OMB Control Number: 3060-0991 **October 2009**
AM Measurement Data

SUPPORTING STATEMENT

A. Justification:

1. On September 24, 2008, the Commission adopted the *Second Report and Order and Second Further Notice of Proposed Rulemaking* in the matter of An Inquiry Into the Commission's Policies and Rules Regarding AM Radio Service Directional Antenna Performance Verification, MM Docket No. 93-177, FCC 08-228. The *Second Report and Order* permits AM stations using directional antennas to use computer modeling techniques to verify AM directional antenna performance, thereby reducing the regulatory burden on these stations.

Directional AM stations use antennas which suppress radiated field in some directions and enhance it in others. Under our current rules, an AM licensee operating with a directional antenna must perform a proof of performance to demonstrate that the antenna pattern conforms to the station's authorization. An AM station must perform a full proof to verify the pattern shape when a new directional antenna system is authorized. Partial proofs, which require fewer measurements, are occasionally necessary to show that an array continues to operate properly. Typically, a full proof requires measurement of the AM station's field strength on six to twelve critical bearings, ranging to distances of 15 kilometers or more from the antenna. Subsequent graphical analysis of proof measurements also requires substantial time and expense. In contrast, the computer modeling techniques authorized in the *Second Report and Order* are based on internal measurements, making the proof process less time-consuming and expensive for AM licensees.

In order to control interference between stations and assure adequate community coverage, AM stations must conduct various engineering measurements to demonstrate that the antenna system operates as authorized. The following rule sections are included with this information collection.

Revised Information Collection Requirements:

47 C.F.R. 73.61(a) states each AM station using a directional antenna with monitoring point locations specified in the instrument of authorization must make field strength measurements at the monitoring point locations specified in the instrument of authorization, as often as necessary to ensure that the field at those points does not exceed the values specified in the station authorization. Additionally, stations not having an approved sampling system must make the measurements once each calendar quarter at intervals not exceeding 120 days. The provision of this paragraph supersedes any schedule specified on a station license issued prior to January 1, 1986. The results of the measurements are to be entered into the station log pursuant to the provisions of Section 73.1820.

47 C.F.R. 73.61(b) states if the AM license was granted on the basis of field strength measurements performed pursuant to Sec. 73.151(a), partial proof of performance measurements using the procedures described in Sec. 73.154 must be made whenever the licensee has reason to believe that the radiated field may be exceeding the limits for which the station was most recently authorized to operate.

47 C.F.R. 73.68(c) states a station having an antenna sampling system constructed according to the specifications given in paragraph (a) of this section may obtain approval of that system by submitting an informal letter request to the FCC in Washington, DC, Attention: Audio Division, Media Bureau. The request for approval, signed by the licensee or authorized representative, must contain sufficient information to show that the sampling system is in compliance with all requirements of paragraph (a) of this section.

47 C.F.R. 73.68(d) states in the event that the antenna monitor sampling system is temporarily out of service for repair or replacement, the station may be operated, pending completion of repairs or replacement, for a period not exceeding 120 days without further authority from the FCC if all other operating parameters and the field monitoring point values are within the limits specified on the station authorization.

47 C.F.R. 73.68 (e)(1) Special Temporary Authority (see Section 73.1635) shall be requested and obtained from the Commission's Audio Division, Media Bureau in Washington to operate with parameters at variance with licensed values pending issuance of a modified license specifying parameters subsequent to modification or replacement of components.

47 C.F.R. 73.68(e)(4) states request for modification of license shall be submitted to the FCC in Washington, DC, within 30 days of the date of sampling system modification or replacement. Such request shall specify the transmitter plate voltage and plate current, common point current, base currents and their ratios, antenna monitor phase and current indications, and all other data obtained pursuant to this paragraph.

47 C.F.R. 73.68 (f) states if an existing sampling system is found to be patently of marginal construction, or where the performance of a directional antenna is found to be unsatisfactory, and this deficiency reasonably may be attributed, in whole or in part, to inadequacies in the antenna monitoring system, the FCC may require the reconstruction of the sampling system in accordance with requirements specified above.

47 C.F.R. 73.151(c)(1)(ix) states the orientation and distances among the individual antenna towers in the array shall be confirmed by a post-construction certification by a land surveyor (or, where permitted by local regulation, by an engineer) licensed or registered in the state or territory where the antenna system is located.

47 C.F.R. 73.151(c)(2)(i) describes techniques for moment method modeling, sampling system construction, and measurements that must be taken as part of a moment method proof. A description of the sampling system and the specified measurements must be filed with the license application.

47 C.F.R. 73.151 (c) (3) states reference field strength measurement locations shall be established in directions of pattern minima and maxima. On each radial corresponding to a pattern minimum or maximum, there shall be at least three measurement locations. The field strength shall be measured at each reference location at the time of the proof of performance. The license application shall include the measured field strength values at

each reference point, along with a description of each measurement location, including GPS coordinates and datum reference.

47 C.F.R. 73.155 states a station licensed with a directional antenna pattern pursuant to a proof of performance using moment method modeling and internal array parameters as described in § 73.151(c) shall recertify the performance of that directional antenna pattern at least once within every 24 month period.

47 C.F.R. 73.155 (c) states the results of the periodic directional antenna performance recertification measurements shall be retained in the station's public inspection file.

Existing Information Collection Requirements That Have Been Approved By OMB:

47 CFR Section 73.54(c) requires that AM licensees file a letter notification with the FCC when determining power by the direct method. In addition, Section 73.54(c) requires that background information regarding antenna resistance measurement data for AM stations must be kept on file at the station.

47 CFR Section 73.54(d) requires AM stations using direct reading power meters to either submit the information required by (c) or submit a statement indicating that such a meter is being used.

47 CFR Section 73.61(c) requires a station may be directed to make a partial proof of performance by the FCC whenever there is an indication that the antenna is not operating as authorized.

47 CFR Section 73.62(b) requires an AM station with a directional antenna system to measure and log every monitoring point at least once for each mode of directional operation within 24 hours of detection of variance of operating parameters from allowed tolerances.

47 CFR Section 73.69(c) requires AM station licensees with directional antennas to file an informal request to operate without required monitors with the Media Bureau in Washington, D. C., when conditions beyond the control of the licensee prevent the restoration of an antenna monitor to service within a 120 day period. This request is filed in conjunction with Section 73.3549.

47 CFR Section 73.69(d)(1) requires that AM licensees with directional antennas request to obtain temporary authority to operate with parameters at variance with licensed values when an authorized antenna monitor is replaced pending issuance of a modified license specifying new parameters.

47 CFR Section 73.69(d)(5) requires AM licensees with directional antennas to submit an informal request for modification of license to the FCC within 30 days of the date of antenna monitor replacement.

47 CFR Section 73.154 requires the result of the most recent partial proof of performance measurements and analysis to be retained in the station records and made available to the FCC upon request. Maps showing new measurement points shall be associated with the partial proof in the station's records and shall be made available to the FCC upon request.

47 CFR Section 73.158(b) requires a licensee of an AM station using a directional antenna system to file a request for a corrected station license when the description of monitoring point in relation to nearby landmarks as shown on the station license is no longer correct due to road or building construction or other changes. A copy of the monitoring point description must be posted with the existing station license.

47 CFR Section 73.3538(b) requires a broadcast station to file an informal application to modify or discontinue the obstruction marking or lighting of an antenna supporting structure.

47 CFR Section 73.3549 requires licensees to file with the FCC requests for extensions of authority to operate without required monitors, transmission system indicating instruments, or encoders and decoders for monitoring and generating the Emergency Alert System codes. Such requests musts contain information as to when and what steps were taken to repair or replace the defective equipment and a brief description of the alternative procedures being used while the equipment is out of service.

As noted on the OMB Form 83-I, this information collection does not affect individuals or households; thus, there are no impacts under the Privacy Act.

Statutory authority for this collection of information is contained in Section 154(i) of the Communications Act of 1934, as amended.

2. In order to control interference between stations and assure adequate community coverage, AM stations must conduct various engineering measurements to demonstrate that the antenna system operates as authorized. The data is used by station engineers to correct the operating parameters of the antenna. The data is also used by FCC staff in field investigations to ensure that stations are in compliance with the technical requirements of the Commission's rules.

3. Most, if not all, respondents are using electronic engineering programs to reduce the burden of calculating technical information. The use of information technology is not feasible for the recordkeeping and informal requests included in this collection.

4. This agency does not impose a similar information collection on the respondents. There is no similar data available.

5. In conformance with the Paperwork Reduction Act of 1995, the Commission is making an effort to minimize the burden on all respondents.

6. The frequency for this collection of information is determined by a station's detection of variance of operating parameters from allowed tolerances.

7. This collection of information is consistent with the guidelines in 5 CFR 1320.5(d)(2).

8. The Commission published a Notice (73 FR 60688) in the Federal Register on October 14, 2008 seeking public comment for the information collection requirements contained in this supporting statement. No comments were generated as a result of the Notice.

9. No payment or gift was provided to the respondents.

10. There is no need for confidentiality with this collection of information.

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

12. We estimate 1,900 AM stations licensed with directional antennas and will file one or more responses under the rule sections, as required annually, i.e., multiple responses. The respondents and/or a station engineer will complete most of these information collections. The estimated salary for the respondent is $33.65/hour and $22.00/hour for the station engineer. In addition, the in-house attorney with an average salary of $40/hour will work on a portion of the information collections.

Rule Sections	Est. Number of Responses	Est. Hours for Respondent/ Station Engineer	Total Annual Burden Hours	Hourly "In-House" Cost	Total "In-House" Costs
Section 73.54(c) (Letter notification and recordkeeping requirement)	50	1 hour	50 hours	$22/hr.	$1,100
Section 73.54(d) (Statements)	50	2 hours	100 hours	$33.65/hr.	$3,365
Section 73.61 (approved sampling system)	250	16 hours	4,000 hours	$22/hr.	$88,000
Section 73.61 (without approved sampling system)	1,640	8 hours	13,120 hours	$22/hr.	$288,640
Section 73.61 (with directional antennas)	378	25 hours	9,450 hours	$22/hr.	$207,900
Section 73.62(b)	250	4.5 hours	1,125 hours	$22/hr.	$24,750
Section 73.68(c)	60	1 hour	60 hours	$22/hr.	$1,320
Section 73.68(d)	100	1 hour	100 hours	$22/hr.	$2,200
Section 73.68(e)	25	2	50	22	1100
Section 73.68(f)	5	6	30	22	660
Section 73.69(c)	5	1 hour	5 hours	$22/hr.	$110
Section 73.69(d)(1)	5	2 hours	10 hours	$22/hr.	$220
Section 73.69(d)(5)	10	1 hour	10 hours	$22/hr.	$220
Section 73.151(c)(1)(ix)	60	2	120	22	2640
Section 73.151(c)(2)(i)	60	15	900	22	19800
Section 73.151(c)(3)	60	3	180	22	3960
Section 73.154	750 proofs	0.5 hours	375 hours	$33.65/hr.	$12,618.75
Section 73.154	350 maps	0.5 hours	175 hours	$33.65/hr.	$5,888.75

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Rule Sections	Est. Number of Responses	Est. Hours for Respondent/ Station Engineer	Total Annual Burden Hours	Hourly "In-House" Cost	Total "In-House" Costs
Section 73.155	60	4	240	22	5280
Section 73.155(c)	60	1	60	33.65	2019
Section 73.158(b)	50[1]	5 hours	250 hours	$22/hr.	$5,500
Section 73.158 (b)	50[2]	0.5 hours	25 hours	$40/hr	$1,000
Section 73.3538(b)	20[3]	2 hours	40 hours	$22/hr.	$880
Section 73.3538(b)	20[4]	1 hour	20 hours	$40/hr.	$800
Section 73.3549	100[5]	2 hours	200 hours	$33.65/hr.	$6,730
Section 73.3549	100[6]	1 hour	100 hours	$40/hr.	$4,000
Totals:	**4,568 Responses**	**108 hours**	**30,795 hours**		**$693,372.50**

These estimates are based on FCC staff's knowledge and familiarity with the availability of the data required.

Total Number of Annual Respondents: 1,900 AM Stations

Total Number of Annual Reponses: 4,568 responses

Total Annual Burden Hours: 30,795 hours

Total Annual In-house Cost: $693,372.50

13. **Annual Cost Burden:** The respondent will use a consulting engineer for some measurements (supplying data

[1] Station engineer will complete this portion of the information collections to be submitted to the FCC.
[2] In-house attorney will complete this portion of information collections to be submitted to the FCC.
[3] Station engineer will complete this portion of the information collections to be submitted to the FCC.
[4] In-house attorney will complete this portion of information collections to be submitted to the FCC.
[5] Respondent will complete this portion of the information collections to be submitted to the FCC.
[6] In-house attorney will complete this portion of the information collections to be submitted to the FCC.
[6]

for documents) and a consultant attorney for certain submissions of information to the FCC. We estimate the consulting engineer's salary is $150/hour and the attorney salary is $200/hour.

Rule Sections	Est. Number of Responses	Est. Hours for Engineer/Attorney	Hourly Cost	Annual Costs Burden
Section 73.54(c) (Supplying data)	50	1 hour	$150/hour	$7,500
Section 73.54(d) (Supplying data)	50	1 hour	$150/hour	$7,500
Section 73.68(c) (Supplying data)	100	1 hour	$150/hour	$15,000
Section 73.69(c)	5	1 hour	$200/hour	$1,000
Section 73.69(d)(1)	5	1 hour	$200/hour	$1,000
Section 73.69(d)(5) (Supplying data)	10	1 hour	$150/hour	$1,500
Section 73.151(c)(1)(ix)	60	60	$150/hour	$540,000
Section 73.151(c)(2)(i)	60	10	$150/hour	$90,000
Section 73.151(c)(3)	60	10	$150/hour	$90,000
Section 73.155	60	4	$150/hour	36,000
Section 73.158(b)	50[7]	1 hour	$200/hour	$10,000
Section 73.3538(b)	20[8]	1 hour	$200/hour	$4,000
Section 73.3538(b)	20[9]	1 hour	$150/hour	$3,000
Section 73.3549	100[10]	1 hour	$200/hour	$20,000
Total Annual Cost Burden	650	94 hours	$2,400	**$826,500**

Total Annual Cost Burden: $826,500

[7] Respondent will use a consulting attorney to complete 50 reviews of the 100 reviews under Section 73.158(b).

[8] Respondent will use a consulting attorney to review the informal applications under Section 73.3538 to be submitted to the FCC.

[9] Respondent will use a consulting engineer to complete and review a portion of the information collections under Section 73.3538 to be submitted to the FCC.

[10] Respondent will use a consulting attorney to complete 100 reviews of the 200 reviews under Section 73.3549.

14. **Cost to the Federal Government:** The Commission will use an engineer at the GS-12 step 5 level, $37.89/hour and a clerk at the GS-7 step 5 level, $21.36/hour to review and process information collections. The average processing times will range from 0.25 – 16 hours.

Rule Sections	FCC Staff Review Time	Reviewer	Hourly Salary	Number of Reviews	Cost to Federal Government
Section 73.54(c)	0.25 hours	Clerk	$21.36	50	$267.00
(Letter notification)	0.50 hours	Engineer	$37.89	50	$947.25
Section 73.54 (d)	0.25 hours	Clerk	$21.36	50	$267.00
(Statements)	0.50 hours	Engineer	$37.89	50	$947.25
Section 73.61 (with	0.25 hours	Clerk	$21.36	250	$1,335.00
approved sampling system)	0.50 hours	Engineer	$37.89	250	$4,736.25
Section 73.61 (without	0.25 hours	Clerk	$21.36	1,640	$8,757.60
approved sampling system)	1 hour	Engineer	$37.89	1,640	$62,139.60
Section 73.61 (with	0.25 hours	Clerk	$21.36	378	$2,018.52
directional antennas)	16 hours	Engineer	$37.89	378	$229,158.72
	0.25 hours	Clerk	$21.36	250	$1,335.00
Section 73.62(b)	2 hours	Engineer	$37.89	250	$18,945.00
	0.25 hours	Clerk	$21.36	60	$320.40
Section 73.68(c)	0.50 hours	Engineer	$37.89	60	$1,136.70
	0.25 hours	Clerk	$21.36	100	$534.00
Section 73.68(d)	0.50 hours	Engineer	$37.89	100	$1,894.50
	0.25 hours	Clerk	$21.36	25	$133.50
Section 73.68(e)	0.50 hours	Engineer	$37.89	25	$473.63
	0.25 hours	Clerk	$21.36	5	$26.70
Section 73.69(c)	0.50 hours	Engineer	$37.89	5	$94.73
	0.25 hours	Clerk	$21.36	5	$26.70
Section 73.69(d)(1)	0.50 hours	Engineer	$37.89	5	$94.73
	0.25 hours	Clerk	$21.36	10	$53.40
Section 73.69(d)(5)	0.50 hours	Engineer	$37.89	10	$189.45
	1 hour	Clerk	$21.36	60	$1,281.60
Section 73.151(c)(1)(ix)	0.50 hours	Engineer	$37.89	60	$1,136.70
Section 73.151(c)(2)(i)	24 hours	Engineer	$37.89	60	$54,561.60
Section 73.151(c)(3)	1 hour	Engineer	$37.89	60	$2,273.40
Section 73.154	0.25 hours	Clerk	$21.36	750 proofs	$4,005.00
	0.25 hours	Engineer	$37.89	750 proofs	$7,104.38
	0.25 hours	Clerk	$21.36	350 maps	$1,869.00
Section 73.154	0.25 hours	Engineer	$37.89	350 maps	$3,315.38

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Rule Sections	FCC Staff Review Time	Reviewer	Hourly Salary	Number of Reviews	Cost to Federal Government
Section 73.155 (Certifications)	0.25 hours	Clerk	$21.36	60	$320.00
Section 73.158(b)	0.25 hours 1 hour	Clerk Engineer	$21.36 $37.89	50 50	$267.00 $1,894.50
Section 73.3538(b)	0.25 hours 1 hour	Clerk Engineer	$21.36 $37.89	40 40	$213.60 $1,515.60
Section 73.3549	0.25 hours 0.25 hours	Clerk Engineer	$21.36 $37.89	200 200	$1,068.00 $1,894.50
TOTAL:					**418,432.46**

Total Cost to the Federal Government: $418,432.46

15. As a result of the Commission adopting the information collection requirements contained in the *Second Report and Order and Second Further Notice of Proposed Rulemaking*, In the Matter of An Inquiry Into the Commission's Policies and Rules Regarding AM Radio Service Directional Antenna Performance Verification, MM Docket No. 93-177, FCC 08-228 on September 24, 2008 there are program changes of +1,540 annual burden hours and annual cost burden of +$753,500 to this information collection. There are no adjustments to this information collection.

16. The data will not be published.

17. OMB approval of the expiration of the information collection will be displayed at 47 C.F.R. Section 0.408.

18. The Commission published a Notice (73 FR 60688) in the Federal Register on October 14, 2008 seeking public comment for the information collection requirements contained in this supporting statement. In the notice, the annual cost burden was stated as $829,000. We correct that number to read "$826,500. There are no other exceptions to the Certification Statement in Item 19.

B. Collections of Information Employing Statistical Methods:

No statistical methods are employed.