SUPPORTING STATEMENT

A. Justification:

1. Explain in detail the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Provide a copy of the appropriate section of each statute and regulation mandating or authorizing the information collection.

The Commission is requesting Office of Management and Budget (OMB) approval for a revision of this information collection. The December 2019 radiofrequency (RF) exposure Second Report and Order, ET Docket Nos. 03-137 and 13-184, FCC 19-126, included amendments to rule sections 1.1307, 2.1091, and 2.1093 requiring approval by OMB under the Paperwork Reduction Act. Revision to information collection effected by amendments to rule section 1.1307 is reported herein. Revision to information collection effected by amendments to rule sections 2.1091 and 2.1093 is reported separately under OMB 3060-0057.

In amendments to rule section 1.1307, the Commission revised its implementing rules to reflect modern technology and today's uses. We streamlined the criteria for determining when an applicant or licensee is exempt from our RF exposure evaluation criteria by replacing service-based exemptions with a formula-based approach. For those applicants and licensees who do not qualify for an exemption, we provided more flexibility to establish compliance with our RF exposure limits. We also specified methods that RF equipment operators can use to mitigate the risk of excess exposure, both to members of the public and trained workers (such as training, supervision, and signage). The amended rules provide more efficient, practical, and consistent RF exposure evaluation procedures and mitigation measures to help ensure compliance with the existing RF exposure limits.

Most of the changes to rule section 1.1307 represent clarification or simplification of existing requirements and are not expected to significantly increase or decrease the estimated burden to respondents or to the Federal government. Some existing licensees will undergo a one-time burden as they transition to the new rules. Items 12 through 15, below, address those components of the amended requirements that were not included in previous burden estimates. To update burden estimates based on the most recently available data, we also adjusted the total number of respondents/responses, the total annual hourly burden, and the total annual costs from the previous estimates, based on licensing data for calendar year 2019.

The latest RF exposure Second Report and Order, ET Docket Nos. 03-137 and 13-184, FCC 19-126, amended rule section 1.1307 by revising paragraph (b) to read as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EA) must be prepared.

* * * * *

(b)(1) *Requirements.* (i) With respect to the limits on human exposure to RF provided in Section 1.1310 of this chapter, applicants to the Commission for the grant or modification of construction permits, licenses or renewals thereof, temporary authorities, equipment authorizations, or any other authorizations for radiofrequency sources must either:

(A) Determine that they qualify for an exemption pursuant to Section 1.1307(b)(3);

(B) Prepare an evaluation of the human exposure to RF radiation pursuant to Section 1.1310 and include in the application a statement confirming compliance with the limits in Section 1.1310; or

(C) Prepare an Environmental Assessment if those RF sources would cause human exposure to levels of RF radiation in excess of the limits in Section 1.1310.

(ii) Compliance with these limits for fixed RF source(s) may be accomplished by use of mitigation actions, as provided in Section 1.1307(b)(4). Upon request by the Commission, the party seeking or holding such authorization must submit technical information showing the basis for such compliance, either by exemption or evaluation. Notwithstanding the preceding requirements, in the event that RF sources cause human exposure to levels of RF radiation in excess of the limits in Section 1.1310 of this chapter, such RF exposure exemptions and evaluations are not deemed sufficient to show that there is no significant effect on the quality of the human environment or that the RF sources are categorically excluded from environmental processing.

(2) *Definitions.* For the purposes of this section, the following definitions shall apply.

Available maximum time-averaged power for an RF source is the maximum available RF power (into a matched load) as averaged over a *time-averaging period*;

Category One is any spatial region that is compliant with the general population exposure limit with *continuous exposure* or *source-based time-averaged exposure*;

Category Two is any spatial region where the general population exposure limit is exceeded but that is compliant with the occupational exposure limit with *continuous exposure*;

Category Three is any spatial region where the occupational exposure limit is exceeded but by no more than ten times the limit;

Category Four is any spatial region where the exposure is more than ten times the occupational exposure limit or where there is a possibility for serious injury on contact.

Continuous exposure refers to the maximum time-averaged exposure at a given location for an *RF source* and assumes that exposure may take place indefinitely. The exposure limits in Section 1.1310 of this chapter are used to establish the spatial regions where mitigation measures are necessary assuming continuous exposure as prescribed in Section 1.1307(b)(4) of this chapter.

Effective Radiated Power (ERP) is the product of the *maximum antenna gain* which is the largest far-

field power gain relative to a dipole in any direction for each transverse polarization component, and the *maximum delivered time-averaged power* which is the largest net power delivered or supplied to an antenna as averaged over a *time-averaging period*; *ERP* is summed over two polarizations when present;

Exemption for (an) *RF source(s)* is solely from the obligation to perform a routine environmental evaluation to demonstrate compliance with the RF exposure limits in Section 1.1310 of this chapter; it is not exemption from the equipment authorization procedures described in Part 2 of this chapter, not exemption from general obligations of compliance with the RF exposure limits in Section 1.1310 of this chapter, and not exemption from determination of whether there is no significant effect on the quality of the human environment under Section 1.1306 of this chapter.

Fixed RF source is one that is physically secured at one location, even temporarily, and is not able to be easily moved to another location while radiating;

Mobile device is as defined in Section 2.1091(b) of this chapter;

Plane-wave equivalent power density is the square of the root-mean-square (rms) electric field strength divided by the impedance of free space (377 ohms).

Portable device is as defined in Section 2.1093(b) of this chapter;

Positive access control is mitigation by proactive preclusion of unauthorized access to the region surrounding an RF source where the continuous exposure limit for the general population is exceeded. Examples of such controls include locked doors, ladder cages, or effective fences, as well as enforced prohibition of public access to external surfaces of buildings. However, it does not include natural barriers or other access restrictions that did not require any action on the part of the licensee or property management.

Radiating structure is an unshielded RF current-carrying conductor that generates an RF reactive near electric or magnetic field and/or radiates an RF electromagnetic wave. It is the component of an *RF source* that transmits, generates, or reradiates an RF fields, such as an antenna, aperture, coil, or plate.

RF source is Commission-regulated equipment that transmits or generates RF fields or waves, whether intentionally or unintentionally, via one or more *radiating structure*(*s*). Multiple *RF sources* may exist in a single *device*.

Separation distance (variable R in Table 1) is the minimum distance in any direction from any part of a *radiating structure* and any part of the body of a nearby person;

Source-based time averaging is an average of instantaneous exposure over a *time-averaging period* that is based on an inherent property or duty-cycle of a device to ensure compliance with the *continuous exposure* limits;

Time-averaging period is a time period not to exceed 30 minutes for fixed RF sources or a time period inherent from device transmission characteristics not to exceed 30 minutes for mobile and portable RF sources;

Transient individual is an untrained person in a location where occupational/controlled limits apply, and he or she must be made aware of the potential for exposure and be supervised by trained personnel pursuant to Section 1.1307(b)(4) of this chapter where use of time averaging is required to ensure compliance with the general population exposure limits in Section 1.1310 of this chapter.

(3) Determination of exemption.

(i) For single RF sources (*i.e.*, any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Tr the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th}(\text{mW}) = \begin{cases} ERP_{20cm}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right) \text{ and f is in GHz;}$$

and

$$ERP_{20cm}(\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1— TO §1.1307(b)(3)(i)(C)—Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3 – 1.34	1,920 R^2
1.34 – 30	3,450 R^2/f^2
30 – 300	3.83 R^2
300 – 1,500	0.0128 R^2f
1,500 – 100,000	19.2R^2

(ii) For multiple RF sources. Multiple RF sources are exempt if:

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph 1.1307(b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph 1.1307(b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th}, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERP_j = the ERP of fixed, mobile, or portable RF source j.

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source *j*, at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.
$Evaluated_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.
$Exposure\ Limit_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k*, as applicable from Section 1.1310 of this chapter.

(4) Mitigation. (i) As provided in paragraphs (b)(4)(ii) through (vi) of this section, specific mitigation actions are required for fixed RF sources to the extent necessary to ensure compliance with our exposure limits, including the implementation of an RF safety plan, restriction of access to those RF sources, and disclosure of spatial regions where exposure limits are exceeded.

(ii) Category One – INFORMATION: No mitigation actions are required when the RF source does not cause continuous or source-based time-averaged exposure in excess of the general population limit in Section 1.1310 of this part. Optionally a green "INFORMATION" sign may offer information to those persons who might be approaching RF sources. This optional sign, when used, must include at least the following information: Appropriate signal word "INFORMATION" and associated color (green), an explanation of the safety precautions to be observed when closer to the antenna than the information sign, a reminder to obey all postings and boundaries (if higher categories are nearby), up-to-date licensee (or operator) contact information (if higher categories are nearby), and a place to get additional information (such as a website, if no higher categories are nearby).

(iii) Category Two – NOTICE: Mitigation actions are required in the form of signs and positive access control surrounding the boundary where the continuous exposure limit is exceeded for the general population, with the appropriate signal word "NOTICE" and associated color (blue) on the signs. Signs must contain the components discussed in paragraph (b)(4)(vi) of this section. Under certain controlled conditions, such as on a rooftop with limited access, a sign attached directly to the surface of an antenna will be considered sufficient if the sign specifies a minimum approach distance and is readable at this separation distance and at locations required for compliance with the general population exposure limit in Section 1.1310 of this part. Appropriate training is required for any occupational personnel with access to controlled areas within restrictive barriers where the general population exposure limit is exceeded, and transient individuals must be supervised by trained occupational personnel upon entering any of these areas. Use of time averaging is required for transient individuals to ensure compliance with the general population exposure limit.

(iv) Category Three – CAUTION: Signs (with the appropriate signal word "CAUTION" and associated color (yellow) on the signs), controls, or indicators (*e.g.*, chains, railings, contrasting paint, diagrams) are required (in addition to the positive access control established for Category Two) surrounding the area in which the exposure limit for occupational personnel in a controlled environment is exceeded by no more than a factor of ten. Signs must contain the components discussed in paragraph (b)(4)(vi) of this section. If the boundaries between Category Two and Three are such that placement of both Category Two and Three signs would be in the same location, then the Category Two sign is optional. Under certain controlled conditions, such as on a rooftop with limited access, a sign may be attached directly to the surface of an antenna within a controlled environment if it specifies the minimum approach distance and is readable at this distance and at locations required for compliance with the

occupational exposure limit in Section 1.1310 of this part. If signs are not used at the occupational exposure limit boundary, controls or indicators (*e.g*., chains, railings, contrasting paint, diagrams, *etc*.) must designate the boundary where the occupational exposure limit is exceeded. Additionally, appropriate training is required for any occupational personnel with access to the controlled area where the general population exposure limit is exceeded, and transient individuals must be supervised by trained personnel upon entering any of these areas. Use of time averaging is required for transient individuals to ensure compliance with the general population exposure limit. Further mitigation by reducing exposure time in accordance with six-minute time averaging is required for occupational personnel in the area in which the occupational exposure limit is exceeded. However, proper use of RF personal protective equipment may be considered sufficient in lieu of time averaging for occupational personnel in the areas in which the occupational exposure limit is exceeded. If such procedures or power reduction, and therefore Category reduction, are not feasible, then lockout/tagout procedures in 29 CFR Section 1910.147 must be followed.

(v) Category Four – WARNING/DANGER: Where the occupational limit could be exceeded by a factor of more than ten, "WARNING" signs with the associated color (orange), controls, or indicators (*e.g*., chains, railings, contrasting paint, diagrams) are required (in addition to the positive access control established for Category Two) surrounding the area in which the occupational exposure limit in a controlled environment is exceeded by more than a factor of ten Signs must contain the components discussed in paragraph (b)(4)(vi) of this section. "DANGER" signs with the associated color (red) are required where immediate and serious injury will occur on contact, in addition to positive access control, regardless of mitigation actions taken in Categories Two or Three. If the boundaries between Category Three and Four are such that placement of both Category Three and Four signs would be in the same location, then the Category Three sign is optional. No access is permitted without Category reduction. If power reduction, and therefore Category reduction, is not feasible, then lockout/tagout procedures in 29 CFR Section 1910.147 must be followed.

(vi) RF exposure advisory signs must be viewable and readable from the boundary where the applicable exposure limits are exceeded, pursuant to 29 CFR Section 1910.145, and include at least the following five components:

(A) Appropriate signal word, associated color {*i.e*., {DANGER" (red), "WARNING" (orange), "CAUTION," (yellow) "NOTICE" (blue)};

(B) RF energy advisory symbol;

(C) An explanation of the RF source;

(D) Behavior necessary to comply with the exposure limits; and

(E) Up-to-date contact information.

(5) *Responsibility for compliance.* (i) In general, when the exposure limits specified in Section 1.1310 of this part are exceeded in an accessible area due to the emissions from multiple fixed RF sources, actions necessary to bring the area into compliance or preparation of an Environmental Assessment (EA) as specified in Section 1.1311 of this part are the shared responsibility of all licensees whose RF sources

produce, at the area in question, levels that exceed 5% of the applicable exposure limit proportional to power. However, a licensee demonstrating that its facility was not the most recently modified or newly-constructed facility at the site establishes a rebuttable presumption that such licensee should not be liable in an enforcement proceeding relating to the period of non-compliance. Field strengths must be squared to be proportional to SAR or power density. Specifically, these compliance requirements apply if the square of the electric or magnetic field strength exposure level applicable to a particular RF source exceeds 5% of the square of the electric or magnetic field strength limit at the area in question where the levels due to multiple fixed RF sources exceed the exposure limit. Site owners and managers are expected to allow applicants and licensees to take reasonable steps to comply with the requirements contained in paragraph 1.1307(b)(1) of this section and, where feasible, should encourage co-location of RF sources and common solutions for controlling access to areas where the RF exposure limits contained in Section 1.1310 of this part might be exceeded. Applicants and licensees are required to share technical information necessary to ensure joint compliance with the exposure limits, including informing other licensees at a site in question of evaluations indicating possible non-compliance with the exposure limits.

(ii) Applicants for proposed RF sources that would cause non-compliance with the limits specified in Section 1.1310 at an accessible area previously in compliance must submit an EA if emissions from the applicant's RF source would produce, at the area in question, levels that exceed 5% of the applicable exposure limit. Field strengths must be squared if necessary to be proportional to SAR or power density.

(iii) Renewal applicants whose RF sources would cause non-compliance with the limits specified in Section 1.1310 at an accessible area previously in compliance must submit an EA if emissions from the applicant's RF source would produce, at the area in question, levels that exceed 5% of the applicable exposure limit. Field strengths must be squared if necessary to be proportional to SAR or power density.

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History of Information Collection

The National Environmental Policy Act (NEPA) of 1969 requires agencies of the Federal Government to evaluate the effects of their actions on the quality of the human environment. To meet its responsibilities under NEPA, the Commission adopted RF exposure guidelines for the purpose of evaluating the potential environmental effects of RF radiation from FCC-regulated facilities. These guidelines reflect scientific studies of the biological effects of RF radiation. Use of these guidelines ensures that the FCC's applicants are evaluating their facilities and implementing appropriate mitigation measures in line with the prevailing standards for RF exposure.

The Commission requires some applicants to submit limited information during the licensing and authorization process. In many services, the Commission simply requires applicants and licensees to provide reliable service to specific geographic areas but does not require they file site-specific information. It does not appear that the FCC's present geographic licensing methods can provide public notification of site-specific information without imposing a new and significant additional burden to the Commission's applicants. However, we note that applicants

proposing facilities or devices with the greatest potential to exceed the Commission's exposure limits are required to routinely perform an environmental evaluation as part of the licensing and authorization process. The Commission encourages all service providers to provide site-specific technical information and environmental evaluation documentation upon public request. Members of the public may ask the Commission for contact information for the service providers in a particular geographic area. State and local governments may also be a source of information, to the extent they collect site-specific data as part of their regulatory processes. In addition, the amendments to rule section 1.1307 require the use of posted signs that identify places where RF exposure exceeds the FCC limits and provide appropriate contact information.

This collection of information is authorized under Sections 4, 302, 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 302, 303 and 307.

This information collection only affects individual consumers or households to a limited extent. Pertinent information that results from environmental evaluations is typically only collected from applicants for licenses (reported herein) or grantees of equipment authorization (reported separately under OMB 3060-0057). With the exception of amateur radio operators, these entities ordinarily are not individuals or households.

The Commission has Systems of Records, FCC/MB-1, "Ownership Report for Commercial Broadcast Stations," FCC/OET-1, "Experimental Radio Station License Files," and FCC/WTB-1, "Wireless Services Licensing Records," which cover the personally identifiable information (PII) that individual applicants may include in their submissions for licenses or grants of equipment authorization.[1] At such time as the Commission revises these Systems of Records Notices (SORNs), the Commission will conduct a Privacy Impact Assessment (PIA) and publish the revised SORN in the *Federal Register*. In addition, the Commission will post a copy of both the PIA and the SORN on the FCC's Privacy webpage.

2. Indicate how, by whom and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The information collected is needed, because the Commission requires applicants to perform an environmental evaluation with respect to radio frequency electromagnetic fields and, if necessary, to implement mitigation measures that ensure compliance with the Commission's exposure limits. Applicants are required to consider contributions from other transmitters within the vicinity of their facility in order to assess the additive exposure. Accordingly, to correctly

[1] The system of records notice (SORN) for FCC/WTB-1, "Wireless Services Licensing Records," was published in the Federal Register on June 11, 2019, *see* 84 FR 27115. The SORN may also be viewed at http://www.fcc.gov/omd/privacyact/records-systems.html

determine compliance with the Commission's exposure limits, an applicant must locate, determine ownership, and gather technical information for all contributing transmitters.

Applicants are generally required, as part of the authorization and licensing process, to indicate compliance with the Commission's environmental rules. Supporting information may be requested and reviewed by the Commission's engineers, attorneys, and paraprofessional staff to determine whether the environmental evaluation is sufficiently complete and in accordance with the Commission's rules.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical or other technological techniques or other forms of information technology, e.g., permitting electronic submissions of responses, and the basis for the decision for adopting this means of collection.

The information collection almost always involves the use of electronic techniques. The Commission estimates that the use of information technology to reduce the burden may be feasible in 99% of cases.

4. Describe efforts to identify duplication.

The Commission recognizes the possibility of duplication of effort in the preparation and submission of environmental information and has provided in Section 1.1311(e) that: "An Environmental Assessment (EA) need not be submitted to the Commission if another agency of the Federal Government has assumed responsibility for determining whether the facilities in question will have significant effect on the quality of the human environment and, if it will, for invoking the environmental impact statement process."

Section 1.1311(d) provides: "to the extent that such information is submitted in another part of the application, it need not be duplicated in an EA, but adequate cross-reference to such information shall be supplied."

The Commission's rules do not require multiple submissions of the same environmental information for different purposes.

5. If the collection of information will have *significant* economic impacts on small businesses, organizations or other small entities, *describe any methods used to minimize the burden on these entities.*

In conformance with the Paperwork Reduction Act of 1995, the Commission has limited the

information collection requirements for determining compliance with its rules on RF exposure. We have made efforts to exempt those facilities from more detailed evaluations, commonly used by smaller businesses and entities, that appear to have little potential for causing exposures in excess of the guidelines. For simplification and consistent application of its RF exposure evaluation procedures, the Commission has created three broad categories for exemption from the RF exposure evaluation requirements and adopted a set of technical definitions related to output power and separation distance. These exemptions apply to all fixed, mobile, and portable RF sources and are based on power, separation distance (minimum distance in any direction from any part of a radiating structure to any part of the body of a person), and frequency. Exemptions provide for both single- and multiple-transmitter cases and treat like sources similarly even if they operate under different service rules. The use of a simplified categorical approach with clearly expressed definitions makes it easier for small entities to understand and apply our rules while still allowing us to meet our RF exposure-related goals. In addition, the Commission removed restrictive and outdated provisions that only specified a single acceptable numerical approach to RF exposure evaluation and instead allows for the use of any valid computational method to determine RF exposure levels.

The amendments to rule section 1.1307 do not change reporting requirements, but may require additional training or more specific signage or access control that is consistent with industry RF safety program standards for certain transmitting facilities. The amendments are designed to improve rule consistency and clarity.

In addition, the Commission has minimized environmental evaluation considerations by providing technical documentation and analysis techniques in the form of OET Bulletin 65, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* and worksheets in Media Bureau Form 301, *General Environmental Worksheet and RF Worksheets 1, 1A, 2, and 2A.* We estimate that 90% of the affected parties will use these documents to determine compliance.

6. Describe the consequences to Federal program or policy activities if the collection is *not* conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing the burden.

If the information were not collected, the Commission could not ensure compliance with the National Environmental Policy Act (NEPA), specifically, to minimize the potential environmental effects of RF radiation from FCC-regulated facilities.

7. Explain any special circumstances that would cause an information collected in a manner *inconsistent* with OMB's guidelines which are stated in 5 C.F.R. § 1320.5(d)(2).

Applicants would generally perform an environmental evaluation only when submitting an initial application for authorization or license, modification of the authorization or license, or renewal of the authorization or license. In most situations, we expect that an applicant is only required to indicate compliance with the Commission's environmental rules. However, under 47 CFR §§ 1.1307(c) and (d), the Commission may require the collection of additional information if it determines that a significant environmental effect may exist. Further, if the Commission deems it necessary, it may require applicants previously exempt from performing an environmental evaluation to submit environmental information.

8. Identify the date and page number of publication in the Federal Register of the agency's Paperwork Reduction Act (PRA) 60-day notice, required by 5 C.F.R. § 1320.8(d), soliciting comments on the information collection requirement(s) prior to submission to OMB.

The Commission solicited the views of industry and the general public by *Federal Register* notice on October 7, 2020 (85 FR 63273) regarding the information collection requirements that are contained in this collection.

9. Explain any decision to provide any payment or gift to respondents, other than the remuneration of contractors or grantees.

No payment or gift will be made to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

There is a minimal exemption from the Freedom of Information Act, Title 5, U.S.C. 552(b)(4), and FCC Rules 47 CFR § 0.459(d), that is granted for trade secrets and privileged or confidential commercial or financial information, which may be submitted to the Commission as part of the documentation of test results. No other assurances of confidentiality are provided to respondents.

11. Provide additional justification for any questions of a sensitive nature.

No sensitive information is requested. As noted above in item 1, this information collection may affect individuals or households in some cases. Any personally identifiable information that is submitted by individuals is covered by a SORN, FCC/MB-1, "Ownership Report for Commercial Broadcast Stations," FCC/OET-1, "Experimental Radio Station License Files," or

FCC/WTB-1, "Wireless Services Licensing Records."

12. Provide estimates of the burden hours for the collection of information.

The burden to applicants and licensees (respondents) for the collection of information is estimated in two components: the recurring annual burden, and the one-time burden of transitioning to the new section 1.1307(b) rules. As discussed in item 15, the recurring annual burden per-respondent is estimated to remain roughly the same as under the prior rules. The two burden components are discussed separately below and then combined into a total annualized burden.

(a) Recurring Annual Hours Burden

Based on data for calendar year 2019 supplied by its licensing bureaus, the Commission estimates 141,558 respondents annually will need to perform new RF exposure analysis for this information collection. Because the number of applications that the Commission receives varies each year, this estimate is less than that of the previous submission. In particular, the number of broadcast applications has decreased relative to the previous submission. From time to time, the Commission auctions new licenses, which result in a large number of applications being filed afterward, and certain program changes (including prohibitions on certain types of applications) result in changes in the number of applications filed in comparison with the previous submission. We have also revised our calculation methods slightly relative to the previous submission to handle applications for the various radio services more consistently. Specifically, it is now assumed that all renewal-only applications can reuse their prior RF exposure analysis and do not incur a new annual burden for this collection (they are still expected to incur a one-time transition burden as discussed below). In prior submissions, this assumption was made for some radio services but not others. This revision contributed to the decrease in estimated number of annual respondents, but it is balanced by an increase in the estimated fraction of remaining respondents requiring the more burdensome evaluations described below.

There is considerable variation in the range of hour burden for respondents. For purposes of estimating burdens, three general categories of burdens are used depending upon the amount of time and resources required: (1) exemption, (2) simple evaluation calculation required, and (3) detailed evaluation modeling or measurement required.

The Commission estimates that 132,799 respondents will be exempt and will require approximately 5 minutes (0.0833 hours) per response to make this determination, for a total annual burden of 132,799 responses x 0.0833 hours/response = 11,062 hours**.** The Commission estimates that in all cases in-house staff will complete the requirement without outside assistance.

Respondents that are unable to claim exemption, but are still able to demonstrate compliance through a simple evaluation, will have to complete worksheets or perform simple calculations described in OET Bulletin No. 65 to determine compliance with the environmental rules concerning RF exposure. These respondents will also need to ensure that appropriate mitigation measures are in place as part of their evaluation. It is estimated that 7,739 respondents will fall into this category, which includes 4,445 amateur radio applicants. We estimate that the amateur radio operators will each spend an average of one hour evaluating and mitigating their own hobby operations, giving a total of 4,445 evaluations x 1 hour/evaluation = 4,445 hours. Amateur radio operators are hobbyists who are expected to complete the requirement without outside assistance. We estimate that half of the other 3,294 respondents will complete the simple evaluation without outside assistance (1,647), and the remaining respondents will require outside assistance (1,647; see item 13 below). The estimated amount of time for most respondents requiring simple evaluations would be three hours for in-house staff, giving a total of about 1,647 responses x 3 hours/response = 4,941 hours. In summary, the total number of respondents requiring a simple evaluation is 4,445 + 3,294 = 7,739 and their total in-house burden hours is estimated to be 4,445 + 4,941 = 9,386 hours.

For the estimated 1,020 respondents having commingled RF sources, high-powered sources, or otherwise having authorizations requiring detailed evaluation by calculation and/or measurement, the amount of time required is estimated to range from 4 to 20 hours, depending upon the level of detail of the analysis and the information required to conduct it. As part of their evaluation, these respondents will need to ensure that appropriate mitigation measures are in place. The Commission estimates that in-house staff will complete 10% of the responses (102) without outside assistance and the remaining 90% of responses (918) will require outside assistance to complete them for a total of 1,020 responses. The total number of responses completed in-house and requiring detailed or complex evaluations is estimated to be 102, representing a total of 840 hours**.** The burden breakdown for in-house staff is as follows:

Reporting Time	Radio Service(s)	Number of Responses	Total Hours
4 hours	Amateur	49	196
6 hours	Various[2]	29	174
10 hours	Experimental	1	10
20 hours	Broadcast	23	460
	Grand total	102	840

The total number of responses and burden hours is the sum of the above amounts, summarized as follows:

Category	Number of Responses	Burden Hours
Exempt	132,799	11,062
Simple Evaluation	7,739	9,386

[2] Includes Satellite, Cellular, Paging and Radiotelephone, PCS, Broadband, and SMR.

Detailed Evaluation	1,020	840
Grand Total	141,558	21,288

The total recurring annual in-house burden is estimated to consist of **141,558 responses** and total **21,288 hours**. The number of respondents is equal to the number of responses. Burden associated with outside assistance and material expenses is covered in item 13 below.

In-House Cost: The Commission estimates that in-house staff will be paid approximately $165/hour to fulfill the requirements. Therefore, the in-house cost is as follows: 21,288 hours x $165/hour = **$3,512,520**

(b) One-Time Transition Hours Burden

Some existing licensees will experience a one-time burden of transitioning to the new section 1.1307(b) rules. This burden consists of the transitioning, exempt licensees determining whether they remain exempt under the new rules, plus the fraction of transitioning licensees updating their mitigation measures to meet the new, more specific requirements. Since this is a one-time burden that will occur over the course of the transition period for the new rules, we will first discuss the total transition burden before calculating the annualized burden for this three-year collection period and combining with the recurring annual burden detailed above.

It is expected that most licensees who were exempt (previously referred to as "categorically excluded") from routine evaluation under the prior rules will remain exempt under the new rules. We estimate 574,514 existing, exempt licensees will require approximately 5 minutes (0.0833 hours) each to determine if they are still exempt under the new rules. This estimate excludes those who are expected to file for modification or allow their license to expire without renewal before the end of the transition period. It also excludes existing licensees who were not exempt under the prior rules as they would have previously performed an evaluation and can reuse that evaluation. The total burden associated with these exemption calculations for the transition is estimated to be 574,514 licensees x 0.0833 hours/licensee = 47,857 hours.

It is estimated that approximately 10% of transitioning licensees requiring mitigation measures such as signage will need to update their mitigation measures to meet our new, more specific mitigation requirements. We estimate this will affect 7,135 existing licensees, requiring 2 hours plus signage costs each. The total burden associated with these mitigation measure updates for the transition is estimated to be 7,135 licensees x 2 hours/licensee = 14,270 hours (plus signage costs to be discussed in item 13).

Combining the above totals, we estimate the one-time transition burden to affect 574,514 + 7,135 = 581,649 respondents[3] and total 47,857 + 14,270 = 62,127 hours. This burden will occur over

[3] The transition will affect only existing licensees, not new applicants, and while those licensees are not required to submit new paperwork until regularly required for license modification or renewal, they are required to comply with

the course of the transition period. The transition is required to occur in the first two years following the effective date of the new rules, but we are dividing by three in order to annualize the estimated burden for the three-year collection period. The annualized burden associated with the transition is estimated to be 581,649 ÷ 3 = **193,883 respondents** and 62,127 ÷ 3 = **20,709 hours**.

In-House Cost: The Commission estimates that in-house staff will be paid approximately $165/hour to fulfill the requirements. Therefore, the annualized in-house cost associated with transition is as follows: 20,709 hours x $165/hour = **$3,416,985**.

(c) Total Annualized Hours Burden

Combining the recurring annual burden with the annualized one-time transition burden, we estimate the total annualized burden to be 141,558 + 193,883 = **335,441 respondents** and 21,288 + 20,709 = **41,997 hours**. The Commission estimates that in-house staff will be paid approximately $165/hour to fulfill the requirements. Therefore, the annualized in-house cost associated with transition is as follows: 41,997 hours x $165/hour = **$6,929,505.**

13. Provide an estimate of the total annual cost burden to respondents or record keepers resulting from the collection of information. Do not include the cost of any burden hours shown in items 12 and 14.

As in item 12, the burden to respondents for collection of information is estimated in two components: the recurring annual burden, and the one-time burden of transitioning to the new section 1.1307(b) rules. These two components are discussed separately below and then combined into a total annualized cost burden.

(a) Recurring Annual Cost Burden

As in item 12, three general categories of burden are used depending upon the amount of time and resources required: (1) exemption, (2) simple evaluation calculation required, and (3) detailed evaluation modeling or measurement required.

The Commission estimates that there are no external costs associated with the determinations of exemption. These determinations are typically accomplished by in-house staff.

Some of the applications requiring simple evaluations are assumed to require review by persons having specialized skills at a billing rate of $263 per hour. While amateur radio operators are hobbyists who are expected to complete the simple evaluations without outside assistance, we

the new rules by the end of the transition period. So for the purposes of estimating the transition burden, "licensees" are equivalent to "respondents."

estimate half of the other respondents (1,647) performing simple evaluations will require outside assistance/review. The Commission has estimated those time requirements and costs as $263/hour x 1,647 responses x 1 hour/response = $433,161.

Most of the applications requiring detailed evaluation by calculation and/or measurement are assumed to require review by persons having specialized skills at a billing rate of $263 per hour. The Commission estimates that 90% of respondents (918) performing detailed evaluations will require outside assistance/review to complete them. The Commission has estimated those time requirements and costs as $263/hour x 918 responses x 5 hours/response = $1,207,170.

Respondents for all non-exempt facilities (i.e., those requiring either simple or detailed evaluation) are assumed to require the posting of signs to ensure compliance. We estimate that non-exempt broadcast, cellular, paging and radiotelephone, PCS, broadband, SMR, and amateur radio respondents will require 2 signs each, on average, while other respondents will require 1 sign each. Considering the number of non-exempt respondents for each application type in the 2019 data, we estimate a total of 17,041 signs. We estimate a cost of $60 per sign. The Commission estimates the cost of signs as $60/sign x 17,041 signs = $1,022,460 for the recurring annual burden.

The total recurring annual cost is as follows: $433,161 + $1,207,170 + $1,022,460 = **$2,662,791**.

(b) One-Time Transition Cost Burden

Transition burdens associated with determinations of exemption are expected to be carried out by in-house staff with no external costs.

Transition burdens associated with updating mitigation measures are expected to mostly be carried out by in-house, but with external costs for purchasing and mounting required signs. Similar to the signage costs for the recurring annual burden above, we estimate that non-exempt broadcast, cellular, paging and radiotelephone, PCS, broadband, SMR, and amateur radio respondents will require 2 signs each, on average, while other non-exempt respondents will require 1 sign each. Considering the number of such licensees needing to transition to the new rules, we estimate a total of 13,532 signs. We estimate a cost of $60 per sign. The Commission estimates the cost of signs as $60/sign x 13,532 signs = $811,920 total for the transition. This burden will occur over the course of the transition period. The transition is required to occur in the first two years following the effective date of the new rules, but we are dividing by three in order to annualize the estimated burden for the three-year collection period. The annualized cost burden associated with the transition is estimated to be $811,920 ÷ 3 = **$270,640**.

(c) Total Annualized Cost Burden

Combining the recurring annual burden with the annualized one-time transition burden, we

estimate the total annualized cost burden to be $2,662,791 + $270,640 = **$2,933,431**.

14. Provide estimates of annualized costs to the Federal government.

It is estimated that a GS-855-11, Step 5 electronics engineer ($39.12 per hour) spends approximately 5 minutes (0.0833 hours) considering each of the estimated 132,799 claims of exemption (requires examining a "yes/no" entry on a form) to determine if an applicant has sufficiently demonstrated compliance. The total annualized cost to the Federal government for these reviews is ($39.12/hour x 132,799 responses x 0.0833 hours) = $432,752.

The Commission collects and reviews some worksheets or simple calculation documents from respondents that are unable to claim exemption but can demonstrate compliance through a simple evaluation. It is estimated that a GS-855-11, Step 5 electronic engineer ($39.12 per hour) spends approximately 5 minutes (0.0833 hours) collecting and reviewing each of these 3,294 responses. The total annualized cost to the Federal Government to review these documents is ($39.12/hour x 3,294 responses x 0.0833 hours) = $10,734.

The Commission currently collects and analyzes additional supporting information for approximately 9% of the 1,020 detailed evaluations performed by the respondents, for a total of 92 reviews. Review of this information requires a higher grade level engineer and requires more time. For this purpose, it is estimated that a GS-855-13, Step 5, electronics engineer ($55.75 per hour) spends approximately three hours in reviewing the detailed compliance demonstrations in each of these cases. The total annualized cost to the Federal government for these reviews is ($55.75/hour x 92 responses x 3 hours) = $15,387.

The remaining 91% (928) of the responses containing a detailed evaluation can be reviewed similarly to those containing only a simple evaluation but are expected to take slightly longer to review. It is estimated that a GS-855-11, Step 5 electronic engineer ($39.12 per hour) spends approximately 10 minutes (0.1667 hours) collecting and reviewing each of these 928 responses. The total annualized cost to the Federal Government to review these documents is ($39.12/hour x 928 responses x 0.1667 hours) = $6,052.

The total annualized cost to the Federal Government is the sum of the above amounts ($432,752 + $10,734 + $15,387 + $6,052) = **$464,925**.

There is not expected to be any additional costs to the Federal government associated with collection of information for transitioning to the new section 1.1307(b) rules. While existing licensees are required to comply with the new rules by the end of the transition period, they are not required to submit new paperwork until they would normally be required to do so for regular license modification or renewal.

15. Explain the reasons for any program changes or adjustments reported.

The Commission is reporting adjustments to this collection since the last submission to OMB. The total number of annualized respondents/responses increased from 284,332 to 335,441 (+51,109), the total annualized hours burden decreased from 58,865 to 41,997 (−16,868), and the total annualized cost burden decreased from $5,449,750 to $2,933,431 (−$2,516,319). The number of respondents[4] increased because it is expected that a large number of existing licensees (193,883 annualized) will be required to transition to the new section 1.1307(b) rules. The transition burden per respondent is expected to be relatively small, however, and thus the total annualized hours and cost burdens still show a decrease. The annualized hours and cost burdens decreased primarily due to a reduction in the number of applications received relative to the previous submission to OMB, particularly the number of broadcast applications. These decreases are based on the most current data available to the Commission.

From the last submission to OMB, we also revised our calculation methods slightly to handle applications for the various radio services more consistently. We also updated the salary per hour of outside consultants, increasing each by 5% relative to the last submission.

Except for one-time transition burdens and material costs associated with signage, we estimate that the per-respondent burden will remain roughly the same as under the prior section 1.1307(b) rules. Under the streamlined criteria for exemption under Section 1.1307, the fraction of respondents who will be exempt will be essentially identical to the fraction of respondents who were categorically excluded under the previous rules. We estimate that the time that it will take an exempt respondent to comply with the rules will be approximately 5 minutes (0.0833 hours) per response, which is the same amount of time that we had estimated it would take for respondents who were categorically excluded to comply with the previous rules. We do not believe that the increased flexibility we are providing for evaluation options will significantly increase or decrease these burdens. The more specific mitigation requirements under the new rules align with industry best practices and existing guidance. This burden is included in our estimates. We have added the specific material costs of signage, which is estimated to cost respondents $1,022,460 annually. We have also added one-time transition burdens, which is estimated to be 20,709 hours plus $270,640, annualized over the present three-year collection period.

Finally, we note that compliance with the Commission's limits on RF exposure is an ongoing requirement. As discussed above, we anticipate that most facilities that had qualified as categorically excluded under the previous rules will be classified as exempt under the amended

[4] Transitioning licensees are not required to submit new paperwork until normally required for their regular license modification or renewal, but they are required to comply with the new rules by the end of the transition period. That burden of transitioning to the new rules has been included in present estimates, and transitioning licensees are considered "respondents" for present discussion despite them having no additional requirement to respond.

rules, and so any additional burdens to respondents not discussed above will be minimal.

16. For collections of information whose results will be published, outline plans for tabulation and publication.

The data will not be published for statistical use.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reason that a display would be inappropriate.

The Commission is not requesting a waiver of displaying the OMB expiration date for the reporting requirements contained in rule sections. The Commission does display the OMB Control Number, expiration date and title of each OMB-approved IC in 47 CFR 0.408.

18. Explain any exceptions to the statement certifying compliance with 5 C.F.R. § 1320.9 and the related provisions of 5 C.F.R. § 1320.8(b)(3) (Item 19, OMB Form 83-i).

There are no exceptions to the Certification Statement.

B. <u>Collection of Information Employing Statistical Methods:</u>

This collection of information does not employ statistical methods.