceeds the off-axis EIRP spectral-densities supplied to the target satellite operator and that the overall				

system is capable of shutting off an individual transmitter or the entire system if the aggregate off-axis EIRP spectral-densities exceed those supplied to the target satellite operator. (F) An identification of the specific satellite or satellites with which the VMES system will operate. (iii) The applicant shall acknowledge that it will maintain sufficient statistical and technical information on the individual terminals and overall system operation to file a detailed report, one year after license issuance, describing the effective aggregate EIRP-density levels resulting from the operation of the VMES system.				
§ 25.226(b)(4) Application shall include an exhibit describing the geographic area(s) in which the VMESs will operate.	10	1	1 hour	10 hours
§ 25.226(b)(5) VMES applicant filing for a VMES terminal or system and planning to use a contention protocol shall include in its application a certification that will comply with the requirements of paragraph (a)(4) of this section.	3	1 On occasion	0.25 hour	0.75 hours
§§ 25.226(b)(6) Application shall include the point of contact with authority and ability to cease all emissions from VMES terminals, as required in paragraph (a)(5) of this section.	10	1	1 hour	10 hours
§ 25.226(a)(6) VMES licensee shall maintain and provide data (record of vehicle	10	One-time filing if interference complaint is	1.25 hours	12.5 hours

location, transmit frequency, channel bandwidth and satellite used for each relevant VMES transmitter) to Commission, NTIA, FSS operator, FS operator, or frequency coordinator within 24 hours upon request.		filed with FCC.		
§ 25.226(b)(7) Application shall include certification complying with requirements of paragraph (a)(6) of this section.	10	1	0.25 hours	2.5 hours
§ 25.226(b)(8) Applicant must submit a radio frequency hazard analysis to determine whether VMES terminals will produce power densities that will exceed the Commission's radio frequency exposure criteria; applicant with terminals that exceed the guidelines in section 1.1310 for radio frequency radiation exposure shall provide a plan for mitigation.	10	1	9	90
§ 25.226(c)(1) Licensee shall notify the Commission after completing coordination with NASA and NTIA on current TDRSS sites.	10	1	1 hour	10 hours
§ 25.226(c)(2) Licensee shall notify the Commission after completing coordination with NASA and NTIA on future TDRSS site.	10	1	1 hour	10 hours
§ 25.226(d)(1) Operations of VMES licensees in the 14.47-14.5 frequency band are subject to coordination with the	10	1	1 hour	10 hours

National Science Foundation (NSF) and licensee shall notify the Commission's International Bureau and shall submit the coordination agreement once it has completed coordination with NSF for RAS sites listed in paragraph (d)(2) of this section.				
§ 25.226(d)(3) Licensee shall notify the International Bureau once it has completed coordination for any future RAS site and shall submit the coordination agreement once it has completed coordination with NSF.	10	1 On occasion	1 hour	10 hours
§ 25.132(b)(3) VMES applicant seeking to use antenna that does not meet standards of section 25.209(a) and (b), pursuant to procedures set out in section 25.226, shall submit manufacturer's range test plots of antenna gain patterns.	10	1 On occasion	1 hour	10 hours
				322 Annual Burden Hours

The annual "in-house costs" to the applicants are calculated as follows: 322 annual burden hours x $60/hour = $19,320.00 Therefore, the total annual "in-house cost" to the respondents for this collection of information is **$19,320.00**.

13. (a) Total capital and start-up costs: $0. (b) Each of the 10 applicants pays an application fee of $9,330 for each request for blanket licensee. See 47 CRF 1.1107, Schedule of Charges for Applications and Other Filings, Item 6.a., VSAT blanket license fee for initial application. A total of 10 licensees X $9,330 for each blanket licensee = $93,300.00. In addition, the 10 applicants obtain the services of legal and/or engineering consultants at the rate of $275[3] per hour X 4 hours X 10 licensees = $11,000. The application fees of $93,300.00 + $11,000.00 = **$104,300 total annual costs** for 10 VMES blanket license applicants.

[3] The Commission estimates the attorney's hourly fee to be $300/hour and the engineer's hourly fee to be $250. Therefore, the average of the hourly fees is $275/hour.

14. The estimated annual cost to the Federal government to process 10 applications is **$13,200**. The breakdown of costs is as follows:

Two (2) GS-15/Step 5 Attorneys
$67.21 X 2 attorneys X 4 hours per application = $537.68 X 10 applications = $5,376.80

Two (2) GS-14/Step 5 Engineers
$57.13 X 2 engineers X 4 hours per application = $457.04 X 10 applications = $4,570.40

Two (2) GS-12/Step 5 Industry Analysts
$40.66 X 2 analysts X 4 hours per application = $325.28 X 10 applications = $3,252.80

$5,376.80 cost for attorneys + $4,570.40 cost for engineers + $3,252.80 costs for analysts = **$13,200** estimated annual costs to the Federal government to process 10 applications.

15. There are no program changes or adjustments.

16. The results of this information collection requirement will not be published for statistical use.

17. Not applicable. The Commission is not seeking approval to not display the expiration date for OMB approval of this information collection.

18. There are no exceptions to the certification statement.

B. Collections of Information Employing Statistical Methods:

This information collection does not employ statistical methods.