

CASE NOT SCHEDULED FOR ORAL ARGUMENT**In the United States Court of Appeals
For the District of Columbia Circuit**Public.Resource.Org, Inc. *et al*,*Petitioners,*

v.

No. 23-1311

Federal Communications Commission, *et al*,*Respondents.***JOINT APPENDIX****On Petition to Review an Order of
The Federal Communications Commission**

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March 27, 2024

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NOTE

The report and order under review in this proceeding was published on September 29, 2023, in the Federal Register at 88 Fed. Reg. 67108. The official order is the first item in this Joint Appendix, adopted March 10, 2023, as amended by the second item, the Erratum sheet, dated September 15, 2023. There is no single document that constitutes the entire final order. The official notice of proposed rulemaking was issued on January 24, 2022, and is the third item. It also appears in the Federal Register of March 17, 2022 at 87 Fed. Reg 15180.

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**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Updating References to Standards Related to the) ET Docket No. 21-363
Commission's Equipment Authorization Program)

REPORT AND ORDER

Adopted: March 10, 2023

Released: March 14, 2023

By the Commission:

I. INTRODUCTION

1. The equipment authorization program is one of the principal ways the Commission ensures that the radiofrequency (RF) devices people rely on every day, such as their cell phones and Wi-Fi devices, operate effectively without causing harmful interference and otherwise comply with the Commission's rules. By this Report and Order, we update our rules to incorporate four new and updated standards that are integral to equipment testing. By updating our rules to keep pace with significant developments in the standards-setting community, we ensure that our equipment authorization program relies on the latest guidance so that the public has confidence that today's advanced devices comply with our technical rules.

II. BACKGROUND

2. Section 302 of the Communications Act of 1934, as amended (the Act), authorizes the Commission to make reasonable regulations governing the interference potential of devices that emit RF energy and can cause harmful interference to radio communications.¹ The Commission generally implements this authority by establishing technical rules for RF devices.² One of the primary ways the Commission ensures compliance with the technical rules is through the equipment authorization program for RF devices, procedures for which are codified in part 2 of our rules.³ The Office of Engineering and Technology (OET) administers the day-to-day operation of the equipment authorization program.⁴

3. Part 2 of the Commission's rules provides two different approval procedures for RF devices subject to equipment authorization—certification and Supplier's Declaration of Conformity (SDoC).⁵

¹ 47 U.S.C. § 302a(a).

² For example, part 15 of the Commission's rules sets forth the technical requirements for unlicensed devices; parts 22, 24, and 27 set forth the technical requirements for transmitters used in various commercial mobile radio services; and part 90 specifies the technical requirements for transmitters used in the private land mobile radio services. *See* 47 CFR pts. 15, 22, 24, 27, and 90, respectively.

³ *See* 47 CFR pt. 2, subpt. J.

⁴ *See* 47 CFR § 0.241(b) (delegating such authority to OET). As part of its administration of the equipment authorization rules, OET has developed a substantial body of supplemental guidance that is available via public notices and in our online Knowledge Database (KDB). Links to all of these can be found at the OET Laboratory Division's Equipment Authorization Page, <https://www.fcc.gov/engineering-technology/laboratory-division/general/equipment-authorization>; and the Knowledge Database webpage, <http://www.fcc.gov/labhelp>.

⁵ 47 CFR § 2.901. Certification is a more rigorous approval process for RF devices with the greatest potential to cause harmful interference to other radio operations. A grant of certification is an equipment authorization issued by

(continued....)

While both processes involve laboratory testing to demonstrate compliance with Commission requirements, testing associated with certification must be performed by an FCC-recognized accredited testing laboratory.⁶ Additionally, part 68 of the Commission's rules sets forth requirements to ensure that terminal equipment can be connected to the telephone network without harming its functioning and for the compatibility of hearing aids and land-line telephones so as to ensure that, to the fullest extent made possible by technology and medical science, people with hearing loss have equal access to communications services.⁷

4. Equipment testing is central to the equipment authorization program in ensuring that RF devices comply with Commission rules.⁸ Acknowledging the best practices widely followed by industry, the Commission's equipment authorization rules often incorporate by reference⁹ various standards¹⁰ established by standards-setting bodies, including, but not limited to, the American National Standards Institute (ANSI), Accredited Standards Committee C63 (ANSC C63);¹¹ the International Organization for Standardization; and the International Electrotechnical Commission.¹² Use of these standards is intended to ensure the integrity of the measurement data associated with an equipment authorization. Among other things, such standards provide procedures for conducting measurements at testing facilities¹³ and specify the conditions expected in the testing environment.¹⁴

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an FCC-recognized telecommunications certification body (TCB) based on an evaluation of the supporting documentation and test data submitted to the TCB. 47 CFR § 2.907. SDoC allows a device to be marketed on the basis of testing performed in accordance with a Commission-approved methodology by the manufacturer, assembler, importer, or seller itself without the need to submit an application to a TCB. 47 CFR § 2.906.

⁶ 47 CFR § 2.948(a).

⁷ See 47 CFR § 68.1. Terminal equipment is defined as communications equipment located on customer premises at the end of a communications link, used to permit the stations involved to accomplish the provision of telecommunications or information services. 47 CFR § 68.3. In furtherance of these goals, part 68 includes unique, but similar, rules related to equipment approval, TCB review, and laboratory testing. 47 CFR pt. 68, subpt. D.

⁸ Section 2.947 of the Commission's rules requires test data be measured in accordance with one of three types of standards and measurement procedures, including "[t]hose acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic[s] Engineers, Inc., and the American National Standards Institute." 47 CFR § 2.947(a)(2).

⁹ Incorporating external standards within the Commission's rules has been a longstanding practice that reflects our desire, where appropriate and consistent with the Administrative Procedure Act and other statutes, to harmonize the rules with international standards and aligns the Commission's rules with general federal agency guidance which urges government agencies to use industry-developed standards rather than develop their own. See, e.g., *Procedure for measuring electromagnetic emissions from digital devices*, GEN Docket No. 89-44, Further Notice of Proposed Rule Making, 6 FCC Rcd 600, 601, paras. 7-8 (1991); see also OMB Circular A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities (updated Jan. 27, 2016), available at <https://www.whitehouse.gov/omb/information-for-agencies/circulars/>.

¹⁰ See, e.g., 47 CFR §§ 2.910, 2.950, 15.38.

¹¹ American National Standards Institute, Accredited Standards Committee C63 is a standards organization that is responsible for developing electromagnetic compatibility (EMC) measurement standards and testing procedures. ANSC C63's standards are published by the American National Standards Institute under the ANSI nomenclature. The Commission's rules have referenced various versions of ANSC C63-originated standards for more than a quarter century.

¹² The International Organization for Standardization (ISO) is an independent, non-governmental international organization that develops voluntary international standards. See <https://www.iso.org/home.html>. The International Electrotechnical Commission (IEC) develops international standards for all electrical, electronic, and related technologies. See <https://www.iec.ch>.

¹³ *Updating References to Standards Related to the Commission's Equipment Authorization Program; Modifying the Equipment Authorization Rules to Reflect the Updated Versions of the Currently Referenced ANSI C63.4 and*

(continued...)

III. DISCUSSION

5. Standards bodies periodically update existing standards or adopt new standards to reflect best practices in response to advancements in technologies and measurement capabilities. The Commission initiated this proceeding in response to such developments.¹⁵ Specifically, in the *NPRM*, we addressed two petitions filed by ANSC C63: one seeking to incorporate by reference into our rules a new standard pertaining to test site validation,¹⁶ and one proposing to incorporate by reference a newer version of a currently referenced standard that addresses a variety of compliance testing requirements.¹⁷ We also proposed to clarify the status of two standards on which OET previously sought comment.¹⁸

A. Incorporation by Reference

6. Incorporation by reference (IBR) is the process that federal agencies use when referring to materials published elsewhere to give those materials the same force and effect of law in the Code of Federal Regulations (CFR) as if the materials' text had actually been published in the *Federal Register*.¹⁹ By using IBR, we are able to give effect to technical instructions, testing methodologies, and other process documents that are developed and owned by standards development organizations. Referencing these documents in our rules in accordance with requirements established by the Office of the Federal Register substantially reduces the volume of material that we otherwise would have to publish in the *Federal Register* and the CFR. Once we have completed any necessary notice-and-comment rulemaking proceedings and determined based on the record that any standards we adopt are sound and appropriate, we need only update the references to the standards in our rules.

1. Availability of materials

7. As an initial matter, we address a comment regarding the IBR process in general as opposed to the merits of the particular standards under consideration. Specifically, Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC (Joint Commenters) express concerns related to “the public availability and accessibility of documents that are proposed to be incorporated by reference into law.”²⁰ Joint Commenters claim that the materials subject to IBR should be broadly available to members of the public on a free and unrestricted basis (e.g., in a format that can be easily copied without cost), that the standards documents were not made available in this manner during the rulemaking process, and that our failure to do so was “illegal and arbitrary.”²¹ Joint Commenters are concerned that the accessibility of the relevant materials is often limited by what it characterizes as onerous conditions put in place by the

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ISO/IEC 17025 Standards, ET Docket Nos. 21-363, 19-48, Notice of Proposed Rulemaking, FCC 22-3, at 3-4, para. 8 (Jan. 25, 2022) (*NPRM*).

¹⁴ *NPRM* at 4, para. 8.

¹⁵ See *NPRM*.

¹⁶ *NPRM* at 5-7, paras. 11-13.

¹⁷ *NPRM* at 7-8, paras. 14-16. We defer for later consideration proposals in the *NPRM* not addressed herein.

¹⁸ *NPRM* at 9-11, paras. 18-24; see also *Office of Engineering and Technology Seeks Comment on Modifying the Equipment Authorization Rules to Reflect the Updated Versions of the Currently Referenced ANSI C63.4 and ISO/IEC 17025 Standards*, Public Notice, ET Docket No. 19-48, 34 FCC Rcd 1904 (OET 2019) (*Standards Update Notice*).

¹⁹ Office of the Federal Register, *IBR Handbook 1* (July 2018), available at <https://www.archives.gov/files/federal-register/write/handbook/ibr.pdf>; see 5 U.S.C. § 552(a)(1) (providing that “matter reasonably available to the class of persons affected thereby is deemed published in the Federal Register when incorporated by reference therein with the approval of the Director of the Federal Register”).

²⁰ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 3.

²¹ *Id.* at 3-4.

associated private entities.²² It asks that we “restart” the rulemaking process with “everyone having free access and the right to copy” the standards under consideration.²³

8. We recognize that the benefit of using the IBR process to incorporate standards that are developed and hosted by professional standards development organizations into the rules – that we can “draw on the expertise and resources of private sector standard developers to serve the public interest”²⁴ – is typically accompanied with limitations on how those standards are accessed due to the standard developers’ intellectual property interests in those materials. For example, the National Archives and Records Administration, Office of the Federal Register (NARA OFR),²⁵ in its final rule addressing incorporation by reference, concluded that a requirement to make available, for free, all materials incorporated by reference into the CFR would “compromise the ability of regulators to rely on voluntary consensus standards, possibly requiring them to create their own standards, which is contrary to the [National Technology Transfer and Advancement Act of 1995] and the OMB Circular A-119.”²⁶ We therefore disagree with the sweeping nature of Joint Commenters’ claims. The requirements for availability as suggested by Joint Commenters would be inconsistent with established government-wide guidance and practice for IBR and would potentially burden test laboratories, manufacturers, and consumers if we were unable to recognize state-of-the-art technical standards adopted and frequently updated through the consensus-driven standards development process.

9. We further conclude that the information we provided about the standards we proposed to adopt, including the means by which individuals could inspect copies of those standards, was sufficient to satisfy the requirements for incorporation by reference as set forth in the Administrative Procedure Act (APA) and implemented by NARA OFR in that we made the information reasonably available to the class of persons affected thereby.²⁷ In the summary of the *NPRM* published in the Federal Register, the Commission provided sources through which interested persons could obtain copies of the relevant standards and stated that a copy of each standard was available for inspection at the FCC’s main office.²⁸ Each of the relevant standards has remained available throughout the rulemaking proceeding in the manner described in the *NPRM*. In addition, Commission staff further acted consistent with guidance from the Administrative Conference of the United States (ACUS) to “take steps to promote the availability of incorporated materials within the framework of existing law”²⁹ by communicating with the relevant standards bodies to encourage availability of materials in an online read-only format³⁰ and, prior

²² *Id.* at 9-10.

²³ *Id.* at 14.

²⁴ Administrative Conference of the United States, Administrative Conference Recommendation 2011-5 Incorporation by Reference at 1 (2011) <https://www.acus.gov/sites/default/files/Recommendation-2011-5-Incorporation-by-Reference.pdf>. (ACUS Recommendation 2011-5).

²⁵ Congress gave authority to the Director of the Federal Register to determine whether a proposed incorporation by reference serves the public interest. *See* 5 U.S.C. 552(a); 1 CFR pt. 51.

²⁶ 79 Fed. Reg. 66267, 66268 (Nov. 7, 2014). *See also*, U.S. Office of Management and Budget, Revised Circular No. A-119 (1998) <https://www.whitehouse.gov/wp-content/uploads/2017/11/Circular-119-1.pdf> (OMB Circular A-119) discussing “federal participation in the development and use of voluntary consensus standards and in conformity assessment activities.”

²⁷ 5 U.S.C. § 552(a).

²⁸ Updating References to Standards Related to the Commission’s Equipment Authorization Program, 87 Fed. Reg. 15180, 15186 (Mar. 17, 2022) (Proposed Rule).

²⁹ ACUS Recommendation 2011-5 at 3.

³⁰ Commission staff confirmed that two of the standards were available online in a read only format: ISO/IEC 17025:2017(E) and ISO/IEC 17011:2017. *See* American National Standards Institute, *IBR Standards Portal*, <https://ibr.ansi.org/Standards/iso6.aspx> (last visited Feb. 14, 2023).

to publication of the NPRM in the Federal Register, confirmed that each standard was available for purchase by any interested party.

10. In addressing the proposed rulemaking, Joint Commenters specifically address the terms by which interested parties may purchase copies of the standards. As an initial matter, we note there is nothing unusual about a direct purchase option being available as part of the IBR process.³¹ However, we disagree with the Joint Commenters' assertion that "[i]n order to comment on [the *NPRM*], we would have to each expend \$589" by purchasing copies of the standards.³² Direct purchase was only one of the means of obtaining information about the standards under consideration. In this case, at least two of these standards were available online in a read-only format without cost,³³ abstracts and information related to the standards are widely available without restriction,³⁴ and the Commission, per its longstanding practice, ensured that the materials were available for in-person inspection.³⁵ We are not aware of any party that actually desired to inspect the materials but was unable to do so because of difficulties in traveling to the specified inspection site. Moreover, none of the comments filed in the proceeding that were related to the technical merits of the proposed standards incorporations identified any impediments to finding and accessing the standards under consideration. Based on these facts, and the established policy, we conclude that the materials proposed to be incorporated by reference have been made reasonably available to the class of person affected, consistent with 5 U.S.C. § 552(a) and the requirements and procedures under 1 CFR part 51.³⁶ We therefore disagree with Joint Commenters' assertion that parties could not "see" or "have access to the text of the standards" such that they could not meaningfully participate in the rulemaking process.³⁷

11. We are also confident that interested parties will have sufficient opportunities to access the standards on an ongoing basis once we have incorporated them into our rules. The FCC will make a copy of the standards available for public inspection upon request, and NARA OFR makes legal record copies of all standards that have been incorporated by reference "available for public inspection and limited photo-copying."³⁸ In addition to continued opportunities to purchase copies through the standards development organizations and other online sources, we anticipate that all of the standards, once adopted, will be made available to the public through the on-line reading rooms that the standards bodies maintain. For example, ANSI maintains an "Incorporated by Reference Portal" at www.ibr.ansi.org that it describes as "a one-stop mechanism for access to standards that have been incorporated by reference in the U.S. Code of Federal Regulations (CFR)," and which provides access to these documents at no cost in "read

³¹ The Commission has acted in a manner "[c]onsistent with the National Science and Technology Council's acknowledgment that 'the text of standards and associated documents should be available to all interested parties on a reasonable basis, which may include monetary compensation where appropriate.'" ACUS Recommendation 2011-5 at 3 (quoting Subcommittee on Standards, National Science and Technology Council, Executive Office of the President, Federal Engagement in Standards Activities to Address National Priorities: Background and Proposed Recommendations 11 (Oct. 10, 2011)).

³² Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 4.

³³ ISO/IEC 17025:2017(E) and ISO/IEC 17011:2017. See American National Standards Institute, *IBR Standards Portal*, <https://ibr.ansi.org/Standards/iso6.aspx> (last visited Feb. 14, 2023).

³⁴ See Institute of Electrical and Electronics Engineers, *Xplore*, <https://ieeexplore.ieee.org/Xplore/home.jsp> (last visited Feb. 14, 2023).

³⁵ See Proposed Rule, 87 Fed. Reg at 15186.

³⁶ Our means of accessing the actual text of the standards was provided in addition to the statement of the substance of the proposed rule and description of the subjects and issues in the *NPRM*, which was provided consistent with 5 U.S.C. § 553(b)(3). See *NPRM*, Appendix A; see generally *NPRM*, "Discussion" section.

³⁷ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 8.

³⁸ National Archives Office of the Federal Register, *Code of Federal Regulations Incorporation by Reference*, <https://www.archives.gov/federal-register/cfr/ibr-locations.html> (last visited Feb. 14, 2023).

only” format for online reading.³⁹ Collectively, these resources are more than sufficient to permit interested parties to accomplish the objectives identified by the Joint Commenters, including use of the standards by people who fix and evaluate equipment and make new things for understanding how the devices work and identifying whether they are working properly.⁴⁰ While we recognize that each of these access mechanisms may have individual limitations (e.g., cost, travel for in-person inspection, limitations on how the materials may be downloaded, shared, or otherwise used) that would not exist if the standards were made available “on a public website without charge, and without limitation of use” as the Joint Commenters request,⁴¹ none of these limitations would prevent interested parties from accessing and using the standards we are adopting. For these reasons, we explicitly reject the Joint Commenters’ assertion that our actions will be inconsistent with established law and policy balancing the public interest in promoting the development of and reliance on voluntary standards against the need for public access to any such standards incorporated by reference by federal agencies.

2. Accessing Materials

12. The OFR has regulations concerning incorporation by reference.⁴² These regulations require that, for a final rule, agencies must discuss in the preamble to the final rule the way in which materials that the agency incorporates by reference are reasonably available to interested parties, and how interested parties can obtain the materials.⁴³ Additionally, the preamble to the final rule must summarize the material.⁴⁴

13. Sections 2.910 and 2.948 of the rules adopted herein incorporate by reference the following standard: “American National Standard Validation Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz” (ANSI C63.25.1-2018). The ANSI C63.25.1-2018 standard consolidates guidance from existing standards to provide test site validation procedures from 1 GHz to 18 GHz. Incorporation of this standard will provide an additional option for test site validation of radiated emission measurements from 1 GHz to 18 GHz, while continuing to provide for the validation option currently specified in our rules.⁴⁵ Interested persons may purchase a copy of ANSI C63.25.1 from the sources provided in 47 CFR 2.910. A copy of the standard may also be inspected at the FCC’s main office.

14. Sections 15.31 and 15.38 of the rules adopted herein incorporate by reference the following standard: “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices” (ANSI C63.10-2020). The ANSI C63.10-2020 standard is an update to a standard previously incorporated by reference within our rules and it addresses “the procedures for testing the compliance of a wide variety of unlicensed wireless transmitters.”⁴⁶ Interested persons may purchase a copy of ANSI C63.10-2020 from the sources provided in 47 CFR 2.910. A copy of the standard may also be inspected at the FCC’s main office.

15. Sections 2.910, 2.948, 2.949, 2.962, and 68.162 of the rules adopted herein incorporate by reference the following standard: “General requirements for the competence of testing and calibration laboratories” (ISO/IEC 17025:2017(E)). The ISO/IEC 17025:2017(E) standard is an update to the

³⁹ American National Standards Institute, *About the ANSI Incorporated by Reference (IBR) Portal*, <https://ibr.ansi.org/> (last visited Feb. 2, 2023).

⁴⁰ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 6-7.

⁴¹ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 12.

⁴² 1 CFR pt. 51.

⁴³ 1 CFR § 51.5(b)(2).

⁴⁴ 1 CFR § 51.5(b)(3).

⁴⁵ See paras. 17-18, *infra*.

⁴⁶ See para.21, *infra*.

standard currently incorporated by reference within our rules that replaces certain prescriptive requirements with performance-based requirements for test laboratory accreditation. Interested persons may purchase a copy of ISO/IEC 17025:2017(E) from the sources provided in 47 CFR 2.910 and 68.162.⁴⁷ A copy of the standard may also be inspected at the FCC's main office.

16. Sections 2.910 and 2.948 of the rules adopted herein incorporate by reference the following standard: "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation" (ANSI C63.4a-2017).⁴⁸ The ANSI C63.4a-2017 standard introduces modifications to the normalized site attenuation procedures for validating radiated test sites for use in the 30 MHz to 1 GHz frequency range. Interested persons may purchase a copy of ANSI C63.4a-2017 from the sources provided in 47 CFR 2.910.⁴⁹ A copy of the standard may also be inspected at the FCC's main office.

B. "American National Standard Validation Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz" (ANSI C63.25.1-2018)

17. In consideration of an ANSC C63 petition for rulemaking,⁵⁰ in the *NPRM*, the Commission proposed to incorporate by reference the standard titled "American National Standard Validation Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz" (ANSI C63.25.1-2018), into the test site validation requirements of section 2.948(d) of the Commission's rules.⁵¹ Under our current rules, measurement facilities that make radiated emission measurements from 30 MHz to 1 GHz must comply with the site validation requirements in ANSI C63.4-2014 (clause 5.4.4), and, for radiated emission measurements from 1 GHz to 40 GHz, the site validation requirements in ANSI C63.4-2014 (clause 5.5.1 a) 1))⁵² apply.⁵³ The Commission proposed to incorporate ANSI C63.25.1-2018 in order to provide an additional option for test site validation of radiated emission measurements from 1 GHz to 18 GHz.⁵⁴

18. As noted in the *NPRM*, the C63.25.1-2018 standard consolidates guidance from existing standards to provide test site validation procedures from 1 GHz to 18 GHz.⁵⁵ For example, the C63.25.1-

⁴⁷ See paras. 28-29, *infra*.

⁴⁸ The *NPRM* erroneously referred to ANSI C63.4a-2017 as "Addendum to the American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation." (emphasis added). The title has been corrected in this Order.

⁴⁹ See paras. 33-35, *infra*.

⁵⁰ Petition of the American National Standards Institute (ANSI), Accredited Standards Committee C63 Requesting adoption of ANSI C63.25.1-2018 into the Commission's Part 2 rules for EMC test site validation from 1 GHz – 18 GHz (filed Mar. 6, 2020) <https://www.fcc.gov/ecfs/filing/10306816406385> (C63.25.1 Petition). On March 30, 2021, ANSC C63 filed an Erratum correcting the caption as originally filed to properly reflect the 2018 adoption of the standard instead of 2019 as captioned in the original filing. Petition for Rulemaking - - Erratum, <https://ecfsapi.fcc.gov/file/1033097191908/c63.25%2C1%20erratum%20FCC.pdf>.

⁵¹ *NPRM* at 6, 15-16, para. 13, Appx. A (proposed §§ 2.910(c)(2), 2.948(d)).

⁵² The ANSI requirements are similar to the site validation criteria called out in CISPR (Comite International Special des Perturbations Radioelectriques (International Special Committee on Radio Interference)) 16-1-4:2010-04. CISPR 16-1-4:2010-04: "Specification for radio disturbance and immunity measuring apparatus and methods—Part 1-4: Radio disturbance and immunity measuring apparatus—Antennas and test sites for radiated disturbance measurements," Edition 3.0, 2010-04 (CISPR 16-1). CISPR is a voluntary standards-making organization under the auspices of the International Electrotechnical Commission (IEC). CISPR adopts recommendations for limits and measurement methods to control radio interference generated by computers and various other devices.

⁵³ 47 CFR § 2.948(d).

⁵⁴ *NPRM* at 6-7, 16, para. 13, Appx. A (proposed § 2.948(d)).

⁵⁵ *NPRM* at 6, para. 12.

2018 standard includes a CISPR 16 method known as the site voltage standing wave ratio (SVSWR) approach to validate test sites for frequencies above 1 GHz, which measures responses between antennas while varying their distances. This method is included in the standard currently referenced in the Commission's rules, ANSI C63.4-2014 (clause 5.5.1 a) 1)).⁵⁶ Additionally, C63.25.1-2018 introduces the option of using a new effective test validation method called time domain site validation (TDSV), the benefits of which are cited by ANSC C63 in the C63.25.1 Petition.⁵⁷ The Commission tentatively concluded that incorporating C63.25.1-2018 in our rules by reference would have the benefit of providing the availability of TDSV as an additional option, while continuing to allow use of the procedures currently described in section 2.948(d) of the Commission's rules for test site validation of radiated emission measurements from 1 GHz to 18 GHz.⁵⁸ While the Commission tentatively concluded that the entire standard should be incorporated by reference, it also asked whether any procedures or techniques included in ANSI C63.25.1-2018 would not be appropriate for demonstrating compliance with the Commission's equipment authorization rules.⁵⁹ Finally, because the Commission proposed to incorporate ANSI C63.25.1-2018 as an option to an already existing requirement, it tentatively concluded that there would be no need to designate a transition period.⁶⁰

19. Several commenters expressed support for adopting ANSI C63.25.1-2018 in full.⁶¹ Information Technology Industry Council, while suggesting that C63.25.1-2018 be applied immediately, also suggests that we continue to accept measurements that reference C63.4-2014 for two years.⁶² Cisco Systems Inc. (Cisco) supports adopting the proposed references to ANSI C63.25.1-2018; however, it asks the Commission to make some specific clarifications regarding the application of the standard.⁶³ Specifically, Cisco encourages the Commission to clarify that site voltage standing wave ratio (SVSWR) and time domain site validation (TDSV) are the only acceptable methods of site verification under ANSI C63.25.1-2018.⁶⁴ Additionally, Cisco states that as both the SVSWR and TDSV validation methods require some calibration, ANSI C63.5-2017 does not appear to add any value as a reference.⁶⁵ Thus, Cisco suggests that the FCC simply state that all appropriate devices (antennas, positioners, etc.) must be validated in a manner that ensures they satisfy the necessary characteristics defined by each method.⁶⁶

20. We believe, and the record does not suggest otherwise, that the Commission was correct to tentatively conclude that incorporating ANSI C63.25.1-2018 among the procedures currently described in section 2.948(d) of the Commission's rules would serve the public interest by providing useful options

⁵⁶ See para. 8, *infra*.

⁵⁷ *NPRM* at 6, para. 13; C63.25.1 Petition at 3.

⁵⁸ *NPRM* at 6-7, para. 13.

⁵⁹ The Commission also asked whether the standard would be appropriate for determining compliance with any other rule sections. *NPRM* at 7, para. 13.

⁶⁰ *Id.*

⁶¹ Comments of American Association for Laboratory Accreditation (A2LA); American National Standards Committee C63 (ANSC C63); Information Technology Industry Council (ITI).

⁶² Information Technology Industry Council (ITI) Comments at 1.

⁶³ Cisco Comments at 2.

⁶⁴ Cisco notes that ANSI C63.25.1-2018 provides that "test sites 'used in the frequency range 1 GHz to 18 GHz *can* be verified using one of the two methods listed in a) [CISPR 16/SVSWR] and b) [TDSV].'" *Id.* (emphasis added). Cisco contends that the use of the phrase "can be verified" could be interpreted to allow the use of other test-site verification methods and "encourage[s] the Commission to clarify that the specified methods are the only acceptable means of site verification." Cisco Comments at 2.

⁶⁵ *Id.*

⁶⁶ *Id.*

and potential benefits for test site validation of radiated emission measurements from 1 GHz to 18 GHz. As the Commission noted when discussing the *C63.25.1 Petition*, while the TDSV and SVSWR methods are similar in that both measure responses between antennas, TDSV does not require varying the distance between antennas, providing a reduction in the sensitivity of test results caused by small test setup changes at higher frequencies where the associated wavelengths are relatively short.⁶⁷ This feature and other aspects of the TDSV method introduce process efficiency improvements that could result in less time to perform the validation. Accordingly, we are incorporating the complete ANSI C63.25.1-2018 standard into section 2.948(d) of our rules.⁶⁸ We clarify that incorporating ANSI C63.25.1-2018 into section 2.948(d), as amended herein, provides two options of test site validation procedures for radiated emission measurements from 1 GHz to 18 GHz: SVSWR and TDSV.⁶⁹ We are not adopting Cisco's suggestion that we remove references to ANSI C63.5-2017 from the version of the C63.25.1-2018 standard incorporated into our rules. References to the use of ANSI C63.5-2017 for the calibration of measurement and reference antennas are prevalent among the ANSI standards already incorporated by reference in the Commission's rules.⁷⁰ Finally, we see no need to adopt a transition period for the use of ANSI C63.25.1-2018 as it includes the test site validation option provided by the previous ANSI C63.4-2014.⁷¹

C. "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices" (ANSI C63.10-2020)

21. In the *NPRM*, in response to a petition filed by ANSC C63, the Commission proposed to incorporate by reference ANSI C63.10-2020, "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices," into our rules to replace existing references to ANSI C63.10-2013.⁷² The ANSI C63.10-2020 standard was approved by ANSI on September 10, 2020, and updates the measurement procedures set forth in ANSI C63.10-2013, which is currently referenced in sections 2.910, 2.950, 15.31, and 15.38 of the Commission's rules.⁷³ The standard addresses "the procedures for testing the compliance of a wide variety of unlicensed wireless transmitters . . . including, but not limited to, remote control and security unlicensed wireless devices, frequency hopping and direct sequence spread spectrum devices, anti-pilferage devices, cordless telephones, medical unlicensed wireless devices, Unlicensed National Information Infrastructure (U-NII) devices, intrusion detectors, unlicensed wireless

⁶⁷ "Overall, ANSC C63 asserts that TDSV improves measurement repeatability, provides additional information on the test site, and 'reduces the sensitivity of the test results caused by small test setup changes due to statistical post processing incorporated in the TDSV method,' while requiring less time to perform the validation." *NPRM* at 6, para. 12.

⁶⁸ See Appx. A, 47 CFR § 2.948(d).

⁶⁹ As Cisco notes, SVSWR and TDSV are the only acceptable methods of site verification under ANSI C63.25.1-2018. In this regard, we note that section 2.948(d), proposed in the *NPRM*, included references to both ANSI C63.4-2014 and ANSI C63.25.1-2018. See *NPRM*, Appx. A, 47 CFR § 2.948(d). Upon further consideration, as ANSI C63.25.1-2018 includes the SVSWR method of ANSI C63.4-2014, the reference to ANSI C63.4-2014 is no longer required in the rule and it will be removed. See Appx. A, 47 CFR § 2.948(d).

⁷⁰ *E.g.*, ANSI C63.4-2014 and C63.10-2013; see 47 CFR § 2.910. Such references also appear in OET Lab guidance. For example, KDB 822428, published on August 11, 2017, specifies that ANSI C63.5-2017 be used to calibrate antennas for use in performing radiated emission measurements and normalized site attenuation (NSA) measurements.

⁷¹ Thus, we are not adopting ITI's suggestion to only accept measurements made in accordance with C63.4-2014 for two more years. See also *supra* n.55.

⁷² *NPRM* at 8, para. 16. Petition of the American National Standards Institute, Accredited Standards Committee, C63 Requesting adoption of ANSI C63.10-2020 into the Parts 2 and 15 Rules for Compliance Testing Of Unlicensed Radio Devices (filed Feb. 4, 2021), <https://www.fcc.gov/ecfs/filing/10204284915782> (*C63.10 Petition*).

⁷³ 47 CFR §§ 2.910(c)(2), 2.950(g), 15.31(a)(3), 15.38(g)(3).

devices operating on frequencies below 30 MHz, automatic vehicle identification systems, and other unlicensed wireless devices authorized by a radio regulatory authority.”⁷⁴

22. The Commission tentatively concluded that it would be appropriate to simply replace the existing standard references with references to the new standard, subject to a two-year or other appropriate transition period.⁷⁵ The Commission asked whether any procedures or techniques included in the standard would not be appropriate for use in the context of demonstrating compliance with the Commission’s equipment authorization rules.⁷⁶ Similarly, the Commission also asked which, if any, of the Commission rules that do not currently reference ANSI C63.10-2013 should reference ANSI C63.10-2020.⁷⁷ Finally, the Commission asked whether a transition period during which either version of ANSI C63.10 could be used would be appropriate.⁷⁸

23. Several commentors support adopting the updated standard. National Technical Systems states that “it is assumed that if C63.4a is not adopted then adoption of ANSI C63.10-2020 would exclude the normative reference to ANSI C63.4a.”⁷⁹ ITI supports the adoption of the standard in full, while suggesting that C63.10-2020 be applied immediately while accepting reference to C63.10-2013 for up to two years in order to “allow test labs and manufacturers adequate time to procure and complete necessary actions.”⁸⁰ It also notes that products that were assessed and released in accordance with the previous standard should not be required to be assessed to C63.10-2020 unless the product changes or needs an updated certification.⁸¹ Cisco, A2LA, and ANSI C63 support adopting the new standard in full and offer no further comment.⁸²

24. The new edition of ANSI C63.10-2020 not only provides updates to the methods in the standard but also adds new methods. We find that it is necessary at this time to update sections 2.910, 2.950, 15.31(a)(3), and 15.38(g)(3) to incorporate by reference ANSI C63.10-2020. This update to our rules will address advancements in compliance testing methods that have accompanied the growth of wireless devices and ensure the continued integrity of the relevant measurement data. With regard to the normative reference to ANSI C63.4a-2017, we do not find it necessary to exclude it. We note that C63.10-2020 refers to ANSI C63.4a-2017 for 0.3 GHz to 1 GHz (NSA) test site validation procedures in lieu of the NSA validation methods contained in ANSI C63.4-2014. The C63.10-2020 standard includes ANSI C63.4a-2017 in its list of normative references, in Clause 5.2 when specifying an appropriate radiated test site for performing the compliance measurements, and in Clause 6.5.2 when specifying permissible distances between antennas when performing radiated tests. The C63.10-2020 standard is a North American standard rather than a U.S. standard and thus accommodates both Canadian and U.S. regulations. Canada has already recognized ANSI C63.4a-2017 in its regulations but, prior to this proceeding, the U.S. has not. The reference to ANSI C63.4a-2017 in the standard contains a footnote reference to 47 CFR 15.31 in recognition that ANSI C63.4a-2017 may not be adopted by the U.S. regulators. To accommodate the transition to this new standard, and as proposed in the *NPRM* and

⁷⁴ Daniel Hoolihan, *The American National Standards Committee on EMC – C63® - An Update on Recent Standards Development Activities* (June 30, 2021), <https://incompliancemag.com/article/the-american-national-standards-committee-on-emc-c63/>.

⁷⁵ *NPRM* at 8, para. 16.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ David W. Bare Comments at 1 (rec. Feb. 17, 2022) (filed on behalf of National Technical Systems) Comments; *see also infra* para. 24.

⁸⁰ ITI Comments at 2.

⁸¹ ITI Comments at 2.

⁸² Cisco Comments at 3; ANSC C63 Comments at 2; A2LA Comments at 1.

supported by ITI,⁸³ we will permit the use of either ANSI C63.10-2013 or ANSI C63.10-2020 for a period of two years following the effective date of the rules adopted in this Order. The record supports this time period as sufficiently reasonable for the affected entities to procure the necessary equipment and implement the required changes.

D. Other Standards

25. In addition to addressing new specific incorporation by reference proposals, the Commission in the *NPRM* made tentative proposals and sought to refresh the record obtained in response to the *Standards Update Notice*⁸⁴ that was previously issued by OET. Further, the Commission made proposals intended to "clean up" the rules by addressing several obsolete references and asked whether any additional similar rules changes would be appropriate.⁸⁵

1. "General requirements for the competence of testing and calibration laboratories" (ISO/IEC 17025:2017(E))

26. Measurement data intended to demonstrate compliance with certain Commission requirements must be obtained from an accredited testing laboratory.⁸⁶ Currently, sections 2.910, 2.948, 2.949, 2.962, and 68.162 incorporate by reference ISO/IEC 17025:2005(E) for the requirements related to test laboratory accreditation.⁸⁷ In November 2017, ISO/IEC published ISO/IEC 17025:2017(E)—a new version of the test laboratory accreditation standard currently referenced in our rules.⁸⁸ In the *Standards Update Notice*, OET proposed to update the Commission's rules by replacing references to ISO/IEC 17025:2005(E) with references to ISO/IEC 17025:2017(E).⁸⁹

27. In the *NPRM*, the Commission proposed to incorporate by reference into our rules ISO/IEC 17025:2017(E) in its entirety, including Clause 8.1 - Option A and Option B.⁹⁰ Options A and B were specifically addressed in light of comments made in response to the *Standards Update Notice*. The Commission tentatively concluded that the flexibility of having both options merits that both options should be included when incorporating ISO/IEC 17025:2017(E) into our rules.⁹¹ Additionally, in the *NPRM*, the Commission discussed issues related to the passage of time since the release of the *Standards*

⁸³ We note that, as is our general practice, the adoption of new rules does not require re-authorization of devices that have previously received an equipment authorization.

⁸⁴ See *Standards Update Notice*, 34 FCC Rcd 1904. In that Public Notice, OET sought comment on updating the Commission's rules to reflect recent changes to two standards: ISO/IEC 17025:2017(E), "General requirements for the competence of testing and calibration laboratories," and ANSI C63.4a-2017, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation." *Id.* at 1904.

⁸⁵ *NPRM* at 11-12, paras. 25-26.

⁸⁶ 47 CFR § 2.948(a). Laboratory accreditation bodies assess a variety of laboratory aspects, including the technical competence of staff; the validity and appropriateness of test methods; traceability of measurements and calibration to national standards; suitability, calibration, and maintenance of the testing environment; sampling, handling, and transportation of test items; and quality assurance of test and calibration data.

⁸⁷ 47 CFR §§ 2.910(d)(2), 2.948(e), 2.949(b)(2), 2.962(c)(3)-(4), (d)(1), 68.162(c)(3)-(4), (d)(1), (i)(1)(i).

⁸⁸ *Standards Update Notice*, 34 FCC Rcd at 1905 & n.8 (citing *ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories*, ISO (2017), available at https://www.ukas.com/download/brochures/ISO-17025-Brochure_EN_FINAL.pdf). In addition to adding a definition of "laboratory," the new version replaces certain prescriptive requirements with performance-based requirements and allows for greater flexibility in satisfying the standard's requirements for processes, procedures, documented information, and organizational responsibilities. *Id.*

⁸⁹ *Standards Update Notice*, 34 FCC Rcd at 1905-06.

⁹⁰ See *NPRM* at 9-10, paras. 20-21.

⁹¹ *NPRM* at 10, para. 21.

Update Notice, and, noting the two year re-accreditation process, it tentatively proposed a two-year transition to the new standard instead of the originally proposed three-year period.⁹²

28. A2LA supports the updated standard and claims that it “provides a greater emphasis on impartiality, transparency, and the complaint processes;” takes a process approach and is outcome-focused;” “is less prescriptive and less procedure-burdened;” and “provides laboratories with greater flexibility as the standard is now underpinned with a risk-based approach to the processes.”⁹³ A2LA began transitioning its organization to the new standard in November 2017 in order to meet the International Laboratory Accreditation Cooperation mandate requiring completion of the transition by June 2021.⁹⁴ ITI, ANSC C63 and Cisco all support adopting the standard and using Options A and B for lab accreditation under ISO/IEC 17025:2017(E).⁹⁵ Additionally, Cisco welcomes any transition period up to, and including, the two-year period proposed by the Commission in the *NPRM*.⁹⁶

29. No party opposed our proposal, and for the reasons stated in the *NPRM* and as supported by the record, we continue to believe that adoption of the updated standard is in the public interest, and will provide greater transparency, procedural efficiency, and flexibility. We therefore incorporate by reference ISO/IEC 17025:2017(E) into sections 2.910, 2.948, 2.949, 2.950, 2.962, and 68.162 of the Commission’s rules.⁹⁷ To accommodate the transition to this new standard, as proposed in the *NPRM*, we will permit the use of either ISO/IEC 17025:2005(E) or ISO/IEC 17025:2017(E) for a period of two years following the effective date of the rules adopted in this Order. While both ISO/IEC 17025:2005(E) and ISO/IEC 17025:2017(E) were considered valid during the transition period in effect at the time of the Standards Update PN, accreditations to ISO/IEC 17025:2005(E) became invalid after June 1, 2021. In the Standards Update PN OET proposed to adopt a three-year transition period for use of the proposed updated standard. In consideration of the time that has passed since publication of the Standards Update PN, combined with the facts that our rules require test laboratories to complete the accreditation process every two years and that the prior standard has since become invalid within the standards body, we provide a two-year transition period for compliance with ISO/IEC 17025:2017(E).

2. “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation” (ANSI C63.4a-2017)

30. Sections 2.910, 2.948, 2.950, 15.31, 15.35, and 15.38 of our rules reference ANSI 63.4-2014, “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,” as an electromagnetic compatibility (EMC) measurement standard for unintentional radiators.⁹⁸ In late 2017, ANSC C63 published ANSI C63.4a-2017, “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation” (ANSI C63.4a-2017).⁹⁹ In the *Standards Update Notice*, OET sought comment on incorporating by reference ANSI C63.4a-2017 in the appropriate rules.¹⁰⁰ Although

⁹² *NPRM* at 10, para. 22.

⁹³ A2LA Comments at 1.

⁹⁴ A2LA Comments at 1.

⁹⁵ Cisco Comments at 3; ANSC C63 Comments at 2; ITI Comments at 2.

⁹⁶ Cisco Comments at 3.

⁹⁷ 47 CFR §§ 2.910(c)(3), 2.948(e), 2.949(b)(2), 2.950(a), 2.962(c)(3)-(4), (d)(1), 68.162(c)(3)-(4), (d)(1), (i)(1)(i).

⁹⁸ 47 CFR §§ 2.910, 2.948, 2.950, 15.31, 15.35, 15.38.

⁹⁹ *Standards Update Notice*, 34 FCC Rcd at 1904-05.

¹⁰⁰ *Id.*

some commenters supported incorporation of the amended standard,¹⁰¹ several negative responses were received in this regard.¹⁰² In the *NPRM*, the Commission considered the comments filed pursuant to the *Standards Update Notice* and tentatively concluded that ANSI C63.4-2014 continues to sufficiently address current needs and that incorporation by reference of ANSI C63.4a-2017 into our rules was not warranted at that time.¹⁰³

31. Many commenters in this proceeding support the tentative conclusion made by the Commission in the *NPRM* that ANSI C63.4-2014 continues to sufficiently address current needs and that incorporation by reference of ANSI C63.4a-2017 into our rules is not warranted at this time.¹⁰⁴ In its reply comments, ANSC C63 supports that tentative conclusion but notes that a reference to ANSI C63.4a-2017 in the Commission's rules should be optional and not a requirement because it would "allow labs to meet both Canadian and U.S. requirements with a single site validation test."¹⁰⁵

32. After further consideration of the information on the record, including the comments from ET Docket No. 19-48, we affirm the Commission's tentative determination that ANSI C63.4-2014 continues to sufficiently address current needs and continue to retain the incorporation by reference into our rules of ANSI C63.4-2014. However, we recognize that ANSI C63.4a-2017 introduced modifications to the normalized site attenuation procedures for validating radiated test sites for use in the 30 MHz to 1 GHz frequency range. Some of these modifications involve a new acceptable test distance (five meters) and an expanded test volume to accommodate devices with heights that exceed two meters. As noted in the *NPRM*, several parties objected to making this a mandatory requirement because of cost concerns over the potential need to redesign and retrofit existing test facilities. However, we also recognize that in some cases these modifications may be necessary to accommodate testing of larger devices. In addition, Innovation, Science and Economic Development Canada (ISED)—a department of the Government of Canada—has adopted the amended standard.¹⁰⁶ We also affirm our Office of Engineering and Technology's acceptance of the use of this standard as an alternative pursuant to *KDB 414788 D01 Radiated Test Site v01r01*.¹⁰⁷ Therefore, to accommodate testing of larger devices (greater than two meters in height) and to allow for harmonization with ISED requirements, we adopt ANSI C63.4a-2017 through incorporation by reference. By retaining the existing standards and also adopting the modified standard, we provide two options for an electromagnetic compatibility (EMC) measurement standard for unintentional radiators to accommodate the improvements where they are most needed and retain the status quo for testing that would not benefit from the updates.

¹⁰¹ *E.g.*, Consumer Technology Comments and Sony Electronics Comments in ET Docket No. 19-148.

¹⁰² The comments generally cited costs associated with the procedure and stating that there were no problems with existing procedures that warrant adopting an alternative procedure. *See* ET Docket No. 19-48, International Business Machines Corporation Comments at 3-4 and Teradata Corporation Comments at 2. Further, it is our understanding that ANSC C63 has made substantial progress toward addressing these and other controversial issues in a pending modification. *See*, "Status of C63® Standards Date: July 23, 2021," http://www.c63.org/documents/misc/matrix/c63_standards.htm#C63_4.

¹⁰³ *NPRM* at 11, para. 24.

¹⁰⁴ *See* ANSC C63 Reply Comments at 3, Cisco Comments at 1, ITI Comments at 2.

¹⁰⁵ ANSC C63 Reply Comments at 3.

¹⁰⁶ Government of Canada, *Normative Test Standards and Acceptable Alternate Procedures*, <https://ised-isde.canada.ca/site/certification-engineering-bureau/en/wireless-program/normative-test-standards-and-acceptable-alternate-procedures>, (last visited Feb. 14, 2023).

¹⁰⁷ FCC Office of Engineering and Technology Laboratory Division, *Test Sites for Radiated Emission Measurements* (July 12, 2018), <https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?switch=P&id=20539>.

3. Additional Updates

33. In the *NPRM*, the Commission noted that several part 2 rules incorporate references that have become outdated as a result of prior updates to standards that were phased in over specific transition periods — once the newer standards became the only valid procedure for compliance with the Commission’s rules, the prior references became irrelevant.¹⁰⁸ Specifically, the Commission proposed to delete from section 2.910 of the Commission’s rules references to: ISO/IEC Guide 58:1993(E), “Calibration and testing laboratory accreditation systems—General requirements for operation and recognition,” First Edition 1993; ISO/IEC Guide 61:1996(E), “General requirements for assessment and accreditation of certification/registration bodies,” First Edition 1996; and ISO/IEC Guide 65:1996(E), “General requirements for bodies operating product certification systems.”¹⁰⁹ Additionally, we proposed to delete the related transition periods provided in section 2.950 and make any necessary related administrative rule changes.¹¹⁰ The Commission also asked whether there were additional conforming or administrative updates to our rules and if any other rule modifications were needed, including updating other standards currently referenced in the rules or incorporating by reference additional standards not currently referenced in the rules.¹¹¹

34. In its comments, ITI notes that sections 15.38(b) and 15.109(g) still reference CISPR 22 and requested that these references be updated to the latest edition of CISPR 32.¹¹² ITI also recommends that a specific statement permitting grandfathering would benefit the industry, avoid confusion, and facilitate compliance.¹¹³ Cisco supports these additional updates.¹¹⁴ Additionally, ANSC C63 also points out that “the proposed amendment to Rule 2.910 references CISPR 16-1-4:2010-04, however, that version of the standard is out of date” and the rule “should reference the current version of the standard which is CISPR 16-1-4 2019+AMD:2020.”¹¹⁵

35. Absent any opposition in the record, we adopt the Commission’s proposals to delete references to: ISO/IEC Guide 58:1993(E), First Edition 1993; ISO/IEC Guide 61:1996(E), First Edition 1996; and ISO/IEC Guide 65:1996(E) from section 2.910 of the Commission’s rules. Additionally, we adopt the proposal to delete the related transition periods provided in section 2.950. The commenter recommendations to update additional references were not contemplated in the Commission’s proposal, and we therefore take no action here.

IV. PROCEDURAL MATTERS

36. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA),¹¹⁶ requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”¹¹⁷ Accordingly, we have prepared a Final Regulatory Flexibility

¹⁰⁸ *NPRM* at 11, para. 25 (citing 47 CFR §§ 2.910, 2.950).

¹⁰⁹ *Id.* (citing 47 CFR § 2.910).

¹¹⁰ *Id.* (citing 47 CFR § 2.950).

¹¹¹ *NPRM* at 12, para. 26.

¹¹² ITI Comments at 3.

¹¹³ ITI Comments at 3.

¹¹⁴ Cisco Comments at 4.

¹¹⁵ ANSC C63 Reply at 2; *see also* Dennis Swanson Comments at 1.

¹¹⁶ *See* 5 U.S.C. § 604. The RFA, 5 U.S.C. §§ 601-12, was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

¹¹⁷ 5 U.S.C. § 605(b).

Analysis (FRFA) concerning the possible impact of the rule changes and/or policy contained in this Report and Order on small entities. The FRFA is set forth in Appendix B.

37. *Paperwork Reduction Act.* This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law No. 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4).

38. *Congressional Review Act.* The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule is non-major under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this Report & Order, etc. to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

39. *Further Information.* For further information, contact Jamie Coleman of the Office of Engineering and Technology, at 202-418-2705 or Jamie.Coleman@fcc.gov.

V. ORDERING CLAUSES

40. Accordingly, IT IS ORDERED, pursuant to the authority found in sections 4(i), 301, 302, and 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 301, 302a, 303, that this Report and Order IS HEREBY ADOPTED.

41. IT IS FURTHER ORDERED that the amendments of parts 2, 15, 68, and 73 of the Commission's rules as set forth in Appendix A ARE ADOPTED, effective 30 days after publication in the Federal Register.

42. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

43. IT IS FURTHER ORDERED that the Office of the Managing Director, Performance Evaluation and Records Management, SHALL SEND a copy of this Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

FINAL RULES

For the reasons set forth in the preamble, the Federal Communications Commission amends part 2, part 15, part 68, and part 73 of Title 47 of the Code of Federal Regulations as follows:

Part 2 – Frequency Allocations and Radio Treaty Matters; General Rules and Regulations

1. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Revise § 2.910 to read as follows:

§ 2.910 Incorporation by Reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Federal Communications Commission (FCC) must publish a document in the Federal Register and the material must be available to the public. All approved incorporation by reference (IBR) material is available for inspection at the FCC and at the National Archives and Records Administration (NARA). Contact the FCC at the address indicated in 47 CFR 0.401(a), phone: (202) 418–0270. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following source(s):

(a) International Electrotechnical Commission (IEC), IEC Central Office, 3, rue de Varembe, CH–1211 Geneva 20, Switzerland; email: inmail@iec.ch; website: www.iec.ch.

(1) CISPR 16-1-4:2010-04, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-4: Radio disturbance and immunity measuring apparatus — Antennas and test sites for radiated disturbance measurements*, Edition 3.0, 2010-04; IBR approved for § 2.948(d).

(2) [Reserved]

(b) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero Drive, Ann Arbor, MI 48108; phone: (800) 678-4333; email: stds-info@ieee.org; website: www.ieee.org/.

(1) ANSI C63.4-2014, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*, ANSI approved June 13, 2014, Sections 5.4.4 (“Radiated emission test facilities – Site validation”) through 5.5 (“Radiated emission test facilities for frequencies above 1 GHz (1 GHz to 40 GHz)”), copyright 2014; IBR approved for § 2.948(d).

(2) ANSI C63.4a-2017, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation*, ANSI approved September 15, 2017; IBR approved for § 2.948(d).

(3) ANSI C63.25.1–2018, *American National Standard Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz*, ANSI approved December 17, 2018; IBR approved for § 2.948(d).

(4) ANSI C63.26–2015, *American National Standard of Procedures for Compliance Testing of Transmitters Used in Licensed Radio Services*, ANSI approved December 11, 2015; IBR approved for § 2.1041(b).

(c) International Organization for Standardization (ISO), 1, Ch. de Blandonnet 8, CP 401, CH-1214 Vernier, Geneva, Switzerland; phone: + 41 22 749 01 11; fax: + 41 22 749 09 47; email: central@iso.org; website: www.iso.org.

(1) ISO/IEC 17011:2004(E), *Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies*, First Edition, 2004-09-01; IBR approved for §§ 2.948(e); 2.949(b); 2.960(c).

(2) ISO/IEC 17025:2005(E), *General requirements for the competence of testing and calibration laboratories*, Second Edition, 2005-05-15; IBR approved for §§ 2.948(e); 2.949(b); 2.950(a); 2.962(c) and (d).

(3) ISO/IEC 17025:2017(E), *General requirements for the competence of testing and calibration laboratories*, Third Edition, November 2017; IBR approved for §§ 2.948(e); 2.949(b); 2.950(a); 2.962(c) and (d).

(4) ISO/IEC 17065:2012(E), *Conformity assessment — Requirements for bodies certifying products, processes and services*, First Edition, 2012-09-15; IBR approved for §§ 2.960(b); 2.962(b), (c), (d), (f), and (g).

Note 1 to § 2.910: The standards listed in paragraphs (b) and (c) of this section are also available from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone (212) 642-4980; email info@ansi.org; website: <https://webstore.ansi.org/>.

3. Amend § 2.948 by revising paragraph (d) to read as follows:

§ 2.948 Measurement facilities.

* * * * *

(d) When the measurement method used requires the testing of radiated emissions on a validated test site, the site attenuation must comply with either: the requirements of ANSI C63.4a-2017 (incorporated by reference, see § 2.910) or the requirements of sections 5.4.4 through 5.5 of ANSI C63.4-2014 (incorporated by reference, see § 2.910).

(1) Measurement facilities used to make radiated emission measurements from 30 MHz to 1 GHz must comply with the site validation requirements in either ANSI C63.4a-2017 or ANSI C63.4-2014 (clause 5.4.4);

(2) Measurement facilities used to make radiated emission measurements from 1 GHz to 18 GHz must comply with the site validation requirement of ANSI C63.25.1-2018 (incorporated by reference, see § 2.910);

(3) Measurement facilities used to make radiated emission measurements from 18 GHz to 40 GHz must comply with the site validation requirement of ANSI C63.4-2014 (clause 5.5.1 a) 1)), such that the site validation criteria called out in CISPR 16-1-4:2010-04 (incorporated by reference, see § 2.910) is met.

(4) Test site revalidation must occur on an interval not to exceed three years.

* * * * *

4. Revise § 2.950 to read as follows:

§ 2.950 Transition periods.

(a) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], a prospective or accredited testing laboratory or telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17025:2005(E) (incorporated by reference, see § 2.910) or ISO/IEC 17025:2017(E) (incorporated by reference, see § 2.910). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], a prospective or accredited testing laboratory

or telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17025:2017(E) (incorporated by reference, see § 2.910).

(b) All radio frequency devices that were authorized under the verification or Declaration of Conformity procedures prior to November 2, 2017, must continue to meet all requirements associated with the applicable procedure that were in effect immediately prior to November 2, 2017. If any changes are made to such devices after November 2, 2018, the requirements associated with the Supplier's Declaration of Conformity apply.

Part 15 – Radio Frequency Devices

5. The authority citation for part 15 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, 304, 307, 336, 544a, and 549.

6. Amend § 15.31 by revising paragraph (a)(3) to read as follows:

§ 15.31 Measurement standards.

(a) * * *

* * * * *

(3) Other intentional radiators must be measured for compliance using the following procedure: ANSI C63.10-2020 (incorporated by reference, see § 15.38).

* * * * *

7. Amend § 15.37 by adding paragraph (s) to read as follows

§ 15.37 Transition provisions for compliance with this part.

* * * * *

(s) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], measurements for intentional radiators subject to § 15.31(a)(3) must be made using the procedures in ANSI C63.10–2013 or ANSI C63.10–2020 (incorporated by reference, see § 15.38). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], measurements for intentional radiators subject to § 15.31(a)(3) must be made using the procedures in ANSI C63.10–2020 (incorporated by reference, see § 15.38).

8. Revise § 15.38 to read as follows:

§ 15.38 Incorporation by Reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Federal Communications Commission (FCC) must publish a document in the Federal Register and the material must be available to the public. All approved incorporation by reference (IBR) material is available for inspection at the FCC and at the National Archives and Records Administration (NARA). Contact the FCC at the address indicated in 47 CFR 0.401(a), phone: (202) 418–0270. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following source(s): (a) American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone: (212) 642–4980; email info@ansi.org; website: <https://webstore.ansi.org/>.

(1) ANSI C63.17–2013, American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices, approved August 12, 2013; IBR approved for § 15.31.

(2) Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, Information Technology Equipment-Radio Disturbance Characteristics-Limits and Methods of Measurement, 1997; IBR approved for § 15.09.

(b) Cable Television Laboratories, Inc., 858 Coal Creek Circle, Louisville, Colorado, 80027; phone: (303) 661-9100; website: www.cablelabs.com/.

(1) M-UDCP-PICS-I04-080225, Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS, February 25, 2008; IBR approved for § 15.123(c).

(2) TP-ATP-M-UDCP-I05-20080304, Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan, March 4, 2008; IBR approved for § 15.123(c).

(c) Consumer Technology Association (formerly Consumer Electronics Association), 1919 S. Eads St., Arlington; VA 22202; phone: (703) 907-7634; email: CTA@CTA.tech; website: www.cta.tech/.

(1) CEA-542-B, CEA Standard: Cable Television Channel Identification Plan, July 2003; IBR approved for § 15.118.

(2) CEA-766-A, U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65-A Program and System Information Protocol (PSIP), April 2001; IBR approved for § 15.120.

(3) EIA-608, Recommended Practice for Line 21 Data Service, 1994; IBR approved for § 15.120.

(4) EIA-744, Transport of Content Advisory Information Using Extended Data Service (XDS), 1997; IBR approved for § 15.120.

(5) Uni-Dir-PICS-I01-030903, Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma, September 3, 2003; IBR approved for § 15.123(c).

(6) Uni-Dir-ATP-I02-040225, Uni-Directional Receiving Device, Acceptance Test Plan, February 25, 2004; IBR approved for § 15.123(c).

(d) European Telecommunications Standards Institute, 650 Route des Lucioles, F-06921 Sophia Antipolis Cedex, France; website: www.etsi.org/.

(1) ETSI EN 300 422-1 V1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement, Copyright 2011; IBR approved for § 15.236(g).

(2) [Reserved]

(e) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero Drive, Ann Arbor, MI 48108; phone: (800) 678-4333; email: stds-info@ieee.org; website: www.ieee.org/.

(1) ANSI C63.4-2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, ANSI approved June 13, 2014; IBR approved for § 15.35(a).

(2) ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, ANSI approved June 13, 2014 (excluding clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13); IBR approved for § 15.31(a).

(3) ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices, ANSI approved June 27, 2013; IBR approved for §§ 15.31(a); 15.37(s). (4) ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices, ANSI-approved September 10, 2020; IBR approved for §§ 15.31(a); 15.37(s) .

(f) Society of Cable Telecommunications Engineers (SCTE), 140 Philips Rd, Exton, PA 19341; phone: (610) 363-6888; email: info@scte.org; website: www.scte.org.

(1) SCTE 28 2003 (formerly DVS 295): "Host-POD Interface Standard," 2003; IBR approved for § 15.123.

(2) SCTE 40 2003 (formerly DVS 313): “Digital Cable Network Interface Standard,” 2003; IBR approved for § 15.123.

(3) SCTE 41 2003 (formerly DVS 301): “POD Copy Protection System,” 2003; IBR approved for § 15.123.

(4) ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television,” 2003; IBR approved for § 15.123.

(5) ANSI/SCTE 65 2002 (formerly DVS 234): “Service Information Delivered Out-of-Band for Digital Cable Television,” 2002; IBR approved for § 15.123. Note 1 to § 15.38: The standards listed in paragraphs (c) and (f) of this section are available from Accuris (formerly Global Engineering), 15 Inverness Way East, Englewood, CO 80112; phone: (800) 854-7179; website: <https://global.ihs.com>.

Note 2 to § 15.38: The standards listed in paragraphs (e) and (f) of this section are available from ANSI (see paragraph (a) of this section for contact information).

Part 68 – Connection of Terminal Equipment to the Telephone Network

9. The authority citation for part 68 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 610.

10. Amend § 68.162 by:

- a. Revising paragraphs (d)(1) and (i)(1); and
- b. Adding note 1 to paragraph (i).

The revisions and addition read as follows:

§ 68.162 Requirements for Telecommunication Certification Bodies.

* * * * *

(d) * * *

(1) In accordance with the provisions of ISO/IEC 17065 the evaluation of a product, or a portion thereof, may be performed by bodies that meet the applicable requirements of ISO/IEC 17025 and ISO/IEC 17065, in accordance with the applicable provisions of ISO/IEC 17065, for external resources (outsourcing) and other relevant standards. Evaluation is the selection of applicable requirements and the determination that those requirements are met. Evaluation may be performed by using internal TCB resources or external (outsourced) resources.

* * * * *

(i) * * *

(1) International Organization for Standardization (ISO), 1, Ch. de Blandonnet 8, CP 401, CH-1214 Vernier, Geneva, Switzerland; phone: + 41 22 749 01 11; fax: + 41 22 749 09 47; email: central@iso.org; website: www.iso.org.

(i) ISO/IEC 17025:2017(E), *General requirements for the competence of testing and calibration laboratories*, Third Edition, November 2017.

(ii) ISO/IEC 17065:2012(E), *Conformity assessment—Requirements for bodies certifying products, processes and services*, First Edition, 2012-09-15.

(2) [Reserved]

Note 1 to § 68.162(i): The standards listed in paragraphs (i) of this section are also available from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone (212) 642-4980; email info@ansi.org; website: <https://webstore.ansi.org/>.

Part 73 – Radio Broadcast Services

11. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 155, 301, 303, 307, 309, 310, 334, 336, 339.

12. Amend § 73.1660 by revising Note 1 to paragraph (a)(1) to read as follows:

§ 73.1660 Acceptability of broadcast transmitters.

* * * * *

Note 1 to paragraph (a)(1): The verification procedure has been replaced by Supplier's Declaration of Conformity. AM, FM, and TV transmitters previously authorized under subpart J of part 2 of this chapter may remain in use. See § 2.950 of this chapter.

* * * * *

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹¹⁸ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making* (NPRM) released in January 2022 in this proceeding.¹¹⁹ The Commission sought written public comment on the proposals in the NPRM, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.¹²⁰

A. Need for, and Objective of, the *Report and Order*

2. The Commission's actions in the *Report and Order* are targeted updates to our rules limited to the incorporation by reference (IBR) of four new and updated standards that are integral to equipment testing. IBR is the process federal agencies use when referring to materials published elsewhere to give those materials the same force and effect of law in the Code of Federal Regulations as if the materials' text had actually been published in the Federal Register. By using IBR, we are able to give effect to technical instructions, testing methodologies, and other process documents that are developed and owned by standards development organizations. Referencing these documents in our rules substantially reduces the volume of material and also permits us to more efficiently implement updated standards because we only have to update our reference instead of making substantial modifications to our rules.

3. In the *Report and Order*, we address two petitions filed by the American National Standards Institute, Accredited Standards Committee (ASC) C63: one seeking to reference a new standard in our rules pertaining to test site validation; and one proposing to incorporate a newer version of a currently referenced standard that addresses a variety of compliance testing requirements. We also update and clarify the status of two standards for which the Office of Engineering and Technology (OET) previously sought comment. Specifically, to maintain the high level of compliance and minimal interference from RF devices, it is essential that our equipment authorization (EA) program incorporates current applicable compliance standards. Therefore, the Commission modifies certain Commission rules to reflect more recent standards that apply to the EA testing procedures necessary to demonstrate compliance with the Commission's RF device rules.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

4. There were no comments filed that specifically address the proposed rules and policies presented in the IRFA. However, Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC (Joint Commenters) express concerns related to "the public availability and accessibility of documents that are proposed to be incorporated by reference into law."¹²¹ Joint Commenters claim that the materials subject to IBR should be broadly available to members of the public on a free and unrestricted basis (e.g., in a format that can be easily copied without cost), that the standards documents were not made available in this manner during the rulemaking process, and that our failure to do so was "illegal and arbitrary."¹²² Joint Commenters are also concerned that the accessibility of the relevant materials is often limited by

¹¹⁸ 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

¹¹⁹ *Updating References to Standards Related to the Commission's Equipment Authorization Program; Modifying the Equipment Authorization Rules to Reflect the Updated Versions of the Currently Referenced ANSI C63.4 and ISO/IEC 17025 Standards*, ET Docket Nos. 21-363, 19-48, Notice of Proposed Rulemaking, FCC 22-3 (Jan. 25, 2022) (NPRM).

¹²⁰ *See* 5 U.S.C. § 604.

¹²¹ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 3.

¹²² *Id.* at 4-5.

what it characterizes as onerous conditions put in place by the associated private entities.¹²³ We disagree with Joint Commenters' assertion that parties could not "see" or "have access to the text of the standards" such that they could not meaningfully participate in the rulemaking process¹²⁴ and assert the materials proposed to be incorporated by reference have been made reasonably available. We are not aware of any party that desired to inspect the materials but was unable to do so due to difficulties in traveling to the specified inspection site. Further, none of the comments filed in the proceeding that were related to the technical merits of the proposed standards incorporations identified any impediments to finding and accessing the standards under consideration.

5. Moreover, we explicitly reject the Joint Commenters' assertion that our actions will be inconsistent with established law and policy balancing the public interest in promoting the development of and reliance on voluntary standards against the need for public access to any such standards incorporated by reference by federal agencies. Collectively, these resources are more than sufficient to permit interested parties to accomplish the objectives identified by the Joint Commenters, including use of the standards by people who fix and evaluate equipment and make new things for understanding how the devices work and identifying whether they are working properly.¹²⁵ We acknowledge that there may be individual limitations to access mechanisms (e.g., cost, travel for in-person inspection, limitations on how the materials may be downloaded, shared, or otherwise used) that would not exist if the standards were made available "on a public website without charge, and without limitation of use" as the Joint Commenters request,¹²⁶ none of these limitations would prevent interested parties from accessing and using the standards we are adopting.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

6. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel of Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.¹²⁷

7. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

8. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein.¹²⁸ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."¹²⁹ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.¹³⁰ A "small business concern" is one

¹²³ *Id.* at 9-10.

¹²⁴ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 8.

¹²⁵ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 6-7.

¹²⁶ Public Resource Org. Inc., iFixit, Inc., and Make Community, LLC Comments at 12..

¹²⁷ 5 U.S.C. § 604 (a)(3).

¹²⁸ *Id.* § 604 (a)(4).

¹²⁹ 5 U.S.C. § 601(6).

¹³⁰ *Id.* § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, (continued...)"

which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.¹³¹

9. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe, at the outset, three broad groups of small entities that could be directly affected herein.¹³² First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the Small Business Administration's (SBA) Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.¹³³ These types of small businesses represent 99.9% of all businesses in the United States, which translates to 32.5 million businesses.¹³⁴

10. Next, the type of small entity described as a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."¹³⁵ The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.¹³⁶ Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.¹³⁷

11. Finally, the small entity described as a "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."¹³⁸ U.S. Census Bureau data from the 2017 Census of

(Continued from previous page) _____

after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

¹³¹ 15 U.S.C. § 632.

¹³² See 5 U.S.C. § 601(3)-(6).

¹³³ See SBA, Office of Advocacy, Frequently Asked Questions, "What is a small business?," <https://cdn.advocacy.sba.gov/wp-content/uploads/2021/11/03093005/Small-Business-FAQ-2021.pdf> (Nov 2021).

¹³⁴ *Id.*

¹³⁵ See 5 U.S.C. § 601(4).

¹³⁶ The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number small organizations in this small entity description. See Annual Electronic Filing Requirement for Small Exempt Organizations – Form 990-N (e-Postcard), "Who must file," <https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard>. We note that the IRS data does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

¹³⁷ See Exempt Organizations Business Master File Extract (EO BMF), "CSV Files by Region," <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2020 with revenue less than or equal to \$50,000 for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) that includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

¹³⁸ See 5 U.S.C. § 601(5).

Governments¹³⁹ indicate there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.¹⁴⁰ Of this number, there were 36,931 general purpose governments (county,¹⁴¹ municipal, and town or township¹⁴²) with populations of less than 50,000 and 12,040 special purpose governments—independent school districts¹⁴³ with enrollment populations of less than 50,000.¹⁴⁴ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”¹⁴⁵

12. *Radio Frequency Equipment Manufacturers (RF Manufacturers)*. There are several analogous industries with an SBA small business size standard that are applicable to RF Manufacturers. These industries are Fixed Microwave Services, Other Communications Equipment Manufacturing, and Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. A description of these industries and the SBA small business size standards are detailed below.

13. *Fixed Microwave Services*. Fixed microwave services include common carrier,¹⁴⁶ private-operational fixed,¹⁴⁷ and broadcast auxiliary radio services.¹⁴⁸ They also include the Upper Microwave

¹³⁹ See 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7.” See also Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

¹⁴⁰ See U.S. Census Bureau, 2017 Census of Governments – Organization Table 2. Local Governments by Type and State: 2017 [CG1700ORG02], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also tbl.2. CG1700ORG02 Table Notes Local Governments by Type and State_2017.

¹⁴¹ See *id.* at tbl.5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

¹⁴² See *id.* at tbl.6. Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

¹⁴³ See *id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes_Special Purpose Local Governments by State Census Years 1942 to 2017.

¹⁴⁴ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

¹⁴⁵ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations tbls.5, 6 & 10.

¹⁴⁶ See 47 CFR pt. 101, subpts. C and I.

¹⁴⁷ See *id.* subpts. C and H.

¹⁴⁸ Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission’s Rules. See 47 CFR pt. 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

Flexible Use Service (UMFUS),¹⁴⁹ Millimeter Wave Service (70/80/90 GHz),¹⁵⁰ Local Multipoint Distribution Service (LMDS),¹⁵¹ the Digital Electronic Message Service (DEMS),¹⁵² 24 GHz Service,¹⁵³ Multiple Address Systems (MAS),¹⁵⁴ and Multichannel Video Distribution and Data Service (MVDDS),¹⁵⁵ where in some bands licensees can choose between common carrier and non-common carrier status.¹⁵⁶ Wireless Telecommunications Carriers (except Satellite)¹⁵⁷ is the closest industry with an SBA small business size standard applicable to these services. The SBA small size standard for this industry classifies a business as small if it has 1,500 or fewer employees.¹⁵⁸ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁵⁹ Of this number, 2,837 firms employed fewer than 250 employees.¹⁶⁰ Thus, under the SBA size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

14. The Commission's small business size standards with respect to fixed microwave services involve eligibility for bidding credits and installment payments in the auction of licenses for the various frequency bands included in fixed microwave services. When bidding credits are adopted for the auction of licenses in fixed microwave services frequency bands, such credits may be available to several types of small businesses based average gross revenues (small, very small and entrepreneur) pursuant to the competitive bidding rules adopted in conjunction with the requirements for the auction and/or as identified in part 101 of the Commission's rules for the specific fixed microwave services frequency bands.¹⁶¹

15. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

¹⁴⁹ See 47 CFR pt. 30.

¹⁵⁰ See 47 CFR pt. 101, subpt. Q.

¹⁵¹ See *id.* subpt. L.

¹⁵² See *id.* subpt. G.

¹⁵³ See *id.*

¹⁵⁴ See *id.* subpt. O.

¹⁵⁵ See *id.* subpt. P.

¹⁵⁶ See 47 CFR §§ 101.533, 101.1017.

¹⁵⁷ See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (except Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

¹⁵⁸ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

¹⁵⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁶⁰ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

¹⁶¹ See 47 CFR §§ 101.538(a)(1)-(3), 101.1112(b)-(d), 101.1319(a)(1)-(2), 101.1429(a)(1)-(3).

16. *Other Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).¹⁶² Examples of such manufacturing include fire detection and alarm systems manufacturing, Intercom systems and equipment manufacturing, and signals (e.g., highway, pedestrian, railway, traffic) manufacturing.¹⁶³ The SBA small business size standard for this industry classifies as small firms having 750 or fewer employees.¹⁶⁴ For this industry, U.S. Census Bureau data for 2017 shows that 321 firms operated for the entire year.¹⁶⁵ Of that number, 310 firms operated with fewer than 250 employees.¹⁶⁶ Based on this data, we conclude that the majority of Other Communications Equipment Manufacturers are small.

17. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment.¹⁶⁷ Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.¹⁶⁸ The SBA small business size standard for this industry classifies as small businesses having 1,250 employees or less.¹⁶⁹ U.S. Census Bureau data for 2017 show that there were 656 firms in this industry that operated for the entire year.¹⁷⁰ Of this number, 624 firms had fewer than 250 employees.¹⁷¹ Based on this data, we conclude that a majority of manufacturers in this industry are small.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

18. The Commission's equipment authorization rules incorporate by reference various standards¹⁷² that have been established by standards-setting bodies including, but not limited to, the

¹⁶² See U.S. Census Bureau, *2017 NAICS Definitions*, "334290 Other Communications Equipment Manufacturing," <https://www.census.gov/naics/?input=334290&year=2017&details=334290>.

¹⁶³ *Id.*

¹⁶⁴ See 13 CFR 121.201, NAICS Code 334290.

¹⁶⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 334290, <https://data.census.gov/cedsci/table?y=2017&n=334290&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

¹⁶⁶ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

¹⁶⁷ See U.S. Census Bureau, *2017 NAICS Definition*, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing," <https://www.census.gov/naics/?input=334220&year=2017&details=334220>.

¹⁶⁸ *Id.*

¹⁶⁹ See 13 CFR § 121.201, NAICS Code 334220.

¹⁷⁰ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 334220, <https://data.census.gov/cedsci/table?y=2017&n=334220&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

¹⁷¹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

¹⁷² See, e.g., 47 CFR §§ 2.910, 2.950, 15.38.

American National Standards Institute, Accredited Standards Committee (ASC) C63;¹⁷³ the International Organization for Standardization; and the International Electrotechnical Commission.¹⁷⁴ Compliance testing is central to the equipment authorization program. Section 2.947 of the Commission's rules requires test data be measured in accordance with one of three types of standards and measurement procedures, including "[t]hose acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic[s] Engineers, Inc., and the American National Standards Institute."¹⁷⁵ Accordingly, we have incorporated by reference such standards into our rules when appropriate; use of these standards is intended to ensure the integrity of the measurement data associated with an equipment authorization.

19. The Commission cannot, at present, definitively quantify the cost of compliance and cannot determine whether small entities will have to hire attorneys, engineers, consultants, or other professionals when using the standards adopted in the *Report and Order* to comply with the Commission's rules. However, while we acknowledge the Joint Commenters have requested free and unrestricted access to relevant materials, we also reiterate that such an approach, if implemented, would pose a burden to test laboratories, manufacturers and other businesses that could possibly qualify as small entities because the inability to continue to use the incorporation by reference process could jeopardize our ability to recognize state-of-the-art technical standards that have been adopted and are frequently updated through the consensus-driven standards development process. We believe the adopted approach best accomplishes the Commission's stated goals

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

20. The RFA requires an agency to provide, "a description of the steps the agency has taken to minimize the significant economic impact on small entities...including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."

21. In the *Report and Order*, the adopted standards are integral to the equipment authorization program. In response to advancements in technologies and measurement capabilities, standards bodies periodically update their standards or adopt new standards to reflect best practices. Our updates here are based on such developments, as further informed by petitions for rulemaking filed with the Commission.

22. The adopted rules potentially minimize economic impact concerns for small entities raised by the Joint Commenters by allowing the opportunity in some cases for entities to obtain standards information at no cost, by using a read-only format, as an alternative to purchasing copies of the standards.

23. In addition, the *Report and Order* provides a revision of the part 2 rules by incorporating standards by the American National Standards Institute (ANSI), Accredited Standards Committee C63

¹⁷³ American National Standards Institute, Accredited Standards Committee (ASC) C63 is a standards organization that is responsible for developing electromagnetic compatibility (EMC) measurement standards and testing procedures. ASC C63's standards are published by the American National Standards Institute under the ANSI nomenclature. The Commission's rules have referenced various versions of ASC C63-originated standards for more than a quarter century.

¹⁷⁴ The International Organization for Standardization (ISO) is an independent, non-governmental international organization that develops voluntary international standards, see <https://www.iso.org/home.html>. The International Electrotechnical Commission (IEC) develops international standards for all electrical, electronic, and related technologies. See <https://www.iec.ch>.

¹⁷⁵ 47 CFR § 2.947(a)(2).

(ASC C63), the International Organization for Standardization, and the International Electrotechnical Commission. Use of these standards is intended to ensure the integrity of the measurement data associated with an equipment authorization. These standards provide procedures for conducting measurements at testing facilities and specify the conditions expected in the testing environment. Moreover, the adoption of these industry standards establishes a uniform framework while not imposing additional burdens for small entities seeking equipment authorizations that different standards could impose. Further, referencing these documents in our rules in accordance with guidelines established by the Office of the Federal Register substantially reduces the volume of material that we otherwise would have to publish in the Federal Register and the CFR and would benefit small entities through increased efficiency in their ability to locate the information they need.

G. Report to Congress

24. The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.¹⁷⁶ In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order*, and FRFA (or summaries thereof) will also be published in the Federal Register.¹⁷⁷

¹⁷⁶ See 5 U.S.C. § 801(a)(1)(A).

¹⁷⁷ See 5 U.S.C. § 604(b).

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Updating References to Standards Related to the)	ET Docket No. 21-363
Commission’s Equipment Authorization Program)	
)	

ERRATUM

Released: September 15, 2023

By the Managing Director and the Chief, Office of Engineering and Technology:

On March 14, 2023, the Commission released a *Report and Order*, FCC 23-14, in the above-captioned proceeding. In response to comments received subsequent to release from the National Archives and Records Administration’s Office of the Federal Register, the Managing Director and Chief of the Office of Engineering and Technology find that it is necessary to revise the *Report and Order* to effect publication in the Federal Register. Doing so is also necessary to reconcile the *Report and Order* with a subsequently adopted amendment to 47 CFR § 15.37(r).¹ Pursuant to 47 CFR §§ 0.31, 0.231(b), and 0.241(a)(1)(ii), (b), and (i), this Erratum amends the *Report and Order* and Appendix A of the *Report and Order* as indicated below:

1. In paragraph 6, in the third sentence, replace “guidelines” with “requirements.”
2. In paragraph 10, in the penultimate sentence, replace “policies” with “requirements.”
3. In paragraph 15, in the first sentence, replace “68.62” with “68.162” and in the penultimate sentence, add “and 68.162” at the end of the sentence.
4. In paragraph 17, in the last sentence, replace “proposal would” with “Commission proposed to.”
5. Footnote 87 is corrected to read as follows:
“⁸⁷47 CFR §§ 2.910(d)(2), 2.948(e), 2.949(b)(2), 2.962(c)(3)-(4), (d)(1), 68.162(c)(3)-(4), (d)(1), (i)(1)(i).”
6. In paragraph 29, in the first sentence, delete the duplicate word “that” before the word “adoption.”
7. Footnote 97 is corrected to read as follows:
“⁹⁷47 CFR §§ 2.910(c)(3), 2.948(e), 2.949(b)(2), 2.950(a), 2.962(c)(3)-(4), (d)(1), 68.162(c)(3)-(4), (d)(1), (i)(1)(i).”
8. The corrections to Appendix A are as follows:
 - a. Paragraph 2 and “§ 2.910” are corrected to read as follows:
 - “2. Revise § 2.910 to read as follows:

¹ See *Amendment of Section 15.255 of the Commission’s Rules*, Report and Order, FCC 23-35, at 32, Appx. B (May 19, 2023), published, 88 Fed. Reg. 47384, 47384 (July 24, 2023).

§ 2.910 Incorporation by Reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Federal Communications Commission (FCC) must publish a document in the Federal Register and the material must be available to the public. All approved incorporation by reference (IBR) material is available for inspection at the FCC and at the National Archives and Records Administration (NARA). Contact the FCC at the address indicated in 47 CFR 0.401(a), phone: (202) 418-0270. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following source(s):

(a) International Electrotechnical Commission (IEC), IEC Central Office, 3, rue de Varembe, CH-1211 Geneva 20, Switzerland; email: inmail@iec.ch; website: www.iec.ch.

(1) CISPR 16-1-4:2010-04, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-4: Radio disturbance and immunity measuring apparatus — Antennas and test sites for radiated disturbance measurements*, Edition 3.0, 2010-04; IBR approved for § 2.948(d).

(2) [Reserved]

(b) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero Drive, Ann Arbor, MI 48108; phone: (800) 678-4333; email: stds-info@ieee.org; website: www.ieee.org/.

(1) ANSI C63.4-2014, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*, ANSI-approved June 13, 2014, Sections 5.4.4 (“Radiated emission test facilities – Site validation”) through 5.5 (“Radiated emission test facilities for frequencies above 1 GHz (1 GHz to 40 GHz)”), copyright 2014; IBR approved for § 2.948(d).

(2) ANSI C63.4a-2017, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation*, ANSI-approved September 15, 2017; IBR approved for § 2.948(d).

(3) ANSI C63.25.1-2018, *American National Standard Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz*, ANSI-approved December 17, 2018; IBR approved for § 2.948(d).

(4) ANSI C63.26-2015, *American National Standard of Procedures for Compliance Testing of Transmitters Used in Licensed Radio Services*, ANSI-approved December 11, 2015; IBR approved for § 2.1041(b).

(c) International Organization for Standardization (ISO), Ch. de Blandonnet 8, CP 401, CH-1214 Vernier, Geneva, Switzerland; phone: + 41 22 749 01 11; fax: + 41 22 749 09 47; email: central@iso.org; website: www.iso.org.

(1) ISO/IEC 17011:2004(E), *Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies*, First Edition, 2004-09-01; IBR approved for §§ 2.948(e); 2.949(b); 2.960(c).

(2) ISO/IEC 17025:2005(E), *General requirements for the competence of testing and calibration laboratories*, Second Edition, 2005-05-15; IBR approved for §§ 2.948(e);

2.949(b); 2.950(a); 2.962(c) and (d).

(3) ISO/IEC 17025:2017(E), *General requirements for the competence of testing and calibration laboratories*, Third Edition, November 2017; IBR approved for §§ 2.948(e); 2.949(b); 2.950(a); 2.962(c) and (d).

(4) ISO/IEC 17065:2012(E), *Conformity assessment — Requirements for bodies certifying products, processes and services*, First Edition, 2012-09-15; IBR approved for §§ 2.960(b); 2.962(b), (c), (d), (f), and (g).

Note 1 to § 2.910: The standards listed in paragraphs (b) and (c) of this section are also available from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone (212) 642-4980; email info@ansi.org; website: <https://webstore.ansi.org/>.”

- b. Paragraphs (d) introductory text and (d)(2) of section 2.948 are corrected to read as follows:

“(d) When the measurement method used requires the testing of radiated emissions on a validated test site, the site attenuation must comply with either: the requirements of ANSI C63.4a-2017 (incorporated by reference, see § 2.910) or the requirements of sections 5.4.4 through 5.5 of ANSI C63.4-2014 (incorporated by reference, see § 2.910).”

“(2) Measurement facilities used to make radiated emission measurements from 1 GHz to 18 GHz must comply with the site validation requirement of ANSI C63.25.1-2018 (incorporated by reference, see § 2.910);”

- c. Paragraph (a) of section 2.950 is corrected to read as follows:

“(a) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], a prospective or accredited testing laboratory or telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17025:2005(E) (incorporated by reference, see § 2.910) or ISO/IEC 17025:2017(E) (incorporated by reference, see § 2.910). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], a prospective or accredited testing laboratory or telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17025:2017(E) (incorporated by reference, see § 2.910).”

- d. In paragraph 7, in section 15.37, replace the letter “(r)” with the letter “(s)”.

- e. Paragraph 8 and “§ 15.38” are corrected to read as follows:

“8. Revise § 15.38 to read as follows:

§ 15.38 Incorporation by Reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Federal Communications Commission (FCC) must publish a document in the Federal Register and the material must be available to the public. All approved incorporation by reference (IBR) material is available for inspection at the FCC and at the National Archives and Records Administration (NARA). Contact the FCC at the address indicated in 47 CFR 0.401(a), phone: (202) 418-0270. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following source(s):

(a) American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone: (212) 642-4980; email info@ansi.org; website:

<https://webstore.ansi.org/>.

(1) ANSI C63.17–2013, *American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices*, approved August 12, 2013; IBR approved for § 15.31.

(2) Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, *Information Technology Equipment-Radio Disturbance Characteristics-Limits and Methods of Measurement*, 1997; IBR approved for § 15.09.

(b) Cable Television Laboratories, Inc., 858 Coal Creek Circle, Louisville, Colorado, 80027; phone: (303) 661–9100; website: www.cablelabs.com/.

(1) M–UDCP–PICS–I04–080225, *Uni-Directional Cable Product Supporting M–Card: Multiple Profiles; Conformance Checklist: PICS*, February 25, 2008; IBR approved for § 15.123(c).

(2) TP–ATP–M–UDCP–I05–20080304, *Uni-Directional Digital Cable Products Supporting M–Card; M–UDCP Device Acceptance Test Plan*, March 4, 2008; IBR approved for § 15.123(c).

(c) Consumer Technology Association (formerly Consumer Electronics Association), 1919 S. Eads St., Arlington; VA 22202; phone: (703) 907–7634; email: CTA@CTA.tech; website: www.cta.tech/.

(1) CEA–542–B, *CEA Standard: Cable Television Channel Identification Plan*, July 2003; IBR approved for § 15.118.

(2) CEA–766–A, *U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65–A Program and System Information Protocol (PSIP)*, April 2001; IBR approved for § 15.120.

(3) EIA–608, *Recommended Practice for Line 21 Data Service*, 1994; IBR approved for § 15.120.

(4) EIA–744, *Transport of Content Advisory Information Using Extended Data Service (XDS)*, 1997; IBR approved for § 15.120.

(5) Uni-Dir-PICS–I01–030903, *Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma*, September 3, 2003; IBR approved for § 15.123(c).

(6) Uni-Dir-ATP–I02–040225, *Uni-Directional Receiving Device, Acceptance Test Plan*, February 25, 2004; IBR approved for § 15.123(c).

(d) European Telecommunications Standards Institute, 650 Route des Lucioles, F–06921 Sophia Antipolis Cedex, France; website: www.etsi.org/.

(1) ETSI EN 300 422–1 V1.4.2 (2011–08), *Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement*, Copyright 2011; IBR approved for § 15.236(g).

(2) [Reserved]

(e) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero Drive, Ann Arbor, MI 48108; phone: (800) 678-4333; email: stds-info@ieee.org; website: www.ieee.org/.

(1) ANSI C63.4–2014: *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the*

Range of 9 kHz to 40 GHz, ANSI approved June 13, 2014; IBR approved for § 15.35(a).

(2) ANSI C63.4–2014, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*, ANSI approved June 13, 2014 (excluding clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13); IBR approved for § 15.31(a)(4).

(3) ANSI C63.10–2013, *American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices*, ANSI approved June 27, 2013; IBR approved for §§ 15.31(a); 15.37(s).

(4) ANSI C63.10–2020, *American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices*, ANSI-approved September 10, 2020; IBR approved for §§ 15.31(a); 15.37(s) .

(f) Society of Cable Telecommunications Engineers (SCTE), 140 Philips Rd, Exton, PA 19341; phone: (610) 363-6888; email: info@scte.org; website: www.scte.org.

(1) SCTE 28 2003 (formerly DVS 295): “Host-POD Interface Standard,” 2003; IBR approved for § 15.123.

(2) SCTE 40 2003 (formerly DVS 313): “Digital Cable Network Interface Standard,” 2003; IBR approved for § 15.123.

(3) SCTE 41 2003 (formerly DVS 301): “POD Copy Protection System,” 2003; IBR approved for § 15.123.

(4) ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television,” 2003; IBR approved for § 15.123.

(5) ANSI/SCTE 65 2002 (formerly DVS 234): “Service Information Delivered Out-of-Band for Digital Cable Television,” 2002; IBR approved for § 15.123.

Note 1 to § 15.38: The standards listed in paragraphs (c) and (f) of this section are available from Accuris (formerly Global Engineering), 15 Inverness Way East, Englewood, CO 80112; phone: (800) 854–7179; website: <https://global.ihs.com>.

Note 2 to § 15.38: The standards listed in paragraphs (e) and (f) of this section are available from ANSI (see paragraph (a) of this section for contact information).”

f. Paragraph 10 and “§ 68.162” are corrected to read as follows:

“10. Amend § 68.162 by:

- a. Revising paragraphs (d)(1) and (i)(1); and
- b. Adding note 1 to paragraph (i).

The revisions and addition read as follows:

§ 68.162 Requirements for Telecommunication Certification Bodies.

* * * * *

(d) * * *

(1) In accordance with the provisions of ISO/IEC 17065 the evaluation of a product, or a portion thereof, may be performed by bodies that meet the applicable requirements of ISO/IEC 17025 and ISO/IEC 17065, in accordance with the applicable provisions of ISO/IEC 17065, for external resources (outsourcing) and other relevant standards. Evaluation is the selection of applicable requirements and the determination that those requirements are met. Evaluation may be performed by using internal TCB resources or

external (outsourced) resources.

* * * * *

(i) * * *

(1) International Organization for Standardization (ISO), Ch. de Blandonnet 8, CP 401, CH-1214 Vernier, Geneva, Switzerland; phone: + 41 22 749 01 11; fax: + 41 22 749 09 47; email: central@iso.org; website: www.iso.org.

(i) ISO/IEC 17025:2017(E), *General requirements for the competence of testing and calibration laboratories*, Third Edition, November 2017.

(ii) ISO/IEC 17065:2012(E), *Conformity assessment—Requirements for bodies certifying products, processes and services*, First Edition, 2012-09-15.

(2) [Reserved]

Note 1 to § 68.162(i): The standards listed in paragraphs (i) of this section are also available from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; phone (212) 642-4980; email info@ansi.org; website: <https://webstore.ansi.org/>.”

FEDERAL COMMUNICATIONS COMMISSION

Mark Stephens
Managing Director

Ronald T. Repasi
Chief, Office of Engineering and Technology

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Updating References to Standards Related to the)	ET Docket No. 21-363
Commission's Equipment Authorization Program)	
)	
Modifying the Equipment Authorization Rules to)	ET Docket No. 19-48
Reflect the Updated Versions of the Currently)	
Referenced ANSI C63.4 and ISO/IEC 17025)	
Standards)	

NOTICE OF PROPOSED RULEMAKING

Adopted: January 24, 2022

Released: January 25, 2022

Comment Date: 30 days after Federal Register Publication

Reply Comment Date: 60 days after Federal Register Publication

By the Commission:

I. INTRODUCTION

1. The rapid and widespread deployment of radiofrequency (RF) devices has enabled the communications sector to drive innovation, promote economic growth, and become integral to nearly all aspects of modern life. The Commission's equipment authorization program is one of the principal ways the Commission ensures that the communications equipment people rely on every day, such as their cellphones and Wi-Fi devices, operate effectively without causing harmful interference and otherwise comply with the Commission's rules.

2. In this Notice of Proposed Rulemaking, we propose targeted updates to our rules to incorporate four new and updated standards that are integral to the testing of equipment and accreditation of laboratories that test RF devices. Today's RF devices are evolving more rapidly than ever before, and we anticipate that this evolution will continue and even accelerate. Keeping abreast of significant developments in the standards-setting community enables our equipment authorization program to keep pace with this evolution and ensure that the devices being used every day continue to comply with our technical rules.

II. BACKGROUND

3. Our proposals are limited to the incorporation by reference of standards that are associated with equipment authorization and the recognition of Telecommunication Certification Bodies (TCBs). Incorporation by reference is the process that federal agencies use when referring to materials published elsewhere to give those materials the same force and effect of law in the Code of Federal Regulations as if the materials' text had actually been published in the *Federal Register*.¹ By using

¹ Office of the Federal Register, *IBR Handbook 1* (July 2018), available at <https://www.archives.gov/files/federal-register/write/handbook/ibr.pdf>. See 5 U.S.C. § 552(a)(1) (providing that "matter reasonably available to the class of persons affected thereby is deemed published in the Federal Register when incorporated by reference therein with the approval of the Director of the Federal Register").

incorporation by reference, we are able to give effect to technical instructions, testing methodologies, and other process documents that are developed and owned by standards development organizations. Referencing these documents in our rules substantially reduces the volume of material that we otherwise would have to publish in the *Federal Register* and the Code of Federal Regulations. It also permits us to more efficiently implement future standards updates. Once we have completed any necessary notice-and-comment rulemaking proceedings and applied our agency expertise to ensure that any standards we adopt are sound and appropriate, we need only update the references to the standards in our rules.

A. Equipment authorization

4. Section 302 of the Communications Act of 1934, as amended (the Act), authorizes the Commission to make reasonable regulations governing the interference potential of devices that emit RF energy and can cause harmful interference to radio communications.² The Commission generally implements this authority by establishing technical rules for RF devices.³ One of the primary ways in which the Commission ensures compliance with the technical rules is through the equipment authorization program for RF devices, procedures for which are codified in part 2 of our rules.⁴ The Office of Engineering and Technology (OET) administers the day-to-day operation of the equipment authorization program.⁵

5. Part 2 of the Commission's rules provides two different approval procedures for RF devices subject to equipment authorization—certification and Supplier's Declaration of Conformity (SDoC).⁶ Certification is a more rigorous approval process for RF devices with the greatest potential to cause harmful interference to other radio operations. A grant of certification is an equipment authorization issued by an FCC-recognized TCB based on an evaluation of the supporting documentation and test data submitted to the TCB.⁷ SDoC allows a device to be marketed on the basis of testing performed in accordance with a Commission-approved methodology by the manufacturer, assembler, importer, or seller itself without the need to submit an application to a TCB.⁸ While both processes involve laboratory testing to demonstrate compliance with Commission requirements, testing associated with certification must be performed by an FCC-recognized accredited testing laboratory.⁹

6. Additionally, part 68 of the Commission's rules sets forth requirements to ensure that terminal equipment can be connected to the telephone network without harming its functioning and for the compatibility of hearing aids and land-line telephones so as to ensure that, to the fullest extent made possible by technology and medical science, people with hearing loss have equal access to

² 47 U.S.C. § 302a(a).

³ For example, part 15 of the Commission's rules sets forth the technical requirements for unlicensed devices; parts 22, 24, and 27 set forth the technical requirements for transmitters used in various commercial mobile radio services; and part 90 specifies the technical requirements for transmitters used in the private land mobile radio services. *See* 47 CFR parts 15, 22, 24, 27, and 90, respectively.

⁴ *See* 47 CFR part 2 subpart J.

⁵ *See* 47 CFR § 0.241(b) (delegating such authority to OET). As part of its administration of the equipment authorization rules, OET has developed a substantial body of supplemental guidance that is available via public notices and in our online Knowledge Database (KDB). Links to all of these can be found at the OET Laboratory Division's Equipment Authorization Page, <https://www.fcc.gov/engineering-technology/laboratory-division/general/equipment-authorization>; and the Knowledge Database webpage: <http://www.fcc.gov/labhelp>.

⁶ 47 CFR § 2.901.

⁷ 47 CFR § 2.907.

⁸ 47 CFR § 2.906.

⁹ 47 CFR § 2.948(a).

communications services.¹⁰ In furtherance of these goals, part 68 includes unique, but similar rules related to equipment approval, TCB review, and laboratory testing.¹¹

B. Standards

7. The Commission's equipment authorization rules incorporate by reference various standards¹² that have been established by standards-setting bodies including, but not limited to, the American National Standards Institute, Accredited Standards Committee (ASC) C63;¹³ the International Organization for Standardization; and the International Electrotechnical Commission.¹⁴ Incorporating external standards within the Commission's rules has been a longstanding practice that reflects our desire, where appropriate, to harmonize the rules with international standards and aligns the Commission's rules with general federal agency guidance which urges government agencies to use industry developed standards rather than develop their own.¹⁵

1. Measurement standards and laboratory testing procedures.

8. Compliance testing is central to the equipment authorization program. Section 2.947 of the Commission's rules requires test data be measured in accordance with one of three types of standards and measurement procedures, including "[t]hose acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic[s] Engineers, Inc., and the American National Standards Institute."¹⁶ Accordingly, we have incorporated by reference such standards into our rules when appropriate; use of these standards is intended to ensure the integrity of the measurement data associated with an equipment authorization. For example, certification applications for unlicensed part 15¹⁷ intentional radiators¹⁸ must include compliance measurement data that was obtained in accordance with the procedures specified in ANSI C63.10-2013, "American National Standard of Procedures for Compliance Testing of Unlicensed

¹⁰ See 47 CFR § 68.1. Terminal equipment is defined as communications equipment located on customer premises at the end of a communications link, used to permit the stations involved to accomplish the provision of telecommunications or information services. 47 CFR § 68.3.

¹¹ 47 CFR part 68 subpart D.

¹² See, e.g., 47 CFR §§ 2.910, 2.950, 15.38.

¹³ American National Standards Institute, Accredited Standards Committee C63 (ASC C63) is a standards organization that is responsible for developing electromagnetic compatibility (EMC) measurement standards and testing procedures. ASC C63's standards are published by the American National Standards Institute under the ANSI nomenclature. The Commission's rules have referenced various versions of ASC C63-originated standards for more than a quarter century.

¹⁴ The International Organization for Standardization (ISO) is an independent, non-governmental international organization that develops voluntary international standards, see <https://www.iso.org/home.html>. The International Electrotechnical Commission (IEC) develops international standards for all electrical, electronic, and related technologies. See <https://www.iec.ch>.

¹⁵ See, e.g., *Procedure for measuring electromagnetic emissions from digital devices*, GEN Docket No. 89-44, Further Notice of Proposed Rulemaking, 6 FCC Rcd 600, 601, paras.7-8 (1991). See also OMB Circular A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities (updated Jan. 27, 2016), available at <https://www.whitehouse.gov/omb/information-for-agencies/circulars/>.

¹⁶ 47 CFR § 2.947(a)(2).

¹⁷ Part 15 compliant devices may be used without an individual Commission-issued radio license.

¹⁸ An intentional radiator is a device that intentionally generates and emits radio frequency energy by radiation or induction. 47 CFR § 15.3(o).

Wireless Devices” (C63.10).¹⁹ Other part 15 devices that are not designed to purposely transmit RF energy, unintentional radiators,²⁰ must be tested under procedures specified in ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz” (C63.4).²¹ In addition to measurement procedures, portions of C63.4 specify particular requirements for the characteristics of test sites that are referenced in our rules.²² Specifically, these “test site validation” requirements are premised on the assumption that an open area test site provides the best conditions for field strength measurements of radiated emissions and “[t]est sites other than open area test sites may be employed if they are properly calibrated so that the measurement results correspond to what would be obtained from an open area test site.”²³

2. Accreditation standards.

9. Compliance testing data associated with an application for certification must be obtained from a testing laboratory that has been accredited in accordance with the Commission’s rules.²⁴ Accreditation of test laboratories is currently based on the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) Standard 17025:2005(E), “General requirements for the competence of testing and calibration laboratories” (ISO 17025), and on the FCC requirements.²⁵ It is the responsibility of the accreditation body to review the qualifications of a test laboratory’s personnel, management systems, and record keeping and reporting practices; to send recognized experts to observe testing at the laboratory; and to verify the testing laboratory’s competence to perform tests in accordance with FCC-related measurement procedures. Section 2.949 of the Commission’s rules sets forth the requirements for the recognition of laboratory accreditation bodies.²⁶ An entity seeking to be recognized by the Commission as an accreditation body for test laboratories must demonstrate that it complies with applicable ISO and IEC standards and that it is competent in assessing test laboratories to perform measurements in support of the applicable FCC technical regulations.²⁷ The ISO/IEC standard currently used by the FCC for recognizing accreditation bodies is ISO/IEC 17011:2004(E), “Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies” (ISO:17011).²⁸

III. DISCUSSION

10. In response to advancements in technologies and measurement capabilities, standards bodies periodically update their standards or adopt new standards to reflect best practices. Our proposals

¹⁹ 47 CFR §§ 2.1041(a), 15.31(a)(3). The Commission references ANSI C63.26-2015, “American National Standard of Procedures for Compliance Testing of Transmitters Used in Licensed Radio Services” for acceptable testing procedures for RF devices used in association with a Commission-issued license and it will also consider testing performed under other procedures specified by OET or other national scientific or engineering groups. 47 CFR §§ 2.1041(b), 2.947.

²⁰ An unintentional radiator is a device that intentionally generates radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction. 47 CFR § 15.3(z).

²¹ 47 CFR §§ 2.1041(a), 15.31(a)(4).

²² 47 CFR §§ 2.910(c)(1), 2.948(d).

²³ See 47 CFR § 15.31(d).

²⁴ 47 CFR § 2.948(a).

²⁵ 47 CFR § 2.948(e).

²⁶ 47 CFR § 2.949.

²⁷ 47 CFR § 2.949.

²⁸ 47 CFR §§ 2.949(b)(1), 2.910(d)(1).

here are based on such developments, as further informed by petitions for rulemaking filed with the Commission. Specifically, we address two petitions filed by ASC C63: one seeking to incorporate by reference into our rules a new standard pertaining to test site validation;²⁹ and one proposing to incorporate by reference a newer version of a currently referenced standard that addresses a variety of compliance testing requirements.³⁰ We also clarify the status of two standards on which OET previously sought comment.³¹ The four standards subject to our proposals are briefly summarized in the table below.

Standard	Standard being replaced	Proposed affected rule sections	Summary of rationale for proposed change
C63.25.1:2018	N/A New standard	2.910 2.948	Consolidates qualification and validation procedures for radiated test sites intended for use over various frequency ranges. The C63.25.1 standard included in this proposal covers 1 to 18 GHz.
C63.10:2020	C63.10:2013	15.31 15.38	Addresses changes in technology.
ISO/IEC 17011:2017	17011:2004	2.910 2.948 2.949 2.950 2.960 68.160	Provides more comprehensive requirements for accreditation bodies.
ISO/IEC 17025:2017	17025:2005	2.910 2.948 2.949 2.962 68.162	Provides more comprehensive requirements for testing and calibration labs.

A. “American National Standard Validation Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz” (C63.25.1)

11. On March 6, 2020, ASC C63 filed a petition for rulemaking³² requesting that the Commission incorporate by reference into the test site validation requirements of section 2.948(d) of the Commission’s rules the ANSI C63.25.1-2018 standard, titled “American National Standard Validation

²⁹ Paras. 11-13, *infra*.

³⁰ Paras. 14-16, *infra*.

³¹ Paras. 18-24, *infra*. See also *Office of Engineering and Technology Seeks Comment on Modifying the Equipment Authorization Rules to Reflect the Updated Versions of the Currently Referenced ANSI C63.4 and ISO/IEC 17025 Standards*, Public Notice, ET Docket No. 19-48, 34 FCC Rcd 1904 (OET 2019) (*Standards Update Notice*).

³² Petition of the American National Standards Institute, Accredited Standards Committee, C63 Requesting adoption of ANSI C63.25.1-2018 into the Commission’s Part 2 rules for EMC test site validation from 1 GHz – 18 GHz (filed March 6, 2020) <https://www.fcc.gov/ecfs/filing/10306816406385> (*C63.25.1 Petition*). On March 30, 2020, ASC C63 filed an Erratum correcting the caption as originally filed to properly reflect the 2018 adoption of the standard instead of 2019 as captioned in the original filing.

Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz” (C63.25.1).³³ Under our current rules, measurement facilities used to make radiated emission measurements from 30 MHz to 1 GHz must comply with the site validation requirements in ANSI C63.4-2014 (clause 5.4.4), and, for radiated emission measurements from 1 GHz to 40 GHz the site validation requirements in ANSI C63.4-2014 (clause 5.5.1 a) 1))³⁴ apply.³⁵ ASC C63 asks the Commission to adopt the C63.25.1 standard as an additional option for test site validation of radiated emission measurements from 1 GHz to 18 GHz.³⁶

12. ASC C63 describes how the C63.25.1 standard consolidates guidance from existing standards to provide test site validation procedures from 1 GHz to 18 GHz while providing an additional testing methodology.³⁷ For example, the C63.25.1 standard includes a CISPR 16 technique known as the site voltage standing wave ratio (SVSWR) approach to validate test sites for frequencies above 1 GHz, which measures responses between antennas while varying their distances. C63.25.1 also introduces the option of using a new effective test validation method called time domain site validation (TDSV), which ASC C63 says is not yet available or recognized in comparable international standards.³⁸ ASC C63 states that while TDSV is similar to SVSWR, in that both measure responses between antennas, varying the distance between antennas is not necessary; thus, it asserts, the TDSV method provides a reduction in the sensitivity of test results caused by small test setup changes at higher frequencies where the associated wavelengths are relatively short.³⁹ Overall, ASC C63 asserts that TDSV improves measurement repeatability, provides additional information on the test site, and “reduces the sensitivity of the test results caused by small test setup changes due to statistical post processing incorporated in the TDSV method,” while requiring less time to perform the validation.⁴⁰ In short, ASC C63 has described reasons why, even though both SVSWR and TDSV use the same acceptance criterion, parties might want to use the TDSV method.

13. In consideration of ASC C63’s request, we propose to incorporate ANSI C63.25.1-2018 into our rules, and to allow this standard to be used for test site validation of radiated emission measurements from 1 GHz to 18 GHz. We tentatively conclude that the availability of this additional option would provide useful options and potential benefits in site validation testing, particularly considering that parties could continue to use the procedures currently described in section 2.948(d) of our rules if they chose to do so. If we adopt this proposal, we tentatively conclude that it is appropriate to incorporate the entire standard by reference. However, we ask whether any procedures or techniques included in ANSI C63.25.1-2018 would not be appropriate for use in the context of demonstrating compliance with the Commission’s equipment authorization rules. Commenters in this regard should provide details of their concerns and specifically cite any rule sections for which the new standard may be

³³ C63.25.1 Petition at 2.

³⁴ Which are similar to the site validation criteria called out in CISPR 16-1-4:2010-04. CISPR 16-1-4:2010-04: “Specification for radio disturbance and immunity measuring apparatus and methods—Part 1-4: Radio disturbance and immunity measuring apparatus—Antennas and test sites for radiated disturbance measurements,” Edition 3.0, 2010-04 (CISPR 16-1). CISPR is a voluntary standards-making organization under the auspices of the International Electrotechnical Commission (IEC). CISPR is the acronym for Comité International Spécial des Perturbations Radioélectrique (International Special Committee on Radio Interference). CISPR adopts recommendations for limits and methods of measurement to control radio interference generated by computers and various other devices.

³⁵ 47 CFR § 2.948(d).

³⁶ C63.25.1 Petition.

³⁷ *Id.* at 2. ASC C63 states that it expects that future iterations of the C63.25 standard will cover additional frequencies. *Id.* at fn.2 (noting that “[i]n the future, C63.25 will cover test site validations up to 40 GHz. C63.25.2 will cover 30 MHz to 1 GHz; C63.25.3 will cover 9 kHz to 30 MHz; and C63.25.4 will cover 18 to 40 GHz”).

³⁸ *Id.* at 3.

³⁹ *Id.*

⁴⁰ *Id.* at 3-4.

problematic. Additionally, for which other Commission rules would a reference to ANSI C63.25.1-2018 be appropriate? Because we are proposing to incorporate ANSI C63.25.1-2018 as an option to an already existing requirement, we tentatively conclude that there is no need to designate a transition period. We seek comment on these tentative conclusions.

B. “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices” (ANSI C63.10)

14. On February 4, 2021, the Commission received a petition from ASC C63 requesting that it incorporate by reference ANSI C63.10-2020 “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices”⁴¹ into the rules. This standard, which was approved by ANSI on September 10, 2020, updates the measurement procedures set forth in ANSI C63.10-2013, which is currently referenced in sections 2.910(c)(2), 2.950(g), and 15.38(g)(3) of the Commission’s rules.⁴² The standard addresses “the procedures for testing the compliance of a wide variety of unlicensed wireless transmitters . . . including, but not limited to, remote control and security unlicensed wireless devices, frequency hopping and direct sequence spread spectrum devices, anti-pilferage devices, cordless telephones, medical unlicensed wireless devices, [U-NII] devices, intrusion detectors, unlicensed wireless devices operating on frequencies below 30 MHz, automatic vehicle identification systems, and other unlicensed wireless devices authorized by a radio regulatory authority.”⁴³

15. Specifically, this recent version of the standard includes the following changes and updates:

- Frequency hopping spread spectrum procedures were updated to ensure complete on and off times are correctly considered;
- Digital transmission system (DTS) and unlicensed national information infrastructure (U-NII) device procedures were updated to align with the latest FCC KDB guidance;
- Millimeter wave measurement procedures were updated;
- TV White Space test methods were added to the standard;
- Pulse desensitization considerations for frequency-modulated continuous wave (FMCW) type signals are now addressed by the standard;
- Procedures were added for wireless power transfer (WPT) devices that transmit information on the charging frequency;
- Measurement procedures were generally updated to allow for more accurate analyzer sweep time settings where “auto” was previously required;
- Editorial corrections/updates were made;
- Requirements for including spectral plots were added; and
- An informative annex was included to provide an overview of dynamic frequency selection (DFS) for U-NII devices.⁴⁴

⁴¹ Petition of the American National Standards Institute, Accredited Standards Committee, C63 Requesting adoption of ANSI C63.10-2020 into the Parts 2 and 15 Rules for Compliance Testing Of Unlicensed Radio Devices (filed February 4, 2021), <https://www.fcc.gov/ecfs/filing/10204284915782> (C63.10 Petition).

⁴² 47 CFR §§ 2.910(c)(2), 2.950(g), 15.38(g)(3).

⁴³ Daniel Hoolihan, *The American National Standards Committee on EMC – C63® - An Update on Recent Standards Development Activities* (June 30, 2021), <https://incompliancemag.com/article/the-american-national-standards-committee-on-emc-c63/>.

⁴⁴ C63.10 Petition at 2

16. In light of ASC C63's request, we propose to incorporate ANSI C63.10-2020 into our rules to replace existing references to ANSI C63.10-2013. We tentatively conclude that it is appropriate to simply replace the existing standard references with references to the new standard, subject to an appropriate transition period. Are there any procedures or techniques included in ANSI C63.10-2020 that would not be appropriate for use in the context of demonstrating compliance with the Commission's equipment authorization rules? Commenters in this regard should provide details of their concerns and specifically cite any rule sections for which the new standard may be problematic. Would a transition period during which either version of ANSI C63.10 could be used remedy these concerns? If so, what time period would be appropriate, and should it generally apply to all rules affected by the new reference? Would a two-year transition be appropriate or would a shorter period be sufficient?⁴⁵ Additionally, which, if any, of the Commission rules that do not currently reference ANSI C63.10-2013 should reference ANSI C63.10-2020?

C. "Conformity assessment — Requirements for accreditation bodies accrediting conformity assessment bodies" (ISO/IEC 17011)

17. Applications for RF devices that are subject to the certification requirements of part 2 of the Commission's rules must be filed with, and approved by, an accredited TCB.⁴⁶ Additionally, terminal equipment intended for connection to the public switched telephone network must be subject to certification by a TCB or the Supplier's Declaration of Conformity procedures as set forth in part 68 of the Commission's rules.⁴⁷ Testing laboratories that provide compliance measurement data associated with part 2 certification applications also must be accredited.⁴⁸ In these instances, TCBs and testing laboratories are accredited by a "conformity assessment body," that meets the requirements and conditions of ISO/IEC 17011:2004 "Conformity assessment — Requirements for accreditation bodies accrediting conformity assessment bodies."⁴⁹ ISO/IEC 17011:2004 was incorporated into the Commission's rules in 2014.⁵⁰ A new version of this standard, ISO/IEC 17011:2017, was published in November 2017. The revisions to the standard incorporate changes related to alignment with the International Organization for Standardization's Committee on Conformity Assessment (CASCO) common structure for standards and incorporation of CASCO common elements in clauses on impartiality, confidentiality, complaints and appeal, and management system; recognition of proficiency testing as an accreditation activity; addition of new definitions; introduction of the concept of risk; and incorporation of competence criteria in the document, including an informative annex on knowledge and skills.⁵¹ We propose to replace the references to ISO/IEC 17011:2004(E) in sections 2.910, 2.948, 2.949, 2.950, 2.960, and 68.160 in the Commission's rules with references to ISO/IEC 17011:2017(E), subject to a reasonable transition period.⁵² Commenters with concerns related to updating any of these references should specifically cite any rule sections for which the updated standard may be problematic or portions of ISO/IEC 17011:2017(E) that should be excluded from the updated incorporation by reference and provide alternatives or a detailed explanation of their concerns. To ensure adequate time for the

⁴⁵ Testing laboratories are re-accredited every two years. *See infra* para. 24; 47 CFR § 2.948(e).

⁴⁶ 47 CFR §§ 2.907, 2.960(b)

⁴⁷ 47 CFR § 68.201.

⁴⁸ 47 CFR § 2.948(a).

⁴⁹ 47 CFR §§ 2.960, 2.949

⁵⁰ *See FCC Modifies Equipment Authorization Rules*, ET Docket No. 13-44, Report and Order, 29 FCC Rcd 16335, 16356-58, paras. 50-53 (2014).

⁵¹ *See International Organization for Standardization, ISO/IEC 17011:2004(E): Conformity assessment—General requirements for accreditation bodies accrediting conformity assessment bodies*, First Edition, (September 2004); International Organization for Standardization, *ISO/IEC 17011:2017: Conformity assessment—Requirements for accreditation bodies accrediting conformity assessment bodies*, Second Edition (November 2017).

⁵² 47 CFR §§ 2.910, 2.948, 2.949, 2.950, 2.960, 68.160.

transition, we propose a two-year transition period during which both versions of ISO/IEC 17011 could be used. Is this time period sufficient and, if not, what would be an appropriate timeframe?

D. Other Standards

1. 2019 Public Notice

18. In April of 2019, OET sought comment⁵³ on updating the Commission's rules to reflect recent changes to two standards: ISO/IEC 17025:2017(E) "General requirements for the competence of testing and calibration laboratories" and ANSI C63.4a-2017 "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation."⁵⁴ In opening up the instant docket, we seek a fresh record on these matters, as set forth in the proposals that we lay out in detail below.⁵⁵

a. "General requirements for the competence of testing and calibration laboratories" (ISO/IEC 17025)

19. Measurement data intended to demonstrate compliance with certain Commission requirements must be obtained from an accredited testing laboratory.⁵⁶ Currently, rule sections 2.910, 2.948, 2.949, 2.962, and 68.162 reference ISO/IEC 17025:2005(E) for the requirements related to test laboratory accreditation.⁵⁷ Laboratory accreditation bodies assess a variety of aspects of a laboratory, including the technical competence of staff; the validity and appropriateness of test methods; traceability of measurements and calibration to national standards; suitability, calibration, and maintenance of the testing environment; sampling, handling, and transportation of test items; and quality assurance of test and calibration data. In November 2017, ISO/IEC published ISO/IEC 17025:2017(E)—a new version of the test laboratory accreditation standard currently referenced in our rules. In addition to adding a definition of "laboratory," the new version replaces certain prescriptive requirements with performance-based requirements and allows for greater flexibility in satisfying the standard's requirements for processes, procedures, documented information, and organizational responsibilities.⁵⁸

20. In the *Standards Update Notice*, OET proposed to update the Commission's rules by replacing references to ISO/IEC 17025:2005(E) with references to ISO/IEC 17025:2017(E).⁵⁹ All comments received were supportive of this updated reference.⁶⁰ ANSI ASC C63, while supportive, stated that "ASC C63 also supports the transition period (two years are remaining) to the mandatory use of

⁵³ The Chief of the Office of Engineering and Technology (OET) is delegated authority, by notice-and-comment rulemaking if required by statute or otherwise in the public interest, to issue an order amending rules in parts 2, 5, 15, or 18 of the Commission's rules that reference industry standards to specify revised versions of the standards. This delegation is limited to modifying rules to reference revisions to standards that are already in the rules, limited to the approval of changes to the technical standards that do not raise major compliance issues, and does not include rule changes to incorporate a new standard. 47 C.F.R. § 0.241(a)(1)(ii). The inclusion in this NPRM of proposals to both incorporate new standards and update existing references is intended to promote administrative efficiency. We neither intend nor propose to modify the scope of OET's delegated authority herein.

⁵⁴ See *Standards Update Notice*.

⁵⁵ Accordingly, we are terminating the docket that the *Standards Update Notice* had opened (i.e., ET Docket No. 19-48).

⁵⁶ 47 CFR § 2.948(a).

⁵⁷ 47 CFR §§ 2.910, 2.948, 2.949, 2.962, 68.162, 95.2987.

⁵⁸ *Standards Update Notice*, 34 FCC Rcd at 1905 and n.8 (citing *ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories*, ISO (2017), available at https://www.ukas.com/download/brochures/ISO-17025-Brochure_EN_FINAL.pdf).

⁵⁹ *Standards Update Notice*, 34 FCC Rcd at 1905-06.

⁶⁰ E.g., Cisco/Intel Comments, CTA Comments, IBM Comments, IFIA, EMI, and HP Comments, ET Docket No. 19-48.

ISO/IEC 17025:2017; provided however, that the FCC only accept test lab accreditations for labs that meet the requirements of Clause 8.1 - Option A of the standard, and that such accreditations explicitly state that the test lab is accredited only in accordance with Option A.”⁶¹

21. We propose to incorporate by reference into our rules ISO/IEC 17025:2017 in its entirety, including Clause 8.1 - Option A and Option B.⁶² No other party has raised concerns with the availability of two options and C63 did not provide detailed rationale to support their request to incorporate only Option A. In fact, Annex B of ISO/IEC 17025:2017 states that “[b]oth options are intended to achieve the same result in the performance of the management system and compliance with clauses 4 to 7.” It is our understanding that Option B would allow laboratories to operate a quality management system that conforms to a certain standard from the International Organization for Standardization (i.e., ISO 9001) and that Option A of ISO/IEC 17025:2017 incorporates relevant requirements of that same standard. OET believes that Option A is more commonly used but Option B is available because some organizations have implemented an ISO 9001 system and would not need to take additional actions to demonstrate compliance.⁶³ We tentatively conclude that the flexibility of both options would enable entities who have already implemented a quality management system that would satisfy Option B to avoid the need to take further steps to demonstrate compliance. We seek comment on this tentative conclusion and seek comments on any concerns with providing both options.

22. While both ISO/IEC 17025:2005(E) and ISO/IEC 17025:2017(E) were considered valid during the transition period in effect at the time of the *Standards Update PN*, accreditations to ISO/IEC 17025:2005(E) became invalid after June 1, 2021.⁶⁴ In the *Standards Update PNOET* proposed to adopt a three-year transition period for use of the proposed updated standard.⁶⁵ In consideration of the time that has passed since publication of the *Standards Update PN*, combined with the facts that our rules require test laboratories to complete the accreditation process every two years⁶⁶ and that the prior standard has since become invalid within the standards body, we propose a two-year transition period for compliance with ISO/IEC 17025:2017(E).⁶⁷ We seek comment on the duration of this proposed transition period and how it should be reflected in any transition plans adopted by the Commission.

b. “Addendum to the American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation” (ANSI C63.4a-2017)

23. In late 2017, ASC C63 published ANSI C63.4a-2017 “Addendum to the American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, Amendment 1: Test Site Validation” (ANSI

⁶¹ Reply Comments of ASC C63, ET Docket No. 19-48, at 2.

⁶² We also propose to update § 68.162(d)(1) to correct typographical errors in the reference of two standards: ISO/IEC 17065 and ISO/IEC 17025. See Appendix A, *infra*.

⁶³ International Organization for Standardization, *ISO/IEC 17025:2017: General requirements for the competence of testing and calibration laboratories* at Appendix B, Third Edition (November 2017).

⁶⁴ ISO and ILAC issued a joint communique re-confirming that a three-year transition period would be allowed for accredited laboratories to transition to the 2017 version of ISO/IEC 17025. That transition period was later extended until June 1, 2021. ILAC, “Transition Period for ISO/IEC 17025Extended” (June 11, 2020), https://ilac.org/latest_ilac_news/transition-period-for-iso-iec-17025-extended/. ILAC, the International Laboratory Accreditation Council, is an international organization for accreditation bodies involved in the accreditation of conformity assessment bodies. See <https://ilac.org/about-ilac/partnerships/international-partners/iso/>.

⁶⁵ *Standard Update Notice*, 34 FCC Rcd at 1905-06.

⁶⁶ 47 CFR § 2.948(e).

⁶⁷ Current KDB guidance recognizes the use of either ISO/IEC 17025:2005(E) or ISO/IEC 17025:2017(E) for accreditation. [KDB 853844](#).

C63.4a-2017). ASC C63 requested that we incorporate by reference in our rules ANSI C63.4a-2017 to replace the existing ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz” (ANSI C63.4).⁶⁸ Sections 2.910, 2.948, 2.950, 15.31, 15.35, and 15.38 of our rules reference ANSI 63.4 as an electromagnetic compatibility (EMC) measurement standard for unintentional radiators.⁶⁹ As described in ASC C63’s filing, the standard was updated to resolve certain normalized site attenuation issues (including the measurement of equipment under test that exceeds 2 meters in height) and make a variety of corrections, clarifications, and modifications.⁷⁰ In the *Standards Update Notice*, OET sought comment on incorporating by reference ANSI C63.4a-2017 in the appropriate rules.⁷¹

24. Some commenters supported incorporation of the amended standard.⁷² However, we received several negative comments, generally citing costs associated with the procedure and stating that there were no problems with existing procedures that warrant adopting an alternative procedure.⁷³ Further, it is our understanding that ASC C63 has made substantial progress toward addressing these and other controversial issues in a pending modification.⁷⁴ Based on the comments received and the potential development of an additional modification to the standard, we tentatively conclude that ANSI C63.4 continues to sufficiently address current needs and that incorporation by reference of ANSI C63.4a-2017 into our rules is not warranted at this time. We seek comment on this tentative conclusion.

2. Additional Updates: “Calibration and testing laboratory accreditation systems—General requirements for operation and recognition” (ISO/IEC Guide 58:1993(E)); “General requirements for assessment and accreditation of certification/registration bodies” (ISO/IEC Guide 61:1996(E)); and “General requirements for bodies operating product certification systems” (ISO/IEC Guide 65:1996(E))

25. We note that our part 2 rules incorporate several references that have become outdated as a result of prior updates to standards that were phased in over specific transition periods.⁷⁵ Once the transition period passed, the newer standards became the only valid procedure for compliance with the Commission’s rules, rendering the prior references no longer relevant. Accordingly, we propose to delete from section 2.910 of the Commission’s rules references to: ISO/IEC Guide 58:1993(E), “Calibration and testing laboratory accreditation systems—General requirements for operation and recognition,” First Edition 1993; ISO/IEC Guide 61:1996(E), “General requirements for assessment and accreditation of certification/registration bodies,” First Edition 1996; and (6) ISO/IEC Guide 65:1996(E), “General requirements for bodies operating product certification systems.” We also propose to delete the related transition periods provided in section 2.950.⁷⁶ We also propose to make administrative changes to our rules to reflect any necessary changes to rule cross references that would result from the proposed rule changes.

⁶⁸ See ASC C63 Comments. ASC C63 originally filed in ET Docket No. 15-170. We subsequently moved this submission into ET Docket No 19-48.

⁶⁹ 47 CFR §§ 2.910, 2.948, 2.950, 15.31, 15.35, 15.38.

⁷⁰ ASC C63 Comments at 3-4.

⁷¹ *Standards Update Notice* at 1904-05.

⁷² E.g., Consumer Technology Comments and Sony Electronics Comments in ET Docket No. 19-148.

⁷³ E.g., International Business Machines Corporation Comments at 3-4 and Teradata Corporation Comments at 2.

⁷⁴ “Status of C63® Standards Date: July 23, 2021,” http://www.c63.org/documents/misc/matrix/c63_standards.htm#C63_4.

⁷⁵ See 47 CFR §§ 2.910, 2.950.

⁷⁶ 47 CFR §§ 2.910(d)(4)-(6), 2.950 (b), (c), (d).

26. We seek comment on whether there are additional conforming or administrative updates to our rules that we should consider. Additionally, what other rule modifications, including updating other standards currently referenced in the rules or incorporating by reference additional standards not currently referenced in the rules, would be necessary to give full effect to our proposals? Because the standards-setting process is marked by ongoing work to create, review, and update standards,⁷⁷ we recognize that our proposals are part of a larger and continuing effort to ensure that our rules incorporate appropriate standards and reflect relevant standards updates. Commission staff actively monitors the work of standards development organizations, and we are aware that additional standards relevant to the telecommunications sector are in various stages of drafting, voting, and publication. While such developments may warrant our consideration in the future, we are not seeking comment on such standards within this Notice of Proposed Rulemaking.

27. *Digital Equity and Inclusion.* Finally, the Commission, as part of its continuing effort to advance digital equity for all,⁷⁸ including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations⁷⁹ and benefits (if any) that may be associated with the proposals and issues discussed herein. Specifically, we seek comment on how our proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well as the scope of the Commission's relevant legal authority.

IV. PROCEDURAL MATTERS

28. *Initial Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980 (RFA),⁸⁰ as amended (RFA), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities of the proposals addressed in this Notice of Proposed Rulemaking. The IRFA is found in Appendix B. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the Notice of Proposed Rulemaking, and they should have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Notice of Proposed Rulemaking, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the RFA.⁸¹

29. *Paperwork Reduction Act.* This document contains proposed modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens,

⁷⁷ For example, ANSI's procedures require that it take action to reaffirm, revise, or withdraw standards no later than five years from their date of publication. See Daniel D. Hoolihan, "The ANSI-Accredited Standards Committee on EMC – C63®," In Compliance (June 29, 2018), <https://incompliancemag.com/article/the-ansi-accredited-standards-committee-on-emc-c63/>.

⁷⁸ Section 1 of the Communications Act of 1934 as amended provides that the FCC "regulat[es] interstate and foreign commerce in communication by wire and radio so as to make [such service] available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex." 47 U.S.C. § 151.

⁷⁹ The term "equity" is used here consistent with Executive Order 13985 as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. See Exec. Order No. 13985, 86 Fed. Reg. 7009, Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (January 20, 2021).

⁸⁰ See 5 U.S.C. § 603.

⁸¹ See 5 U.S.C. § 603(a).

invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

30. *Ex Parte Rules – Permit but Disclose.* Pursuant to section 1.1200(a) of the Commission's rules,⁸² this Notice of Proposed Rulemaking shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.⁸³ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

31. *Comment Period and Filing Procedures.* Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. All filings must refer to ET Docket No. 21-363.

- Electronic filers: Comments may be filed electronically using the Internet by accessing the Commission's Electronic Comment Filing System (ECFS): <https://www.fcc.gov/ecfs>. See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
 - Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
 - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
 - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.

⁸² 47 CFR § 1.1200(a).

⁸³ 47 CFR §§ 1.1200 *et seq.*

- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. *See* FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, DA 20-304 (March 19, 2020). <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

32. **People with Disabilities:** To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

33. **Availability of Documents:** Comments, reply comments, and *ex parte* submissions will be publicly available online via ECFS. When the FCC Headquarters reopens to the public, these documents will also be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 45 L Street NE, Washington, DC 20554.

34. **Further Information.** For further information, contact Brian Butler of the Office of Engineering and Technology, at 202-418-2702 or Brian.Butler@fcc.gov.

V. ORDERING CLAUSES

35. Accordingly, IT IS ORDERED, pursuant to the authority found in sections 4(i), 301, 302, and 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 301, 302a, 303, and sections 1.407 and 1.411 of the Commission's Rules, 47 CFR §§ 1.407, 1.411, that this Notice of Proposed Rulemaking IS HEREBY ADOPTED.

36. IT IS FURTHER ORDERED that the Petition of the American National Standards Institute, Accredited Standards Committee, C63 Requesting adoption of ANSI C63.25.1-2018 into the Commission's Part 2 rules for EMC test site validation from 1 GHz – 18 GHz (filed March 6, 2020) and the Petition of the American National Standards Institute, Accredited Standards Committee, C63 Requesting adoption of ANSI C63.10-2020 into the Parts 2 and 15 Rules for Compliance Testing of Unlicensed Radio Devices (filed February 4, 2021) ARE GRANTED to the extent set forth herein, and OTHERWISE DENIED.

37. IT IS FURTHER ORDERED that ET Docket No. 19-48 IS HEREBY TERMINATED.

38. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

PROPOSED RULES

For the reasons set forth in the preamble, the Federal Communications Commission proposes to amend part 2, part 15, part 68, and part 73 of Title 47 of the Code of Federal Regulations as follows:

Part 2 – Frequency Allocations and Radio Treaty Matters; General Rules and Regulations

1. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336.

2. Amend § 2.910 by revising paragraphs (b)(1), (c)(1), (c)(2), and (d) to read as follows:

§ 2.910 Incorporation by Reference.

* * * * *

(b) * * *

(1) CISPR 16-1-4:2010-04: “Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-4: Radio disturbance and immunity measuring apparatus — Antennas and test sites for radiated disturbance measurements”, Edition 3.0, 2010-04, IBR approved for § 2.948(d).

* * * * *

(c) * * *

(1) ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,” ANSI approved June 13, 2014, Sections 5.4.4 through 5.5, IBR approved for § 2.948(d); and

(2) ANSI C63.25.1-2018, “American National Standard Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz,” ANSI approved December 17, 2018, IBR approved for § 2.948(d).

* * * * *

(d) * * *

(1) ISO/IEC 17011:2004(E), “Conformity assessment — General requirements for accreditation bodies accrediting conformity assessment bodies,” First Edition, 2004-09-01, IBR approved for §§ 2.948(e), 2.949(b), 2.950(a), and 2.960(c).

(2) ISO/IEC 17025:2005(E), “General requirements for the competence of testing and calibration laboratories,” Second Edition, 2005-05-15, IBR approved for §§ 2.948(e), 2.949(b), 2.950(b), and 2.962(c) and (d).

(3) ISO/IEC 17065:2012(E), “Conformity assessment — Requirements for bodies certifying products, processes and services,” First Edition, 2012-09-15, IBR approved for §§ 2.960(b), 2.962(b), (c), (d), (f), and (g).

(4) ISO/IEC 17011:2017, “Conformity assessment—Requirements for accreditation bodies accrediting conformity assessment bodies,” Second Edition, November 2017, IBR approved for §§ 2.948(e), 2.949(b), 2.950(a), and 2.960(c).

(5) ISO/IEC 17025:2017, “General requirements for the competence of testing and calibration laboratories,” Third Edition, November 2017, IBR approved for §§ 2.948(e), 2.949(b), 2.950(b), and 2.962(c) and (d).

3. Amend § 2.948 by revising paragraph (d) to read as follows:

§ 2.948 Measurement facilities.

* * * * *

(d) When the measurement method used requires the testing of radiated emissions on a validated test site, the site attenuation must comply with the requirements of sections 5.4.4 through 5.5 of the following procedure: ANSI C63.4–2014 (incorporated by reference, see § 2.910). Measurement facilities used to make radiated emission measurements from 30 MHz to 1 GHz must comply with the site validation requirements in ANSI C63.4–2014 (clause 5.4.4); for radiated emission measurements from 1 GHz to 18 GHz must comply with either the site validation requirement of ANSI C63.25.1-2018 or ANSI C63.4–2014 (clause 5.5.1 a) 1)), such that the site validation criteria called out in CISPR 16–1–4:2010–04 (incorporated by reference, see § 2.910) is met; for radiated emission measurements from 18 GHz to 40 GHz must comply with the site validation requirement of ANSI C63.4–2014 (clause 5.5.1 a) 1)), such that the site validation criteria called out in CISPR 16–1–4:2010–04 (incorporated by reference, see § 2.910) is met. Test site revalidation must occur on an interval not to exceed three years.

* * * * *

4. Amend § 2.950 to read as follows:

§ 2.950 Transition periods.

(a) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], an organization accrediting the prospective accredited testing laboratory must be capable of meeting the requirements and conditions of ISO/IEC 17011:2004 (incorporated by reference, see § 2.910) or ISO/IEC 17011:2017 (incorporated by reference, see § 2.910). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], an organization accrediting the prospective accredited testing laboratory must be capable of meeting the requirements and conditions of ISO/IEC 17011:2017 (incorporated by reference, see § 2.910).

(b) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], an organization accrediting the prospective accredited testing laboratory must be capable of meeting the requirements and conditions of ISO/IEC 17025:2005 (incorporated by reference, see § 2.910) or ISO/IEC 17025:2017 (incorporated by reference, see § 2.910). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], an organization accrediting the prospective accredited testing laboratory must be capable of meeting the requirements and conditions of ISO/IEC 17025:2017 (incorporated by reference, see § 2.910).

(c) All radio frequency devices that were authorized under the verification or Declaration of Conformity procedures prior to November 2, 2017, must continue to meet all requirements associated with the applicable procedure that were in effect immediately prior to November 2, 2017. If any changes are made to such devices after November 2, 2018, the requirements associated with the Supplier's Declaration of Conformity apply.

Part 15 – Radio Frequency Devices

5. The authority citation for part 15 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, 304, 307, 336, 544a, and 549.

6. Amend § 15.31 by revising paragraph (a)(3) to read as follows:

§ 15.31 Measurement standards.

(a) * * *

* * * * *

(3) Other intentional radiators must be measured for compliance using the following procedure: ANSI C63.10 (incorporated by reference, see § 15.38).

* * * * *

7. Amend § 15.37 by adding paragraph (r) to read as follows

§ 15.37 Transition provisions for compliance with this part.

* * * * *

(r) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], measurements for intentional radiators subject to section 15.31(a)(3) chapter must be made using the procedures in ANSI C63.10–2013 or ANSI C63.10–2020 (incorporated by reference, see § 15.31(a)(3)). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], measurements for intentional radiators subject to part 15 of this chapter must be made using the procedures in ANSI C63.10–2020 (incorporated by reference, see § 15.31(a)(3)).

8. Amend § 15.38 by adding paragraph (g)(4) to read as follows:

§ 15.38 Incorporation by Reference.

* * * * *

(g) * * *

* * * * *

(4) ANSI C63.10–2020, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices,” ANSI approved January 29, 2021, IBR approved for § 15.31(a)(3).

* * * * *

Part 68 – Connection of Terminal Equipment to the Telephone Network

9. The authority citation for part 68 continues to read as follows:

Authority: 47 U.S.C. 154, 303, and 610.

10. Amend § 68.160 by revising paragraph (c)(1) and adding paragraph (d)(2)(iii) to read as follows:

§ 68.160 Designation of Telecommunication Certification Bodies (TCBs).

* * * * *

(c) * * *

(1) Prior to [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], the organization accrediting the prospective telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17011:2014 or ISO/IEC 17011:2017 (incorporated by reference). On or after [INSERT DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], the organization accrediting the prospective telecommunication certification body must be capable of meeting the requirements and conditions of ISO/IEC 17011:2017 (incorporated by reference).

* * * * *

(d) * * *

(2) * * *

(iii) ISO/IEC 17011:2017, “Conformity assessment—Requirements for accreditation bodies accrediting conformity assessment bodies,” Second Edition, November 2017, IBR approved for § 68.160(c).

11. Amend § 68.162 by revising paragraph (d)(1) and paragraph (i)(1)(i) to read as follows:

§ 68.162 Requirements for Telecommunication Certification Bodies.

* * * * *

(d) * * *

(1) In accordance with the provisions of ISO/IEC 17065 the evaluation of a product, or a portion thereof, may be performed by bodies that meet the applicable requirements of ISO/IEC 17025 and ISO/IEC 17065, in accordance with the applicable provisions of ISO/IEC 17065, for external resources (outsourcing) and other relevant standards. Evaluation is the selection of applicable requirements and the determination that those requirements are met. Evaluation may be performed by using internal TCB resources or external (outsourced) resources.

* * * * *

(i) * * *

(1) * * *

(i) ISO/IEC 17025:2017, “General requirements for the competence of testing and calibration laboratories,” Third Edition, November 2017.

* * * * *

Part 73 – Radio Broadcast Services

12. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 155, 301, 303, 307, 309, 310, 334, 336, 339.

13. Amend § 73.1660 by revising Note 1 to paragraph (a)(1) to read as follows:

§ 73.1660 Acceptability of broadcast transmitters.

* * * * *

Note 1 to paragraph (a)(1): The verification procedure has been replaced by Supplier’s Declaration of Conformity. AM, FM, and TV transmitters previously authorized under subpart J of part 2 of this chapter may remain in use. See § 2.950 of this chapter.

* * * * *

APPENDIX B

INITIAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this Notice of Proposed Rule Making (Notice). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice provided on page 1 of the item. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).² In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.³

A. Need for, and Objectives of, the Proposed Rules

2. The Commission's proposals are targeted updates to our rules limited to the incorporation by reference (IBR) of standards that are associated with equipment authorization and the certification of Telecommunication Certification Bodies (TCBs). IBR is the process that federal agencies use when referring to materials published elsewhere to give those materials the same force and effect of law in the Code of Federal Regulations as if the materials' text had actually been published in the Federal Register. By using IBR, we are able to give effect to technical instructions, testing methodologies, and other process documents that are developed and owned by standards development organizations. Referencing these documents in our rules substantially reduces the volume of material and also permits us to more efficiently implement updated standards because we only have to update our reference instead of making substantial modifications to our rules.

3. In this Notice, we address two petitions filed by the American National Standards Institute, Accredited Standards Committee (ASC) C63: one seeking to reference a new standard in our rules pertaining to test site validation; and one proposing to incorporate a newer version of a currently referenced standard that addresses a variety of compliance testing requirements. We also update and clarify the status of two standards for which OET previously sought comment by proposing to update an accreditation standard for testing and calibration laboratories. Specifically, to maintain the high level of compliance and minimal interference from RF devices. It's essential that our equipment authorization (EA) program incorporates current applicable compliance standards. Therefore, the Commission proposes to modify certain Commission rules to reflect more recent standards that apply to the EA testing procedures and the accredited TCB entities responsible for assessing and conducting the measurements necessary to demonstrate compliance with the Commission's RF device rules.

B. Legal Basis

4. The proposed action is taken pursuant to sections 4(i), 301, 302, and 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 301, 302a, 303, and sections 1.407 and 1.411 of the Commission's rules, 47 CFR §§ 1.407, 1.411.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Would Apply

5. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴ The RFA generally

¹ 5 U.S.C. § 603. The RFA, 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² 5 U.S.C. § 603(a).

³ 5 U.S.C. § 603(a).

⁴ 5 U.S.C. § 603(b)(3).

defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁵ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁶ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷

6. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.⁸ First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the Small Business Administration’s (SBA) Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.⁹ These types of small businesses represent 99.9% of all businesses in the United States, which translates to 31.7 million businesses.¹⁰

7. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”¹¹ The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.¹² Nationwide, for tax year 2018, there were approximately 571,709 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according the registration and tax data for exempt organizations available from the IRS.¹³

8. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a

⁵ 5 U.S.C. § 601(6).

⁶ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

⁷ 15 U.S.C. § 632.

⁸ See 5 U.S.C. § 601(3)–(6).

⁹ See SBA, Office of Advocacy, *What’s New With Small Business?*, <https://cdn.advocacy.sba.gov/wp-content/uploads/2020/11/05122043/Small-Business-FAQ-2020.pdf> (October 2020).

¹⁰ *Id.*

¹¹ 5 U.S.C. § 601(4).

¹² The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number of small organizations in this small entity description. See Annual Electronic Filing Requirement for Small Exempt Organizations — Form 990-N (e-Postcard), “Who must file,”

<https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard>. We note that the IRS data does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

¹³ See Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-EO-BMF>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for Region 1-Northeast Area (76,886), Region 2-Mid-Atlantic and Great Lakes Areas (221,121), and Region 3-Gulf Coast and Pacific Coast Areas (273,702) which includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

population of less than fifty thousand.”¹⁴ U.S. Census Bureau data from the 2017 Census of Governments¹⁵ indicate that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.¹⁶ Of this number there were 36,931 general purpose governments (county,¹⁷ municipal, and town or township¹⁸) with populations less than 50,000 and 12,040 special purpose governments – independent school districts¹⁹ with enrollment populations of less than 50,000.²⁰ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”²¹

9. *Radio Frequency Equipment Manufacturers (RF Manufacturers)*. Neither the Commission nor the SBA has developed a small business size standard applicable to Radio Frequency Equipment Manufacturers (RF Manufacturers). There are several analogous SBA small entity categories applicable to RF Manufacturers—Fixed Microwave Services, Other Communications Equipment Manufacturing, and Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. A description of these small entity categories and the small business size standards under the SBA rules are detailed below.

¹⁴ 5 U.S.C. § 601(5).

¹⁵ See 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7.” See also Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

¹⁶ See U.S. Census Bureau, 2017 Census of Governments – Organization Table 2. Local Governments by Type and State: 2017 [CG1700ORG02]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also Table 2. CG1700ORG02 Table Notes_Local Governments by Type and State_2017.

¹⁷ See *id.* at Table 5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

¹⁸ See *id.* at Table 6. Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

¹⁹ See *id.* at Table 10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also Table 4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2017.

²⁰ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

²¹ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations Tables 5, 6, and 10.

10. *Fixed Microwave Services.* Microwave services include common carrier,²² private-operational fixed,²³ and broadcast auxiliary radio services.²⁴ They also include the Upper Microwave Flexible Use Service²⁵, Millimeter Wave Service²⁶, Local Multipoint Distribution Service (LMDS),²⁷ the Digital Electronic Message Service (DEMS),²⁸ and the 24 GHz Service,²⁹ where licensees can choose between common carrier and non-common carrier status.³⁰ There are approximately 66,680 common carrier fixed licensees, 69,360 private and public safety operational-fixed licensees, 20,150 broadcast auxiliary radio licensees, 411 LMDS licenses, 33 24 GHz DEMS licenses, 777 39 GHz licenses, and five 24 GHz licenses, and 467 Millimeter Wave licenses in the microwave services.³¹ The Commission has not yet defined a small business with respect to microwave services. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite)³² and the appropriate size standard for this category under SBA rules is that such a business is small if it has 1,500 or fewer employees.³³ For this industry, U.S. Census Bureau data for 2012 show that there were 967 firms that operated for the entire year.³⁴ Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.³⁵ Thus under this SBA category and the associated size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

11. The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are up to 36,708 common carrier fixed licensees and up to 59,291 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services that may be small and may be affected by the rules and policies discussed herein. We note, however, that the common carrier microwave fixed licensee category does include some large entities.

²² See 47 CFR part 101, subparts C and I.

²³ See 47 CFR part 101, subparts C and H.

²⁴ Auxiliary Microwave Service is governed by part 74 of title 47 of the Commission's Rules. See 47 CFR part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

²⁵ See 47 CFR part 30.

²⁶ See 47 CFR part 101, subpart Q.

²⁷ See 47 CFR part 101, subpart L.

²⁸ See 47 CFR part 101, subpart G.

²⁹ See *id.*

³⁰ See 47 CFR §§ 101.533, 101.1017.

³¹ These statistics are based on a review of the Universal Licensing System on September 22, 2015.

³² See U.S. Census Bureau, *2017 NAICS Definition, "517312 Wireless Telecommunications Carriers (except Satellite),"* <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

³³ See 13 CFR § 121.201, NAICS Code 517312 (previously 517210).

³⁴ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series, Estab and Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517210, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517210&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false&vintage=2012>.

³⁵ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

12. *Other Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).³⁶ Examples of such manufacturing include fire detection and alarm systems manufacturing, intercom systems and equipment manufacturing, and signals (e.g., highway, pedestrian, railway, traffic) manufacturing.³⁷ The SBA has established a size standard for this industry as all such firms having 750 or fewer employees.³⁸ U.S. Census Bureau data for 2012 show that 383 establishments operated in that year.³⁹ Of that number, 379 operated with fewer than 500 employees and 4 had 500 to 999 employees.⁴⁰ Based on this data, we conclude that the majority of Other Communications Equipment Manufacturers are small.

13. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment.⁴¹ Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.⁴² The SBA has established a size standard for this industry of 1,250 employees or less.⁴³ U.S. Census Bureau data for 2012 show that 841 establishments operated in this industry in that year.⁴⁴ Of that number, 828 establishments operated with fewer than 1,000 employees, 7 establishments operated with between 1,000 and 2,499 employees and 6 establishments operated with 2,500 or more employees.⁴⁵ Based on this data, we conclude that a majority of manufacturers in this industry are small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

14. The Commission's equipment authorization rules incorporate by reference various standards⁴⁶ that have been established by standards-setting bodies including, but not limited to, the

³⁶ See U.S. Census Bureau, *2017 NAICS Definitions*, "334290 Other Communications Equipment Manufacturing," <https://www.census.gov/naics/?input=334290&year=2017&details=334290>.

³⁷ *Id.*

³⁸ See 13 CFR 121.201, NAICS Code 334290.

³⁹ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1231SG2, *Manufacturing: Summary Series: General Summary: Industry Statistics for Subsectors and Industries by Employment Size: 2012*, NAICS Code 334290, <https://data.census.gov/cedsci/table?text=EC1231SG2&n=334290&tid=ECNSIZE2012.EC1231SG2&hidePreview=false&vintage=2012>.

⁴⁰ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴¹ See U.S. Census Bureau, *2017 NAICS Definition*, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing," <https://www.census.gov/naics/?input=334220&year=2017&details=334220>.

⁴² *Id.*

⁴³ See 13 CFR § 121.201, NAICS Code 334220.

⁴⁴ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1231SG2, *Manufacturing: Summary Series: General Summary: Industry Statistics for Subsectors and Industries by Employment Size: 2012*, NAICS Code 334220, <https://data.census.gov/cedsci/table?text=EC1231SG2&n=334220&tid=ECNSIZE2012.EC1231SG2&hidePreview=false>.

⁴⁵ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴⁶ See, e.g., 47 CFR §§ 2.910, 2.950, 15.38.

American National Standards Institute, Accredited Standards Committee (ASC) C63;⁴⁷ the International Organization for Standardization; and the International Electrotechnical Commission.⁴⁸ Compliance testing is central to the equipment authorization program. Section 2.947 of the Commission's rules requires test data be measured in accordance with one of three types of standards and measurement procedures, including "[t]hose acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic[s] Engineers, Inc., and the American National Standards Institute."⁴⁹ Accordingly, we have incorporated by reference such standards into our rules when appropriate; use of these standards is intended to ensure the integrity of the measurement data associated with an equipment authorization.

15. In this Notice, we propose to update part 2 of the Commission's rules which contains requirements that applications for RF devices subject to the certification requirements must be filed with, and approved by, an accredited TCB. Additionally, terminal equipment intended for connection to the public switched telephone network must be subject to certification by a TCB or the Supplier's Declaration of Conformity (SDOC). Compliance testing data associated with an application for certification must be obtained from a testing laboratory that has been accredited in accordance with the Commission's rules.⁵⁰ An entity seeking to be recognized by the Commission as an accreditation body for test laboratories must demonstrate that it complies with applicable ISO and IEC standards for recognizing such bodies and that it is competent in assessing test laboratories to perform measurements in support of the applicable FCC technical regulations.⁵¹

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

16. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."⁵²

17. In this proceeding, our proposals are consistent with (1), in that our goal is to seek comment on targeted updates to our rules to incorporate four new and updated standards that are integral to the testing of equipment and accreditation of laboratories that test RF devices. In response to advancements in technologies and measurement capabilities, standards bodies periodically update their standards or adopt new standards to reflect best practices. Our proposals here are based on such developments, as further informed by petitions for rulemaking filed with the Commission.

⁴⁷ American National Standards Institute, Accredited Standards Committee (ASC) C63 is a standards organization that is responsible for developing electromagnetic compatibility (EMC) measurement standards and testing procedures. ASC C63's standards are published by the American National Standards Institute under the ANSI nomenclature. The Commission's rules have referenced various versions of ASC C63-originated standards for more than a quarter century.

⁴⁸ The International Organization for Standardization (ISO) is an independent, non-governmental international organization that develops voluntary international standards, see <https://www.iso.org/home.html>. The International Electrotechnical Commission (IEC) develops international standards for all electrical, electronic, and related technologies. See <https://www.iec.ch>.

⁴⁹ 47 CFR § 2.947(a)(2).

⁵⁰ 47 CFR § 2.948(a).

⁵¹ 47 CFR § 2.949.

⁵² 5 U.S.C. § 603(c)(1) – (c)(4).

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

18. None.

Standards Related to the Commission's Equipment Authorization Program

Manifest

Submission Date: April 12, 2022

Submission To:

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Document Formats: [HTML](#) | [PDF](#)

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1. Introduction and Statement of Purpose

This is a comment by [Public.Resource.Org](#) ("Public Resource"), [iFixit](#), and [Make Community](#) on the Notice of Proposed Rulemaking (NPRM) entitled *Updating References to Standards Related to the Commission's Equipment Authorization Program* ([87 FR 15180](#)).

Public Resource is a 501(c)(3) nonprofit organization based in California. Its mission is to make the law more readily available. iFixit is a collaborative effort spanning thousands of fixers, repair-seekers, and translators dedicated to assisting people in repairing their equipment. Make Community is an organization that has been elevating makers, nurturing a global cultural movement, and celebrating creativity, innovation and curiosity since 2005.

In this comment, we focus on a single issue: the public availability and accessibility of documents that are proposed to be incorporated by reference into law. As the Commission states in the Federal Register Notice of Proposed Rulemaking:

The Commission's proposals are limited to the incorporation by reference of standards that are associated with equipment authorization and the recognition of Telecommunication Certification Bodies (TCBs). Incorporation by reference is the process that Federal agencies use when referring to materials published elsewhere to give those materials the same force and effect of law in the Code of Federal Regulations as if the materials' text had actually been published in the Federal Register. 5 U.S.C. 552(a)(1) and Office of the Federal Register, IBR Handbook 1 (July 2018).

We would like to state one important and overriding fact at the outset: America is a better place because of the dedicated efforts of the FCC staff and commissioners. The technical regulations promulgated by the FCC have created and guided one of the best telecommunications systems in the world. We greatly appreciate your efforts.

It is precisely because this work is so important that the FCC must address this one glaring defect in this rulemaking: The text of the proposed law is hidden from public view, with access deliberately limited and available only by expensive entry fees. Special permission is required just to read the law. In most cases, copying the law—or

even repeating a brief extract—is purportedly prohibited without a special license that is only awarded by a private organization at its discretion.

This defect is especially problematic during the notice and comment period. How can we comment on a proposed rule when the important details of that rule is hidden behind a cash register, technical limitations, and terms of use?

This is not how the rule of law is supposed to work. This is not how federal rulemaking is supposed to work.

This proposed rule is an important update to our national telecommunications regulations, one that aims to enact into federal law standards that are integral to the testing of equipment and accreditation of laboratories that test RF devices.

What is not clear is why the FCC believes that it is appropriate or in the public interest to issue a proposed or final rule that includes major components that many people, including many interested parties, will not be able to fully access, because obtaining these components of the law requires payment of exorbitant fees and because of improper assertion of copyright claims that deter people from communicating the text of these provisions to others. Indeed, these restrictions are intended to prevent interested people from speaking about or even quoting their own laws.

Accordingly, Public Resource, iFixit, and Make Community are not commenting here on the substantive merits of the proposed rule. Instead, we ask the FCC to recognize that it has acted illegally and arbitrarily at this Notice of Proposed Rulemaking (NPRM) stage in not making the details of these standards—which are integral parts of the rule—available to us and other members of the public on a free and unrestricted basis. This unwarranted action by the FCC places an impossible to surmount barrier on members of the public who wish to review the entire rule in order to fully understand it and to make appropriate comments.

A final rule that incorporated the standards without making them freely available would be equally invalid. The new regulation would make these standards part of the law, yet the FCC proposes to exclude the texts of these standards from the text of the published regulation. Nor does the FCC propose to link the online version of the regulation to websites offering free and unrestricted access to the standards. Instead, the FCC apparently expects people to purchase the standards from private organizations at substantial cost, subject to a series of elaborate requirements and restrictions for online use, with the organizations claiming the right to prohibit purchasers from sharing these provisions of the law with others.

This failure to make standards that are proposed to be part of the rule freely available denies people basic access to their own laws, the laws they are both bound to obey and dependent upon for protection. In so doing, the proposed rule violates the Administrative Procedure Act (“APA”) ([5 U.S.C. § 553](#)) and the fundamental principle of responsive governments worldwide for millennia—that people are entitled to read and speak the laws that govern them, with no restrictions.

Because it is illegal and arbitrary to publish this proposed rule without making incorporated standards freely available, the FCC should re-publish the proposed rule with the incorporated public safety standards available online on a free, unrestricted basis and re-open the comment period. As to any final rule, the FCC may not lawfully incorporate these standards into its regulation until and unless they are written directly into the rule, or else permanently available to the public online without charge and without any restriction whatsoever on use.

2. The Proposed Rulemaking

The Commission proposes to incorporate by reference technical standards that govern the operation of accredited testing laboratories and are also used by manufacturers when they are self-certifying. The Commission’s notice informs the public that each standard is available for purchase from the relevant standards development organization (known as “SDOs”) or available for inspection (but not copying) at the FCC’s office in Washington, DC. Those standards are:

- IEEE/ANSI C63.25.1-2018, “American National Standard Validation Methods for Radiated Emission Test Sites; 1 GHz to 18 GHz.” The [cost of purchasing this standard](#) is \$63.00 in electronic format which restricts uses through digital rights management. IEEE also sells [hardcopy](#) on Amazon for \$139.50. IEEE describes the purpose of the standard as “to describe validation methods of test sites used for radiated emissions measurements in the 1 GHz to 18 GHz frequency range as required by ASC C63® standards. The site validation requirements described in this document are applicable to fully anechoic rooms (FAR) and open area test sites (OATS) as well as semi-anechoic chambers (SAC) that are configured with absorber on the ground plane.”
- IEEE/ANSI C63.10–2020, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.” The [cost of this](#)

standard is \$176.00 in electronic format which restricts uses through digital rights management. It is not available in hardcopy. This standard specifies U.S. consensus standard methods and instrumentation and test facilities requirements for measurement of radio frequency (RF) signals and noise emitted from unlicensed wireless devices (also called unlicensed transmitters, intentional radiators, and license-exempt transmitters) operating in the frequency range 9 kHz to 231 GHz.

- ISO/IEC 17011:2017, "Conformity assessment—Requirements for accreditation bodies accrediting conformity assessment bodies." The cost of this standard is \$175.00 in electronic format which restricts uses through digital rights management. The standard specifies requirements for the competence, consistent operation and impartiality of accreditation bodies assessing and accrediting conformity assessment bodies.
- ISO/IEC 17025:2017, "General Requirements for the Competence of Testing and Calibration Laboratories." The cost of this standard is \$175.00 in electronic format which restricts uses through digital rights management. The standard specifies a variety of aspects of a laboratory, including the technical competence of staff; the validity and appropriateness of test methods; traceability of measurements and calibration to national standards; suitability, calibration, and maintenance of the testing environment; sampling, handling, and transportation of test items; and quality assurance of test and calibration data.

3. Why We Care

Knowledge of the technical and safety requirements for electronic equipment is a core competency for the thousands of volunteers and professionals that fix their own equipment, evaluate commercial equipment, and make new things. We are particularly interested in being able to validate commercial products to assess how to fix them and whether or not they operate properly. Knowledge of these technical standards enforced by the FCC is vital to understand how these devices operate and whether they are operating properly.

We also care about these proposed requirements because we believe that our own efforts dovetail with the FCC's own enforcement efforts. As with other areas of public safety, such as consumer products and occupational safety, as citizens we help alert the government to unsafe devices. Again, without the ability to read the underlying

technical and safety specifications, we are unable to work hand-in-hand with our government to make sure our electronic equipment operates properly under the legal requirements of the law.

In addition to Public Resource, iFixit, and Make Community, a wide range of entities have an interest in shaping, understanding, evaluating, and monitoring compliance with these FCC rules, including government officials at the state and municipal level, officials at other agencies in the federal government, small businesses wishing to make or use relevant devices, engineering professionals, and engineering students. These standards are not only for the use and benefit of a small group. While not everyone has the training and experience to readily evaluate or monitor compliance with all of the standards incorporated in the proposed regulation, many people do, and interested advocacy and media outlets, among others, may seek out employees, volunteers, consultants and others who have the capacity to advise them.

Yet even though the technical and safety requirements for electronic equipment are very much a matter of public concern, the FCC appears to be acting as if the details of these issues can comfortably be left in the hands of those who already have purchased the relevant standards incorporated into law, or can easily afford to purchase such standards.

4. The Process for the Proposed Rulemaking Is Not Lawful

In order to comment on this Notice of Proposed Rulemaking, we would have to each expend \$589. Furthermore, the standards, once obtained, are subject to onerous terms of use. Among other provisions, the terms of use for the ANSI "reading room" specify:

THE COPYRIGHTED STANDARD(S) AND OTHER INFORMATION PROVIDED HEREWITH ARE LICENSED (NOT SOLD). BY DOWNLOADING ANY FILE PROVIDED HEREWITH TO YOUR COMPUTER, YOU ARE ACCEPTING AND AGREEING TO THE TERMS OF THIS AGREEMENT. IF YOU ARE NOT WILLING TO BE BOUND BY THE TERMS OF THIS AGREEMENT, PRIOR TO DOWNLOADING OR COPYING TO YOUR COMPUTER ANY FILE(S), YOU MUST DECLINE ACCESS TO SUCH MATERIALS.

(a) This Agreement does not convey to you an interest in or to the Product, but only a limited right of use, revocable in accordance with the terms of this Agreement.

(b) You may install one (1) copy of the Product on, and permit access to it by, a single computer owned, leased or otherwise controlled by you. In the event that computer becomes dysfunctional, such that you are unable to access the Product, you may transfer the Product to another computer, provided that the Product is removed from the computer from which it is transferred and the use of the Product on the replacement computer otherwise complies with the terms of this Agreement. You may print one (1) copy of the Product for personal use only. Neither concurrent use on two or more computers nor use in a local area network or other network is permitted. You shall not merge, adapt, translate, modify, rent, lease, sell, sublicense, assign or otherwise transfer the Product, or remove any proprietary notice or label appearing on any of the Product. You may make one (1) copy of the Product for backup purposes only.

(c) You acknowledge and agree that the Product is proprietary to the Copyright holder (the "Owner") identified on the front page of the Product, and is protected under U.S. copyright law and international copyright treaties. You acknowledge and agree that all provisions regarding the usage and copying of the Product in this Agreement replace all otherwise applicable limitations and privileges under the U.S. Copyright law, including, without limitation, the fair use doctrine. You further acknowledge and agree that all right, title and interest in and to the Product, including all intellectual property rights, are and shall remain with the Owner.

Think about those limitations on use. You are required to give up all fair use rights under U.S. copyright law. You may not share this document with your colleagues, even a paragraph's worth.

We believe it is inherently unfair for our government to contemplate binding regulations that we are not allowed to see. The Administrative Procedures Act, under which federal rulemaking is governed, requires that all citizens may participate in the process that results in regulations which we will have to live by. They cannot do that in a meaningful way unless they have access to the text of the standards on which they may comment and must obey.

5. Availability of the Law After Incorporation by Reference

We also believe that if these standards are indeed incorporated by reference, the final documents will not be adequately available to the public. There are three ways to examine these standards.

First, the Code of Federal Regulations requires that one copy of each standard must be available at the FCC's office in Washington, and a second at the Office of the Federal Register. Viewing these standards requires a trip to Washington, D.C., several days advance notice, but even then, we would be forbidden from photocopying the relevant pages.

Second, a few standards bodies make a subset of these standards available in so-called "Read-Only Reading Rooms." ANSI hosts these facilities for a few [IEEE standards](#) and a few ISO/IEC standards, but none of the standards that are subject to this rulemaking is available through ANSI (or the IEEE).

But for those that are available, in order to use these reading rooms, the user must accept all cookies on the web site and must provide extensive [registration information](#), including address, telephone number, and name of employer. Once registered, the user must accept the end user license agreement which warns the user:

By clicking on the link(s) to view the "read only" standards (the "Licensed Materials"), I agree to be bound by the terms and conditions of this End User License Agreement as a permitted "Recipient" of the Licensed Materials. I further agree to abide by all security measures imposed by the American National Standards Institute (ANSI) and/or any licensor with respect to accessing all materials during this session.

Access to the Licensed Materials is strictly for the purpose of review. I understand that I may not copy, use or further distribute the Licensed Materials except as set forth in this agreement and that the Licensed Materials are owned and copyright protected under U.S. copyright law and international copyright treaties. I further understand that I am not permitted to republish, modify, condense, or abbreviate the Licensed Materials.

I agree to be bound by any additional agreements as may be requested by ANSI from time to time as a result of updated or additional materials being made available as a condition of continued access to the licensed materials.

I agree that ANSI may terminate my access to the Licensed Materials at any time and for any reason, including my failure to comply with the terms of this license or any license agreement incorporated herein.

After completing that process and attempting to access a standard on the Firefox or Chrome browsers, interested persons were confronted with the following message:

*Group for Department: IEEE-135 and Channel: RO could not be resolved.
Error 50000, Level 16, State 3, Procedure GetEncryptionRequirements, Line
263*

This is because the user is required to install the ["FileOpen plug-in,"](#) which only works with Adobe's Acrobat PDF viewer before being able to view the standards. Many of us do not have the Adobe Acrobat PDF viewer, so that requires a second installation. And, because the standards are locked down so totally (no cut and paste or printing is allowed), the documents become inaccessible to the visually impaired, a gross violation of the Americans with Disabilities Act.

Having private parties regulate the conditions under which citizens may read the law and proposals to amend the law does not comply with the APA. Telling organizations such as ours that we may not communicate the provisions of the law to our fellow citizens without permission from a private party (which will not grant that permission) defeats the very purpose of being able to comment on proposed changes in the law, an essential requirement of the rule of law.

In addition to the ISO, IEC, and IEEE standards on the ANSI portal, the IEEE also hosts a ["reading room,"](#) which requires an IEEE login, acceptance of all terms of use similar to those of ANSI, and also does not contain the standards in question here.

6. Law Governing the Availability of Standards Incorporated by Reference

The fundamental law of the United States requires that the government make standards that are incorporated by reference into federal regulations widely available to the public, without charge, and that such standards must be in the public domain rather than subject to copyright restrictions. Citizens have the right, without limitation, to read, speak, and disseminate the laws that we are required to obey, including laws that are

critical to public safety and commerce. Open, effective, and efficient government and robust democracy require such free availability of standards incorporated by reference.

A. The APA Compels the FCC To Make These Incorporated Standards Freely Available

The advent of the Internet has fundamentally transformed what it means for material to be reasonably available. The Internet has brought the possibility that all standards incorporated into federal law can be instantly available online, linked directly to the relevant provisions of the CFR.

The widespread availability of the Internet, along with technologies like high-speed scanners and large-capacity hard drives, eliminates any argument that incorporation of standards through simple reference—as opposed to publishing the full text of the standard with the regulations—is needed to save space or trees.

Indeed, the Internet era provides a tremendous opportunity for government to inform its citizens in a broad and rapidly updated manner about the legal standards that must be met in carrying out daily activities. It also allows for companies, non-profits, and citizens to utilize and organize this information to enhance compliance, better understand the provisions of law, improve public safety, increase economic efficiency and opportunity, and highlight opportunities for effective reform.

Another strong advantage of widespread public availability of standards incorporated by reference would be to highlight the need for government to replace old, outdated standards with new ones. Public Resource has conducted an extensive examination of the Code of Federal Regulations with specific focus on incorporations by reference, coupled with an extensive examination of the Standards Incorporated by Reference (“SIBR”) database maintained by the National Institute of Standards and Technology. Many standards incorporated by reference into the CFR have been superseded by new standards from the standards development organizations (SDOs). Greater public access to standards incorporated by reference into federal regulations might alert policy and industry communities to the fact that federal rules all too often continue to rely on outdated private standards and are in need of updating to improve public safety.

The NPRM’s assertion that the incorporated standards are available for inspection at the FCC offices does not fix the problem: People should not be expected to travel from their homes to Washington DC in order to read (but not copy) the laws they are bound to obey. This solution is also inadequate because the agencies do not allow people to make copies of the standards so that they may consult them once they leave the

federal buildings where they are held. Requiring citizens to memorize hundreds of pages of law, let alone be expected to comment to the FCC on their specifics, is tantamount to denying them access entirely.

Given all these factors, the FCC should determine that the mandates of APA and the public interest require that the standards proposes to incorporate by reference into its final rule be written directly into the rule or else available on a public website without charge, and without limitation of use. That would include the FCC making clear that its obligations would not be satisfied by the SDOs continuing to make its standards available only for a fee, and only with the kind of restrictions on access and use described above, limiting the capacity of all persons to read, speak, and use standards that have become binding law.

For all of these reasons, the NPRM's failure to provide access to the text of the incorporated standard violates the provisions of the APA that require agencies to give people an opportunity to comment on proposed rule making. The APA requires that an NPRM include "either the terms or substance of the proposed rule or a description of the subjects or issues involved." [5 U.S.C. § 553\(b\)\(3\)](#). The bare-bones discussions of the standards to be incorporated by reference into the instant rule do not meet this requirement.

B. The Constitution and Judicial Decisions of the United States Compel the FCC to Make All Final Standards Freely Available

The U.S. Supreme Court in *Wheaton v. Peters*, [33 U.S. 591](#) (1834), and *Banks v. Manchester*, [128 U.S. 244](#) (1888), held that the law "is in the public domain and thus not amenable to copyright." *Veeck v. Southern Bldg. Code Congress International, Inc.*, [293 F.3d 791, 796](#) (5th Cir. 2002) (en banc), cert. denied, [539 U.S. 969](#) (2003). *Wheaton*, *Banks*, *Veeck* all concerned comparable fact patterns: A private party was trying to stop another private party from publishing material that was part of the law. In none of those cases was anyone trying to prevent the first party from selling copies of such material, and we do not question the right of SDOs to sell standards incorporated by reference into law. Rather, we believe, as the courts concluded in those cases, that once material has become law, everyone has the right to read the law and to speak and copy it, without limitation—a proposition clearly applies to standards incorporated by reference into federal law, notwithstanding assertions of copyright by SDOs.

In *Georgia v. Public Resource* (2020), the U.S. Supreme Court rejected an effort by the state of Georgia to use copyright claims to prevent Public Resource from posting online

the Official Code of Georgia, and Chief Justice Roberts, writing for the Court, reaffirmed the almost 200-year-old principle that “no one can own the law.” *Georgia v. Public.Resource.Org, Inc.*, [140 S. Ct. 1498, 1507](#) (2020).

In *American Society for Testing v. Public.Resource.Org*, faced with a copyright complaint filed by SDOs, because Public Resource posted hundreds of standards incorporated by reference into federal and state statutes and regulations, noted “a serious constitutional concern with permitting private ownership of standards essential to understanding legal obligations.” [896 F.3d 437, 447](#) (D.C. Cir. 2018). Concurring, Judge Katsas stated, “As a matter of common-sense ... access to the law cannot be conditioned on the consent of a private party.” [Id. at 458](#).

On remand from that decision, the United States District Court for the District of Columbia ruled on March 31, 2022, that it was protected fair use for Public Resource to post online a series of standards incorporated by reference. *American Society for Testing et. al. v. Public.Resource.Org*, [2022 WL 971735](#) (D.D.C. 2022).

The principle that the law must be public and available to citizens to read and speak has its roots in the concept of the rule of law itself, as well as central provisions of our Constitution. See generally Thomas Henry Bingham, [The Rule of Law](#), 37–38 (Penguin Press 2011) (“The law must be accessible...the successful conduct of trade, investment and business generally is promoted by a body of accessible legal rules governing commercial rights and obligations.”); Brian Z. Tamanaha, [On the Rule of Law: History, Politics, Theory](#), 34 (Cambridge Univ. Press, 2004) (“Citizens are subject only to the law, not to the arbitrary will or judgment of another who wields coercive government power. This entails that the laws be declared publicly in clear terms in advance.”). That is why, going back to ancient times, societies that replaced the rule of tyrants with the rule of law prominently displayed the laws in public places for all to see. See, e.g., Robert C. Byrd, [The Senate of the Roman Republic: Addresses on the History of Roman Constitutionalism](#) 33, 128, 135 (U.S. Government Printing Office, 1995).

As this history suggests, open access to the law is essential to a free society. Citizens are expected to obey the law, but they cannot do so effectively if they do not know it. Further, the First Amendment right to freedom of speech is imperiled if citizens are barred from freely communicating the provisions of the law to each other. Cf. *Nieman v. VersusLaw, Inc.*, [512 Fed. Appx. 635](#) (7th Cir., 2013) (“The First Amendment privileges the publication of facts contained in lawfully obtained judicial records, even if reasonable people would want them concealed.”). By the same token, equal protection of the laws and due process are jeopardized if some citizens can afford to purchase

access to the laws that all of us are bound to obey (with potential criminal penalties for non-compliance with some of these laws), but others cannot. Cf. *Harper v. Va. State Bd. of Elections*, [383 U.S. 663, 666](#) (1966) (a state violates the Equal Protection Clause “whenever it makes the affluence of the voter or payment of any fee an electoral standard”); see also Magna Carta [1297 c. 9](#) (cl. 29) (1297) (“We will sell to no man, we will not deny or defer to any man either Justice or Right.”).

Consistent with these fundamental principles, it is unlawful and unreasonable for the FCC to propose making these standards part of binding United States law without providing a means for citizens to access them without cost or restriction.

7. What the FCC Should Do Instead

It is essential that the rules of the road that govern our national telecommunications infrastructure be available for all to know and that we be allowed to copy, speak, and otherwise communicate the laws by which citizens are expected to know their rights and responsibilities. That requires that the FCC restart this rulemaking proceeding with everyone having free access and the right to copy these proposed standards, which is what 5 U.S.C. § 553 mandates.