

May 2015

Wireless Indoor Location Accuracy Requirements

SUPPORTING STATEMENT

A. Justification: _

1. In a *Fourth Report and Order*, released Feb. 3, 2015, in PS Docket No. 07-114, FCC 15-9, the Commission adopted requirements for all Commercial Mobile Radio Service (CMRS) providers to improve the accuracy of 911 location information from wireless devices delivered to Public Safety Answering Points (PSAPs). The *Fourth Report and Order* recognized current trends in mobile wireless usage, particularly that more American households are now “wireless only” than ever before. The need to expeditiously provide accurate 911 location information is made more pressing because of the proliferation of commercial location-based services and consumer expectations that 911 location would be as accurate or more accurate than commercial applications, and because of the crucial role it can play in protecting life and property.

The information collections contained in the adopted rules are necessary and vital to the effective implementation of improved location accuracy, which will enable PSAPs to dispatch to and first responders to respond to emergencies. The *Fourth Report and Order* noted that the rule sections containing information collection requirements were subject to Office of Management and Budget (OMB) approval under the Paperwork Reduction Act. The Commission is now seeking OMB’s approving them for three years, pursuant to all the necessary regular submission requirements under the Paperwork Reduction Act. These information collections are described below.

New Information Collection Requirements

To implement the text-to-911 service requirements, the *Fourth Report and Order* imposes the following new notification measures that constitute an information collection:

Section 20.18(i)(2)(ii)(A) – *Delivery of uncompensated barometric pressure data.* This rule requires that, within three years of the effective date of rules, CMRS providers subject to this section shall deliver to uncompensated barometric pressure data from any device capable of delivering such data to PSAPs. The furnishing of this information to PSAPs is necessary to ensure that PSAPs are receiving all location information possible to be used for dispatch. This requirement is also necessary to ensure that CMRS providers implement a vertical location solution in the event that the proposed “dispatchable location” solution does not function as intended by the three-year mark and beyond.

Section 20.18(i)(2)(ii)(B) – *Submission of z-axis metric to the Commission.* This rule requires that the four nationwide providers submit to the Commission for review and approval a reasonable metric for z-axis (vertical) location accuracy no later than 3 years from the effective date of rules. The record in this proceeding indicated that a significant amount of work remains to implement a vertical location solution nationwide, and the Commission decided to defer the adoption of a z-axis location accuracy metric to a later date and to enable the four providers most affected by these rules to propose such a metric. The submission of this metric is critical to ensure that the framework with regard to vertical location accuracy adopted in the *Fourth Report and Order* is effectively implemented.

Section 20.18(i)(2)(iii) – Compliance certifications. The Commission requires CMRS providers to certify compliance with the Commission’s rules at various benchmarks throughout implementation of improved location accuracy. Certification of meeting the Commission’s various location accuracy technology requirements is necessary to ensure that CMRS providers remain “on track” to reach the goals that they themselves agreed to in the Amended Roadmap and Parallel Path. The Commission believes the rules it adopted, with its concomitant paperwork requirements, codifies the voluntary commitments made by various CMRS providers.

Section 20.18(i)(2)(iv) – Enforcement. PSAPs may seek Commission enforcement of the location accuracy requirements within their geographic service area, but only so long as they have implemented policies that are designed to obtain all location information made available by CMRS providers when initiating and delivering 911 calls to the PSAP. Prior to seeking Commission enforcement, a PSAP must provide the CMRS provider with 30 days written notice, and the CMRS provider shall have an opportunity to address the issue informally. If the issue has not been addressed to the PSAP’s satisfaction within 90 days, the PSAP may seek enforcement relief.

Section 20.18(i)(3)(i) – Test bed. Within 12 months of the effective date of this rule, the four nationwide CMRS providers must establish the test bed described in the *Fourth Report and Order*, which will validate technologies intended for indoor location, including dispatchable location technologies and technologies that deliver horizontal and/or vertical coordinates, through an independently administered and transparent process. The test bed must include testing in representative indoor environments, including dense urban, urban, suburban and rural morphologies; test for performance attributes including location accuracy (ground truth), latency, and reliability (yield); and must evaluate each test call as independent from prior calls and as based on the first location delivered after the call is initiated. The test bed is necessary for the compliance certification framework adopted in the *Fourth Report and Order*.

Section 20.18(i)(3)(ii) – Aggregate live call data submissions. Beginning 18 months from effective date of rules, nationwide CMRS providers providing service in any of the six Test Cities identified by ATIS (Atlanta, Denver/Front Range, San Francisco, Philadelphia, Chicago, and Manhattan Borough of New York City) or portions thereof must collect and report aggregate data on the location technologies used for live 911 calls. Nationwide CMRS providers must submit call data on a quarterly basis; non-nationwide CMRS providers need only submit this data every six months. Submissions must be sent to the Commission, the National Emergency Number Association, the Association of Public Safety Communications Officials, and the National Association of State 911 Administrators. CMRS providers shall identify and collect information regarding the location technology or technologies used for each 911 call in the reporting area during the calling period, and how well each technology performs in different morphologies across the region. This reporting requirement is necessary to validate and verify the compliance certifications made by all CMRS providers, and provides the Commission with an effective and objective measurement of real-world 911 performance in the most challenging wireless environments.

Section 20.18(i)(3)(iii) – Data retention. CMRS providers shall retain testing and live call data gathered pursuant to this section for a period of 2 years.

Section 20.18(i)(4)(i) – Initial implementation plan. This rule mandates that no later than 18 months from the effective date of the adoption of the rule, nationwide CMRS providers shall report to the Commission their initial plans for meeting the indoor location accuracy requirements of paragraph (i)(2) of Section 20.18. Non-nationwide CMRS providers will have an additional 6 months to submit their implementation plan. This initial reporting requirement ensures that the Commission is aware of the CMRS providers’ initial plans to meet the specific location accuracy benchmarks.

Section 20.18(i)(4)(ii) – Progress reports. This rule requires that no later than 18 months from the effective date of the adoption of this rule, each CMRS provider shall submit to the Commission a report on its progress toward implementing improved indoor location accuracy. Non-nationwide CMRS

providers will have an additional 6 months to submit their progress reports. All CMRS providers shall provide an additional progress report no later than 36 months from the effective date of the adoption of this rule. The 36-month reports shall indicate what progress the provider has made consistent with its implementation plan, and the nationwide CMRS providers must include an assessment of their dispatchable location solutions.

Section 20.18(i)(4)(iii) – NEAD privacy and security plan. Prior to activation of the NEAD but no later than 18 months from the effective date of the adoption of this rule, the nationwide CMRS providers shall file with the Commission and request approval for a security and privacy plan for the administration and operation of the NEAD. The plan must include the identity of an administrator for the NEAD, who will serve as a point of contact for the Commission and shall be accountable for the effectiveness of the security, privacy, and resiliency measures. This requirement is necessary to ensure that the four nationwide CMRS providers are building in privacy and security measures to the NEAD from its very inception, rather than building them in as an afterthought. Such a process is critical to ensure that the NEAD, once deployed, can secure the information stored within it and ensure individual privacy is maintained.

Section 20.18(i)(4)(iv) – NEAD use certification. Prior to use of the NEAD or any information contained therein to meet such requirements, CMRS providers must certify that they will not use the NEAD or associated data for any non-911 purpose, except as otherwise required by law. This requirement is necessary to ensure the privacy and security of any personally identifiable information that may be collected by the NEAD.

Section 20.18(j) – Confidence and uncertainty data. This rule requires CMRS providers to provide confidence and uncertainty (C/U) data for all wireless 911 calls, whether from outdoor or indoor locations, on a per-call basis upon the request of a PSAP. Further, the rule requires that all entities responsible for transporting confidence and uncertainty between CMRS providers and PSAPs, including LECs, CLECs, owners of E911 networks, and emergency service providers, must enable the transmission of confidence and uncertainty data provided by CMRS providers to the requesting PSAP.

Section 20.18(k) – Provision of live 911 call data for PSAPs. Notwithstanding the other 911 call data collection and reporting requirements, CMRS providers must record information on all live 911 calls, including, but not limited to, the positioning source method used to provide a location fix associated with the call, as well as confidence and uncertainty data. This information must be made available to PSAPs upon request, as a measure to promote transparency and accountability for this set of rules.

Statutory authority for this collection is contained in Sections 1, 2, 4(i), 7, 10, 201, 214, 222, 251(e), 301, 302, 303, 303(b), 303(r), 307, 307(a), 309, 309(j)(3), 316, 316(a), and 332, of the Communications Act of 1934, 47 U.S.C. §§ 151, 152(a), 154(i), 157, 160, 201, 214, 222, 251(e), 301, 302, 303, 303(b), 303(r), 307, 307(a), 309, 309(j)(3), 316, 316(a), 332; the Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 47 U.S.C. §§ 615 note, 615, 615a, 615b; and Section 106 of the Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 47 U.S.C. § 615c.

2. The Commission’s Public Safety and Homeland Security Bureau (the Bureau) will use the information submitted by the CMRS providers in their initial implementation plans and progress reports to assess and monitor the implementation of improved location accuracy technologies in the near term. The Bureau will use information from the certifications for compliance and use of the NEAD and live call data submissions to ensure that licensees are in compliance with our rules as we progress through the indoor location accuracy framework. Additionally, the Bureau will use the information from the submitted z-axis metric, the NEAD privacy and security plan to determine whether it approves of the

projected course of vertical and dispatchable location solutions, and if not, whether it would be appropriate to initiate further rulemaking on these issues.

The Bureau will not utilize information collections pertaining to the delivery of uncompensated barometric pressure data and confidence/uncertainty data, but that information will be delivered a third party (relevant PSAPs). The information collection and reporting requirements contained in the *Fourth Report and Order* will facilitate the effective implementation of improved location accuracy by the Commission, public safety entities, and CMRS providers alike. These requirements will provide an objective snapshot of progress and performance of each CMRS provider, and they should simplify the enforcement and complaint process for both PSAPs and covered text providers.

3. Most records, if not all, will be generated and stored electronically. CMRS providers must submit monthly live call data to the Commission, the National Emergency Number Association, the Association of Public Safety Communications Officials, and the National Association of State 911 Administrators, and they will mostly likely use automated measures to collect this information. Furthermore, the submission of these reports and all others may be done electronically. Further, the Commission believes that information technology, including electronic mail, will facilitate much of the information collection and significantly reduce the number of estimated burden hours than if such technology were not available.

4. The Commission has not previously required any information collections related to wireless indoor location accuracy, but it does currently impose regulations on the delivery of confidence and uncertainty data (see OMB 3060-1147). A standardized confidence level requirement for confidence/uncertainty data was adopted in the *Fourth Report and Order*. The existing approval for the collection of confidence/uncertainty data is not broad enough to capture this new required confidence level, but otherwise sufficiently addresses the delivery of this information. Accordingly, the approval sought herein on the collection of confidence/uncertainty data pertains only to the burden hours required to modify existing confidence/uncertainty data delivery systems to meet the new standardized confidence level; the existing approval for [insert control number] already covers the delivery of this information.

5. In order to minimize the impact on small businesses, the Commission affords non-nationwide CMRS providers an additional six months to submit implementation plans. Non-nationwide CMRS providers need only report live 911 call data every six months, as opposed the quarterly frequency imposed on nationwide providers. Furthermore, non-nationwide providers are not required to share in the burden of developing the privacy and security plan for the NEAD; implementation of the NEAD; or the development of a z-axis metric. Finally, the four nationwide CMRS providers will be required to share certain information about deployments of technology evaluated in the test bed with non-nationwide providers in order to facilitate the certification process. All of these steps were taken to ease the burden on small entities.

6. The information collected will assist the Commission in ensuring public safety and improve the public safety capabilities of PSAPs throughout the nation to receive improved information location with wireless 911 calls. If the information such as the progress reports or quarterly live call data is not collected, the Commission's ability to monitor compliance and enforce its rules will be diminished or even eliminated, as it would not be able to determine compliance without this data. In addition, the rules adopted by the Commission also include other information collections that must be disseminated to third parties in order to properly implement improved location accuracy, including submission of live call data to public safety organizations other than the Commission and to requesting PSAPs. These submissions are essential to ensure transparency in the enforcement process and to enable all stakeholders the ability monitor E911 performance, something that the Commission has deemed essential for the successful implementation of improved indoor location accuracy.

7. No special circumstances exist at this time that would cause this data collection to be conducted in any manner that is inconsistent with the guidelines in 5 CFR § 1320.
8. The Commission published a notice in the *Federal Register* on March 19, 2015 (80 FR 14383) to solicit the views of industry and the general public. The Commission has received no comments in response to the Notice in the *Federal Register*.
9. No payment or gift to respondents has been or will be made.
10. The Commission is requesting that respondents submit confidential information to the Commission in the context of the test bed. Nationwide CMRS providers must make data from the test bed available to small and regional CMRS providers such that the smaller providers can deploy technology throughout their networks that is consistent with a deployment that was successfully tested in the test bed. The information collections pursuant to the *Fourth Report and Order* would not impact or modify any of the existing confidentiality procedures.

CMRS providers may request confidential treatment of the live 911 call data reports, but the Commission reserves the right to release aggregate or anonymized data on a limited basis in order to facilitate compliance with its rules. State and local 911 agencies also have the authority to publish 911 call data to the extent authorized under state or local law. The Commission will work with respondents to ensure that their concerns regarding the confidentiality of any proprietary, business-sensitive, or security-sensitive information are resolved in a manner consistent with the Commission's rules.

Any personally identifiable information that might be included in the live call data collected and furnished by CMRS providers to PSAPs, specified public safety organizations, and the Commission providers should be protected to the extent that it is considered Customer Proprietary Network Information (CPNI), pursuant to 47 U.S.C. § 222(h)(1)(A) and 47 C.F.R. § 64.2001 *et seq.*

11. This information collection does not ask questions of a sensitive nature.
12. For this information collection, the Commission estimates that four nationwide CMRS providers and 790 non-nationwide CMRS providers, comprising the estimated 794 CMRS providers, will be respondents. For the confidence/uncertainty data requirements, the 794 CMRS providers will be respondents, as well as 3,500 System Service Providers (SSPs), totaling 4,294 respondents. The estimate of 794 CMRS providers is based on data from U.S. Census Bureau.¹ For enforcement, the Commission estimates that approximately 100 public safety answering points (PSAPs) will be respondents. The Commission therefore estimates that this information collection will have 4,394 unique respondents. These estimates are based on Commission staff's knowledge and familiarity with the availability of the data required. Estimates of the burden hours for the collection of information are as follows:

a. Delivery of Uncompensated Barometric Pressure Data – 20.18(i)(2)(ii)(A): The Commission now requires that at three years from the effective date of rules, CMRS providers must begin delivering uncompensated barometric pressure data to PSAPs from any device that is capable of delivering such data. For this information collection, the Commission estimates that all 794 CMRS providers will be respondents. We assume that, in order to provide this data to PSAPs, the respondents will need to modify their location information systems to support this capability. The Commission estimates that it will take 40 hours for two engineers and one attorney to successfully implement this capability.

Total Number of Respondents: 794

Frequency of Response: 1

¹ U.S. Census Bureau., 2007 Economic Census, Sector 51, 2011 NAICS code 517210 for the category of Wireless Telecommunications Carriers (except Satellite).

Total Number of Responses:

794 CMRS providers x 1 modification to location information system = **794 responses**

Total Annual Burden Hours:

794 CMRS providers x 1 modification x 40 hours/modification = **31,760 hours**

The requirement to deliver uncompensated barometric pressure data will only be triggered by a valid PSAP request for such data. The Commission estimates that each provider will receive 10 requests per year for the delivery of uncompensated barometric pressure data, and it will take a clerical employee 2 hours to review, respond, and process each such request.

Total Number of Respondents: 794

Frequency of Response: 10

Total Number of Responses:

794 CMRS providers x 10 responses to PSAP requests = **7,940 responses**

Total Annual Burden Hours:

794 CMRS providers x 10 responses x 2 hours/response = **15,880 hours**

b. Submission of Z-Axis Metric to the Commission – 20.18(i)(2)(ii)(B): The Commission requires that the four nationwide CMRS providers must submit a proposed z-axis metric to the Commission for review and approval within 36 months of the effective date of rules. This information collection will apply only to the four nationwide CMRS providers. The Commission estimates that the four nationwide providers will need to employ two engineers and one attorney for 100 hours to research, develop, and test the proposed z-axis metric, as well as coordinate with other CMRS providers and submit a final proposal to the Commission.

Total Number of Respondents on a One-time Basis: 4

Frequency of Response: 1, filed jointly

Total Number of Responses: 1 response

Total Annual Burden Hours:

4 CMRS providers x 100 hours x 1 response = **400 hours**

c. Compliance Certifications – 20.18(i)(2)(iii): At 24 months, nationwide and non-nationwide CMRS providers must certify that they are providing either dispatchable location or x/y (horizontal) location within 50 meters, for 40 percent of all 911 wireless calls; that the indoor location technology used in their network is deployed in the same manner they were tested in the test bed; and that any devices on their network operating with foreign A-GNSS signals for 911 location accuracy have proper authorizations in place to permit such use.

At 36 months, nationwide and non-nationwide CMRS providers must make a similar certification, but instead must demonstrate that they are providing either dispatchable location or x/y (horizontal) location within 50 meters, for 50 percent of all 911 wireless calls. CMRS providers must also certify that they have made uncompensated barometric data available to public safety answering points (PSAPs) with respect to any 911 call placed from any handset that has the capability of deliver barometric sensor information.

The Commission has not developed, and does not envisioning developing, a certification form; rather, the Commission believes CMRS providers themselves are in the best position provider certification to the Commission that is both fully transparent, and the least burdensome. The Commission estimates that a CMRS provider will need one attorney and one engineer for 2 hours each to draft, edit, and submit the certification to the Commission.

Total Number of Respondents: 794

Frequency of response: 2 times during period of OMB approval

Total Number of Responses:

794 CMRS providers x 2 certifications = **1,588 responses**

Total Burden Hours:

794 CMRS providers x 2 certifications x 2 hour/certification = **3,176 hours**

d. Enforcement - Section 20.18(i)(2)(iv): PSAPs may seek Commission enforcement of location accuracy requirements within their geographic service area, but only so long as they have implemented policies that are designed to obtain all location information made available by CMRS providers when initiating and delivering 911 calls to the PSAP. Prior to seeking Commission enforcement, a PSAP must provide the CMRS provider with 30 days written notice, and the CMRS provider shall have an opportunity to address the issue informally. If the issue has not been addressed to the PSAP's satisfaction within 90 days, the PSAP may seek enforcement relief. The Commission estimates that approximately 100 PSAPs will send such a notice each year, and that it will require one clerical worker and one engineer for 1 hour to draft, edit, and submit the notice to a CMRS provider.

Total Number of Respondents: 100

Frequency of Response: 1

Total Number of Responses:

100 PSAPs x 1 notice = **100 responses**

Total Burden Hours:

100 PSAPs x 1 notice x 1 hour/report = **100 hours.**

e. Test Bed Information - Section 20.18(i)(3)(i): CMRS providers must establish the test bed described in this section within 12 months of the effective date of this rule. CMRS providers must validate technologies intended for indoor location, including dispatchable location technologies and technologies that deliver horizontal and/or vertical coordinates, through an independently administered and transparent test bed process, in order for such technologies to be presumed to comply with the location accuracy requirements. The Commission estimates that two engineers and one attorney will be necessary to work on the development of the test bed in conjunction with other CMRS providers. The Commission estimates that it will require 1,000 hours from each nationwide CMRS provider.

Total Number of Respondents: 4, filing jointly

Frequency of Response: 1

Total Number of Responses:

4 nationwide CMRS providers x 1 report = **4 responses**

Total Burden Hours:

4 nationwide CMRS providers x 1 report x 1,000 hour/report = **4,000 hours.**

f. Live 911 Call Data Submissions – Section 20.18(i)(3)(ii): will vary based on the CMRS provider’s coverage footprint:

(1) *Nationwide CMRS providers* – CMRS providers offering nationwide coverage must submit aggregate live 911 call data on a quarterly basis to the Commission, NENA, APCO, and NASNA. This information will be necessary to validate the compliance certifications made by CMRS providers. The Commission estimates that it will require 2 hours by an engineer for the generation of aggregate live call data and any necessary formatting.

Total Number of Respondents on an Annual Basis: 4

Frequency of Response: 4

Total Number of Responses Annually:

4 nationwide CMRS providers x 4 reports/annually = **16 responses**

Total Annual Burden Hours:

4 nationwide CMRS providers x 4 reports/annually x 2 hours/report = **32 hours**

(2) *Non-nationwide CMRS providers* – CMRS providers that do not offer nationwide coverage must submit aggregate live 911 call data every six months to the Commission, NENA, APCO, and NASNA. The Commission estimates that it will require 2 hours by an engineer for the generation of aggregate live call data and any necessary formatting.

Total Number of Respondents on an Annual Basis: 790

Frequency of Response: 2

Total Number of Responses Annually:

790 covered text providers x 2 reports/annually = **1,580 responses**

Total Annual Burden Hours:

790 covered text providers x 2 reports/annually x 2 hours/report = **3,160 hours**

g. Data Retention - Section 20.18(i)(3)(iii): CMRS providers shall retain testing and live call data gathered pursuant to this section for a period of 2 years. The Commission estimates that it will take one engineer one hour to install this capability and two hours to monitor the performance of servers storing the data.

Total Number of Respondents: 794

Frequency of Response: 1

Total Number of Responses:

794 CMRS providers x 1 retention = **794 responses**

Total Burden Hours:

794 CMRS providers x 1 retention x 3 hours/retention = **2,382 hours.**

h. Initial Implementation Plans – Section 20.18(i)(4)(i): This one-time initial reporting requirement ensures that the Commission is aware of the CMRS providers’ initial plans to meet the specific accuracy benchmark timeframes. This report should include details as to each provider’s implementation plan to meet the Commission’s requirements, specifically, in the three- and six-year timeframes. For the nationwide CMRS providers, this report must include detail as to steps taken and future plans to implement the National Emergency Address Database (NEAD). These reports will also provide a baseline for measuring the subsequent progress made by each provider toward improving indoor location accuracy.

The Commission estimates that it will take two engineers and one attorney 32 hours to develop, draft, complete, and review their initial implementation plans that will include the steps and plans to implement the NEAD. The Commission further estimates that, without the initial need to report on the NEAD, it will take engineers and attorneys employed by the non-nationwide CMRS providers less time – 20 hours – for their initial plans.

Total Number of Respondents: 794

Frequency of Response: 1

Total Number of Responses:

794 CMRS providers x 1 plan = **794 responses**

Total Burden Hours for CMRS providers:

4 nationwide providers x 1 plan x 32 hours/plan = **128 hours**

790 non-nationwide providers x 1 plan x 20 hours/plan = **15,800 hours**

128 hours + 15,800 hours = **15,928 hours**

i. Progress Reports – Section 20.18(i)(4)(ii): The 36-month reports shall indicate what progress the provider has made consistent with its implementation plan, and the nationwide CMRS providers shall also include an assessment of their deployment of dispatchable location solutions. For any CMRS provider participating in the development of the NEAD database, this progress report must include detail as to the implementation of the NEAD database described in paragraphs (i)(4)(iii)-(iv) of this section. Nationwide CMRS providers must submit reports at 18 months and 36 months. Non-nationwide CMRS providers will have an additional 6 months to submit their reports. Because only the 18-month progress report will be due within the scope of the requested PRA approval, only one progress reporting requirement is estimated here. The Commission estimates that it will require one attorney and one engineer 10 hours for the research, drafting, and editing of a progress report.

Total Number of Respondents: 794

Frequency of Response: 2 times, on dates certain

Total Number of Responses:

794 CMRS providers x 2 reports = **1,588 responses**

Total Burden Hours for CMRS providers:

4 nationwide providers x 2 reports x 16 hours/report = **128 hours**

790 non-nationwide providers x 2 reports x 10 hours/report = **15,800 hours**

$$128 \text{ hours} + 15,800 \text{ hours} = \mathbf{15,928 \text{ hours}}$$

j. NEAD Privacy and Security Plan – Section 20.18(i)(4)(iii): Prior to activation of the NEAD but no later than 18 months from the effective date of rules, the nationwide CMRS providers must file with the Commission and request approval for a security and privacy plan for the administration and operation of the NEAD. The plan must include the identity of an administrator for the NEAD, who will serve as a point of contact for the Commission and shall be accountable for the effectiveness of the security, privacy, and resiliency measures. The Commission estimates that it will require 40 hours by two engineers and one attorney from each nationwide CMRS provider to develop, draft, edit, coordinate with other CMRS providers on, and eventually submit the plan.

Total Number of Respondents: 4

Frequency of Response: 1

Total Number of Responses: 4

Total Burden Hours:

$$4 \text{ nationwide CMRS providers} \times 40 \text{ hours} = \mathbf{160 \text{ hours}}$$

k. NEAD Use Certification – Section 20.18(i)(4)(iv): Prior to use of the NEAD or any information contained therein to meet such requirements, CMRS providers must certify that they will not use the NEAD or associated data for any non-911 purpose, except as otherwise required by law. The Commission estimates that it will require 1 hour for an attorney to draft, edit, and submit this certification.

Total Number of Respondents: 794

Frequency of Response: 1

Total Number of Responses: 794

Total Burden Hours:

$$794 \text{ CMRS providers} \times 1 \text{ hour} = \mathbf{794 \text{ hours}}$$

l. Confidence and Uncertainty Data – Section 20.18(i)(4)(iii): This rule requires that CMRS providers and Systems Service Providers (SSPs) must deliver confidence and uncertainty data (C/U data) for all wireless 911 calls – whether placed from indoors or outdoors – at the request of a PSAP, on a per-call basis, with a uniform confidence level of 90 percent. The burden estimates are in addition to the current existing information collection requirements for transmitting C/U data pursuant OMB Control No. 3060-1147. The Commission estimates that the implementing, testing for, and delivering C/U data at a uniform level will take one engineer 8 hours to deploy in response to a PSAP request.

Total Number of Respondents:

$$794 \text{ CMRS providers} + 3,500 \text{ SSPs} = \mathbf{4,294 \text{ respondents}}$$

Frequency of Response: 1.

Total Number of Responses:

$$4,294 \text{ respondents} \times 1 \text{ response} = \mathbf{4,294 \text{ responses}}$$

Total Burden Hours:

$$4,294 \text{ respondents} \times 1 \text{ response} \times 8 \text{ hours/response} = \mathbf{34,352 \text{ hours}}$$

In addition, upon meeting the 3-year timeframe for the location accuracy metrics, CMRS providers shall provide with wireless 911 calls that have a dispatchable location the confidence/uncertainty data for the x- and y-axis (latitude, longitude). The Commission estimates that it will take one engineer 4 hours to implement, test, and deploy this capability.

Total Number of Respondents: 794

Frequency of Response: 1

Total Number of Responses:

794 CMRS providers x 1 response = **794 responses**

Total Burden Hours:

794 CMRS providers x 1 response x 4 hours/response = **3,176 hours**

m. Provision of live 911 call data for PSAPs – Section 20.18(k): Notwithstanding the other 911 call data collection and reporting requirements, CMRS providers must record information on all live 911 calls, including, but not limited to, the positioning source method used to provide a location fix associated with the call, as well as confidence and uncertainty data. This information must be made available to PSAPs upon request, and data must be retained for a period of two years. The Commission estimates that it will take one clerical worker 1.5 hours to process PSAP requests and submit such information. The Commission estimates that 10 PSAPs will make this request on an annual basis.

Total Number of Respondents: 794

Frequency of Response: 10

Total Number of Responses:

794 CMRS providers x 10 response = **7,940 responses**

Total Burden Hours:

794 CMRS providers x 10 response x 1.5 hours/response = **11,910 hours**

Annual Estimated Burden Hours to the Respondents:

a.	(1) Modification to enable delivery of uncompensated barometric data	=	31,760 hours
	(2) Reviewing, responding, and processing requests for such data	=	15,880 hours
b.	Submission of Z-Axis Metric to the Commission	=	400 hours
c.	Compliance Certifications	=	3,176 hours
d.	Enforcement by PSAPs	=	100 hours
e.	Test Bed	=	4,000 hours
f.	(1) Live 911 Call Data - Nationwide CMRS Providers	=	32 hours
	(2) Live 911 Call Data - Non-nationwide CMRS Providers	=	3,160 hours
g.	Retention of Live 911 Call Data	=	2,382 hours
h.	(1) Initial implementation plan – Nationwide CMRS Providers	=	128 hours
	(2) Initial implementation plan – Non-nationwide CMRS Providers	=	15,800 hours

i.	(1) Progress Reports – Nationwide CMRS Providers	=	128 hours
	(2) Progress Reports – Non-nationwide CMRS Providers	=	15,800 hours
j.	NEAD Privacy and Security Plan	=	160 hours
k.	NEAD Use Certification	=	794 hours
l.	(1) Standardization of confidence/uncertainty data reporting	=	34,352 hours
	(2) Delivery of confidence/uncertainty data with dispatchable location	=	3,176 hours
m.	Provision of live 911 call data for PSAPs	=	11,910 hours
			143,138 hours

Total Number of Respondents: 4,394

Total Number of Responses: [794 + 7,940 + 4 + 1,588 + 100 + 4 + 16 + 1,580 + 794 + 4 + 790 + 8 + 1,580 + 4 + 794 + 4,294 + 794 + 7,940] = **29,028 Responses**

Total Annual Burden Hours: [31,760 + 15,880 + 400 + 3,176 + 100 + 4,000 + 32 + 3,160 + 2,382 + 128 + 15,800 + 128 + 15,800 + 160 + 794 + 34,352 + 3,176 + 11,910] = **143,138 Hours**

IN-HOUSE COSTS TO RESPONDENTS:

The Commission estimates the hourly wage of a full-time in-house professional engineer or attorney that that will be involved in developing, drafting, and reviewing the initial implementation and the progress reports to be \$150.00/hour. Also, the Commission estimates the hourly wage of a similar full-time in-house professional engineer to perform the necessary work to deliver the C/U data with a uniform confidence to be \$150.00/hour. The Commission estimates that two engineers and one attorney will be necessary to work on the delivery of uncompensated barometric pressure data; submission of a z-axis metric to the Commission; development of the test bed; submission of the initial implementation plan; development and submission of the NEAD privacy and security plan. The Commission estimates that one attorney and one engineer will be necessary for the progress reports and compliance certifications. The Commission also estimates that one attorney will be necessary for the NEAD use certification. Finally, the Commission estimates that one engineer will be necessary for the live 911 call data, the standardization of C/U data, and the inclusion of C/U data with calls delivered with dispatchable location. Therefore, the in-house costs to the respondents are as follows:

- a. (1) *Modification of location systems to deliver uncompensated barometric pressure data:*
31,760 hours x \$300 = **\$9,528,000**
- (2) *Reviewing, responding, and processing PSAP requests for barometric data:*
15,880 hours x \$50 = **\$794,000**
- b. *Submission of Z-Axis Metric to the Commission:* 400 hours x \$450 = **\$180,000**
- c. *Compliance Certifications:* 3,176 hours x \$150 = **\$476,400**
- d. *Enforcement:* 100 hours x \$200 = **\$20,000**
- e. *Test Bed:* 4,000 hours x \$450 = **\$1,800,000**
- f. (1) *Live 911 Call Data – Nationwide Providers:* 32 hours x \$150 = **\$4,800**
(2) *Live 911 Call Data – Non-nationwide Providers:* 3,160 hours x \$150 = **\$474,000**
- g. *Live 911 Call Data Retention:* 2,382 hours x \$150 = **\$357,300**

- h. (1) *Initial Implementation Plans – Nationwide Providers*: 128 hours x \$450 = **\$57,600**
 (2) *Initial Implementation Plans – Non-nationwide Providers*: 15,800 hours x \$450 = **\$7,110,000**
- i. (1) *Progress reports – Nationwide Providers*: 128 hours x \$300 = **\$38,400**
 (2) *Progress reports – Non-nationwide Providers*: 15,800 x \$300 = **\$4,740,000**
- j. *NEAD Privacy and Security Plan*: 160 hours x \$450 = **\$72,000**
- k. *NEAD Use Certification*: 794 hours x \$150 = **\$119,100**
- l. (1) *Standardization of C/U data reporting*: 34,352 hours x \$150 = **\$5,152,800**
 (2) *Delivery of C/U data with dispatchable location*: 3,176 hours x \$150 = **\$476,400**
- m. *Provision of live 911 call data for PSAPs*: 11,910 hours x \$50 = **\$595,000**

Total Annual “In-House” Costs: [\$9,528,000 + \$794,000 + \$180,000 + \$476,400 + \$20,000 + \$1,800,000 + \$4,800 + \$474,000 + \$357,300 + \$57,600 + \$7,110,000 + \$38,400 + \$4,740,000 + \$72,000 + \$119,100 + \$5,152,800 + \$476,400 + \$595,000] = **\$31,996,300**

13. There may be costs to the respondents to modify their confidence and uncertainty data reporting systems. Respondents may incur fewer costs to record aggregate live 911 call data, as many providers are already doing so. There may also be differing costs with regard to enforcement, as the number of PSAPs seeking enforcement may be different than estimated herein once improved location accuracy is implemented.

14. There are no costs to the Commission beyond what we consider to be part of the FCC’s normal operating costs.

15. There are no program changes or adjustments. This is a new information collection.

16. The Commission has reserved the right to publish any or all of the aggregate live 911 call data and otherwise permits state and local 911 authorities to publish data made available to them within the extent of relevant state and local laws.

17. We do not seek approval not to display the expiration date for OMB approval of the information collection.

18. There are no exceptions to the Certification Statement.

B. Collections of Information Employing Statistical Methods:

No statistical methods are employed.