ADDRESSES: You may submit comments identified by Coast Guard docket number USCG–2008–1225 to the Docket Management Facility at the U.S. Department of Transportation. To avoid duplication, please use only one of the following methods:

(1) *Online: http://www.regulations.gov.*

(2) *Mail:* Docket Management Facility (M–30), U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

(3) *Hand delivery:* Same as mail address above, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–366–9329.

(4) *Fax:* 202–493–2251.

FOR FURTHER INFORMATION CONTACT: If you have questions on this test deviation, call Michael Lieberum, Bridge Branch at 305–415–6744. If you have questions on viewing or submitting material to the docket, call Renee V. Wright, Program Manager, Docket Operations, telephone 202–366–9826.

SUPPLEMENTARY INFORMATION:

Public Participation and Request for Comments

We encourage you to participate in this action by submitting comments and related materials. All comments received will be posted, without change, to *http://www.regulations.gov* and will include any personal information you have provided. We have an agreement with the Department of Transportation to use the Docket Management Facility.

Submitting Comments

If you submit a comment, please include the docket number for this action (USCG–2008–1225), indicate the specific section of this document to which each comment applies, and give the reason for each comment. We recommend that you include your name and a mailing address, an e-mail address, or a phone number in the body of your document so that we can contact you if we have questions regarding your submission. You may submit your comments and material by electronic means, mail, fax, or delivery to the Docket Management Facility at the address under **ADDRESSES**; but please submit your comments and material by only one means. If you submit them by mail or delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and electronic filing. If you submit them by mail and would like to know that they reached the Facility, please enclose a stamped, self-addressed postcard or envelope. We will consider all comments and material received during the comment period. We may change this proposed action in view of them.

Viewing Comments and Documents

To view comments, as well as documents mentioned in this preamble as being available in the docket, go to *http://www.regulations.gov* at any time, click on ''Search for Dockets,'' and enter the docket number for this action (USCG–2008–1225) in the Docket ID box, and click enter. You may also visit the Docket Management Facility in Room W12–140 on the ground floor of the Department of Transportation West Building, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Privacy Act

Anyone can search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review a Privacy Act, system of records notice regarding our public dockets in the January 17, 2008 issue of the **Federal Register** (73 FR 3316).

Background and Purpose

The Pinellas Bayway Structure ''C'' bridge has a vertical clearance of 25 feet in the closed position and the Corey Causeway bridge has a vertical clearance of 23 feet in the closed position.

The current operating regulations per 33 CFR 117.287(e), the draw of the Pinellas Bayway Structure ''C'' bridge, mile 114, at St. Petersburg Beach shall open on signal; except that from 7 a.m. to 7 p.m., the draw need open only on the hour, twenty minutes past the hour, and forty minutes past the hour. Per 33 CFR 117.287(f), the draw of the Corey Causeway (SR 693) bridge, mile 117.7 at South Pasadena, shall open on signal; except that, from 8 a.m. to 7 p.m. Monday through Friday, and 10 a.m. to 7 p.m. Saturdays and Sundays and Federal holidays, the draw need to open only on the hour, twenty minutes after the hour, and forty minutes after the hour.

The local mayor has requested that the Coast Guard evaluate a twice an hour schedule. The Florida Department of Transportation, the bridge owner, has a concern related to the length of time during bridge openings on the weekends due to the accumulation of vessels between openings which may directly impact vehicle traffic. For this reason, FDOT will be monitoring the traffic flow through the area during this test and may recommend that the test be terminated at any point that vehicle traffic patterns show a detriment rather than an improvement in traffic flow. This test may have a minor impact on vessel traffic as there will be two openings an hour rather than three during these same time periods.

This deviation will start on 7 a.m. on January 26 and will continue until 7 p.m. on April 25, 2009, unless otherwise terminated/cancelled due to heavier than normal traffic patterns. The Pinellas Bayway Structure ''C'' and Corey Causeway bridges will open on demand except that from 7 a.m. to 7 p.m. daily both bridges will open on the hour and half-hour, seven days a week. Vessels able to pass under the bridges without an opening may do so at any time. Public vessels of the United States and tugs with tows must be passed at any time.

In accordance with 33 CFR 117.35(e), the drawbridge must return to its regular operating schedule immediately at the end of the designated time period. This deviation from the operating regulations is authorized under 33 CFR 117.35.

Dated: January 15, 2009.

R.S. Branham,

Rear Admiral, U.S. Coast Guard, Commander, Seventh Coast Guard District.

[FR Doc. E9–3301 Filed 2–13–09; 8:45 am]

BILLING CODE 4910–15–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[ET Docket No. 04–186 and 02–380; FCC 08–260]

Unlicensed Operation in the TV Broadcast Bands

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document the Commission adopted rules to allow unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used by licensed services (this unused TV spectrum is often termed ''white spaces''). This action will make a significant amount of spectrum available for new and innovative products and services, including broadband data and other services for businesses and consumers. The actions taken are a conservative first step that

includes many safeguards to prevent harmful interference to incumbent communications services. Moreover, the Commission will closely oversee the development and introduction of these devices to the market and will take whatever actions may be necessary to avoid, and if necessary correct, any interference that may occur.

DATES: Effective March 19, 2009, except for §§ 15.713, 15.714, 15.715 and 15.717, which contain information collection requirements that have not been approved by the Office of Management and Budget. The Federal Communications Commission will publish a document in the **Federal Register** announcing the effective date of those sections.

Paperwork Reduction Act of 1995 Analysis: This document contains new information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public to comment on the information collection requirements contained in this R&O as required by the Paperwork Reduction Act of 1995, Public Law 104–13. Comments should be submitted by April 20, 2009.

ADDRESSES: In addition to filing comments with the Secretary, a copy of any comments on the Paperwork Reduction Act information collection requirements contained herein should be submitted to the Federal Communications Commission via e-mail to *PRA@fcc.gov* and to Nicholas A. Fraser, Office of Management and Budget, via e-mail to *Nicholas_A._Fraser@omb.eop.gov* or via fax at 202–395–5167.

FOR FURTHER INFORMATION CONTACT: Hugh VanTuyl, Office of Engineering and Technology, (202) 418–7506, e-mail *Hugh.VanTuyl@fcc.gov* or Alan Stillwell, Office of Engineering and Technology (202) 418–2925, e-mail *Alan.Stillwell@fcc.gov*. TTY (202) 418–2989.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order and Memorandum Opinion and Order*, ET Docket No. 04–186 and ET Docket No. 02–380, FCC 08–260, adopted November 4, 2008 and released November 14, 2008. The full text of this document is available on the Commission's Internet site at *http://www.fcc.gov*. It is also available for inspection and copying during regular business hours in the FCC Reference Center (Room CY–A257), 445 12th Street., SW., Washington, DC 20554. The full text of this document also may be purchased from the Commission's duplication contractor, Best Copy and Printing Inc., Portals II, 445 12th St., SW., Room CY–B402, Washington, DC 20554; telephone (202) 488–5300; fax (202) 488–5563; e-mail *FCC@BCPIWEB.COM*.

Summary of the Report and Order and Memorandum Opinion and Order

1. On May 13, 2004, the Commission adopted a *Notice of Proposed Rule Making* (NPRM), 71 FR 66897, November 17, 2006, in this proceeding in which it proposed to allow unlicensed operation in the TV bands at locations where frequencies are not in use by licensed services. To ensure that no harmful interference will occur to TV stations and other authorized users of the spectrum, the Commission proposed to define the conditions under which a TV channel is unused and to require unlicensed devices to incorporate ''smart radio'' features to identify the unused TV channels in the area where they are located. For the purpose of minimizing interference, the Commission proposed to classify unlicensed TVBDs in two general functional categories. The first category would consist of lower power ''personal/portable'' unlicensed devices, such as Wi-Fi-like cards in laptop computers or wireless in-home local area networks (LANs). The second category would consist of higher power ''fixed'' unlicensed devices that would operate from a fixed location and could be used to provide commercial services such as wireless broadband Internet access. It proposed to require that personal/portable devices operate only when they receive a control signal from a source such as a TV station or FM radio station that identifies the vacant TV channels in that particular area. The Commission also requested comments on an approach that would require that fixed devices incorporate a geo-location method such as a Global Positioning System (GPS) receiver or be professionally installed, and that they access a database system to identify vacant channels at their location. The Commission further sought comment on the use of spectrum sensing to identify vacant TV channels, but did not propose any specific technical criteria for spectrum sensing.

2. The comments received in response to the NPRM were divided between the prospective manufacturers and users of unlicensed devices who believe adequate safeguards can be put in place to prevent harmful interference to authorized services, and the existing users of the TV bands who are concerned about potential interference. A number of broadband equipment manufacturers, trade associations and other parties supported allowing unlicensed operation in the TV bands. These parties generally stated that unlicensed devices could operate in the TV bands without causing interference to authorized services. They further stated that allowing such operation in the TV bands could improve access to broadband communications by taking advantage of the favorable propagation characteristics of the TV spectrum and that this would result in more efficient use of this spectrum.

3. Full service and low power TV broadcasters generally opposed allowing unlicensed operation in the TV bands, expressing concern that unlicensed devices operating under the proposed rules would cause interference to TV reception, particularly in weak signal areas. Several parties also expressed concern that unlicensed devices operating in close proximity to TV receivers would cause direct pick-up interference potentially affecting all channels. Manufacturers and users of wireless microphones and other broadcast auxiliary services submitted that unlicensed devices would cause harmful interference to those services. Those parties recommended that the Commission take a number of steps to protect auxiliary services. Land mobile interests expressed concern about allowing unlicensed operation on channels 14–20 in any part of the country because devices could be transported into areas where those channels are used for PLMRS/CMRS operations.

4. On October 12, 2006, the Commission adopted the *First R&O/Further NPRM*, 71 FR 66897, November 17, 2006, in this proceeding. In that action, the Commission determined that the record received in response to the *NPRM* did not contain sufficient information for it to adopt final rules for unlicensed TVBDs. The Commission did, however, make a number of initial decisions regarding TVBDs. It decided to permit fixed unlicensed power devices to operate in the TV bands at times and locations where the spectrum is not already being used by other authorized services. It also decided not to permit operation of unlicensed TVBDs on channel 37, which is used by radio astronomy and wireless medical telemetry services, and on TV channels 52–69, as that spectrum has been reallocated for other services and will no longer be part of the TV bands after the DTV transition. The Commission further decided to prohibit operation of personal/portable TV band devices on TV channels 14–20 to avoid potential conflicts with public safety services on those channels. In addition, the

Commission stated that it will not permit marketing of TV band devices to commence until February 18, 2009, the date on which all primary, full service TV stations will be in operation on their permanent DTV channels.

5. In the *First R&O/Further NPRM*, the Commission also asked questions and set forth additional proposals with regard to the provisions necessary to implement complete and final rules for unlicensed TV band devices. While the Commission continued to focus on devices operating on an unlicensed basis, it also sought comment on whether such devices should instead operate on a licensed or hybrid basis. The Commission recognized the importance of conducting testing to ensure that whatever standards are ultimately adopted will protect incumbent radio services from interference and indicated that it intended to conduct extensive testing to assess the potential interference from low power devices operating in the TV bands. It also requested further comment and information on the means that TVBDs, both fixed and personal/portable, should be required to use to determine the availability of unused spectrum. It specifically requested comment on whether it should allow personal/portable devices to rely on spectrum sensing and, if so, the technical features and parameters of the sensing capability to be required. The Commission observed that IEEE 802.22 is considering different sensing threshold detection levels depending on the nature of the source signal, with levels as low as −116 dBm, and invited comment on this value or alternative values for the detection threshold. It also made specific proposals for additional parameters of spectrum sensing capabilities and other technical requirements. The Commission sought comment on whether TV band devices should be permitted to operate on TV channels 2–4, and whether fixed TV band devices should be permitted to operate on TV channels 14–20. The Commission also sought additional comments on several issues relating to the geo-location/database access and control signal approaches discussed in the *NPRM*.

6. The comments responding to the *First R&O/Further NPRM* are again divided on certain of the major issues in this proceeding. Two groups, one a coalition of hardware and software companies consisting of Dell, Google, HP, Intel, Microsoft and Phillips (the White Space Coalition) and the other a group of public interest/consumer organizations and wireless internet service providers (WISPs), led by the NAF, strongly support low power, unlicensed use of the TV bands. In addition, some other manufacturers and a number of WISPs express support for that approach separately from these groups. Proponents of unlicensed devices believe that the Commission should allow both fixed and personal/portable devices. They also support allowing personal/portable devices to rely solely on spectrum sensing to determine the available channels at their location. The White Space Coalition supports limiting unlicensed operation to channels 21–51 (excluding 37), while the group led by the NAF believes that operation should be permitted on as many channels as possible, including channels 2–4 and channels 14–20 in locations where public safety and land mobile services are not using them.

7. Full service and low power TV broadcasters and cable TV interests generally state that any new services in the TV bands should be licensed to reduce the likelihood of interference to incumbent services. They oppose the introduction of personal/portable devices at this time and believe that any new services should be limited to fixed operation. Broadcasters contend that spectrum sensing alone is inadequate to protect against interference to broadcast operations and that sensing must be combined with geo-location/database access to ensure that low power devices do not operate inside the protected service contours of co-channel or adjacent-channel TV stations. Low power TV and translator operators express concern that low power unlicensed devices would cause interference to viewers who rely on reception outside their stations' protected service contours, while cable interests express concern about possible interference to reception of TV signals by cable headends that are located outside TV stations' protected contours. Both broadcast and cable interests express concern about direct pick-up interference to TV receivers, particularly from personal/portable devices.

8. Wireless microphone manufacturers and users again recommend that the Commission adopt a number of requirements to prevent interference to wireless microphones, including: (1) Limiting new low power devices to fixed operation, (2) prohibiting new low power devices from operating on channels adjacent to occupied TV channels and/or reserving six vacant TV channels in each market for wireless microphones to ensure that spectrum is available for their use, (3) requiring new low power devices to incorporate spectrum sensing to detect wireless microphones, and (4) requiring new low power devices to sense for the presence of a ''smart beacon'' that would be operated when wireless microphones are in use in an area (Shure has since repudiated its support for a beacon requirement). Public safety/land mobile interests believe that new low power devices should not be allowed to operate on channels 14–20 anywhere in the country because of the difficulties in enforcing geographic restrictions on operation.

9. On March 30, 2007, the Commission's Office of Engineering and Technology released a report on the results of its DTV receiver testing program, see DA 07–3457, 22 FCC Rcd 13846 (2007). This testing program examined the out-of-channel interference rejection performance of a representative sample of eight DTV receivers with fifth generation tuners that were available in 2005 and 2006. A total of 2055 individual measurements were performed on these receivers. Each test involved feeding a desired signal to the television under test and injecting an interfering signal on a different channel or combination of channels. The different tests varied the level of the desired signal and interfering signal(s). In these tests, no receiver appeared to fully achieve the Advanced Television Systems Committee's (ATSC) recommended guidelines for interference rejection performance—guidelines that are generally more stringent than the receiver performance assumptions on which current DTV interference protection criteria are based. However, the tests did show that the performance of digital television receivers exceeds the performance levels on which the Commission's digital television service and interference rules are based.

10. On July 31, 2007, the Office of Engineering and Technology released a technical report on an initial study of prototype TV band devices that were submitted to the Commission's Laboratory for testing. This report evaluated the performance of two samples of prototype devices; one device had both sensing and transmitting capabilities (although the two functions were not linked) and the other had only sensing capability. This testing found that one of the two devices was generally able to reliably detect TV signals in the laboratory bench tests at the claimed −114 dBm sensing level, but did not perform well sensing wireless microphones. This device was not tested in the field at the manufacturer's request. The other device was not able to reliably sense either TV or wireless microphone

signals at the −114 dBm level in either the Laboratory bench tests or in field tests. The builder of this device subsequently determined that the device's sensing function was not operating properly. In an anecdotal observation, the transmitter of the second device was found to cause co-channel and adjacent channel interference to TV service at distances of 87 meters and 47–50 meters, respectively.

11. Also on July 31, 2007, the Office of Engineering and Technology released a second technical report describing direct pick-up interference tests of three digital cable ready television receivers. In these tests, three digital cable ready (DCR) receivers connected directly to cable service were examined for their susceptibility to interference from devices such as might operate within the TV white spaces. Tests were performed with the interfering signal source separated from the DCR receiver by distances of 2 meters or ten meters and, in most observations, by a residential wall. These tests showed that a signal as low as 6.3 dBm EIRP could cause interference at a distance of two meters and that a signal as low as 15.3 dBm could cause interference at a distance of 10 meters. While these tests were limited in scope (only three receivers were tested), they nonetheless provide an empirical demonstration of the potential for such interference at relatively low power levels.

12. On October 15, 2008, the Office of Engineering and Technology issued a technical report on a second phase of its study of sample prototype TV band devices. This second phase study examined the performance of prototype devices from five parties. All of these devices had capabilities for sensing TV signals, three had capabilities for sensing wireless microphones and one (that of Adaptrum) had a transmit capability (this transmit capability was not linked to the device's sensing capabilities). One of the devices (that of Motorola) also had a geolocation/database access capability.

13. In the laboratory tests of TV signals, the Phase II prototype devices were able to detect a ''clean,'' *i.e.*, unfaded, DTV signal on a single channel at levels in the range of −116 dBm to −126 dBm. The detection threshold sensitivity of the devices varied from −106 dBm to −128 dBm when recorded off-air DTV signals, which included multi-path fading and other ''real-world'' distortion, were used. When the devices were tested with DTV signals present in adjacent channels, the staff found that in the presence of moderate-to-strong signals in a first adjacent channel, the detection threshold sensitivity of all of the devices was severely impacted. For some of the devices, the degradation in the detection sensitivity was as much as 60–70 dB. In some cases, the degradation was such that the detection threshold could not be measured. The Phase II Measurement Report indicates that this could impact significantly the ability of the devices to reliably detect TV signals within stations' service areas.

14. TV sensing field tests were performed at nine locations with four of the prototype devices. In most cases, the devices correctly reported channels as occupied when the device was operated within the service contour of the stations broadcasting on those channels and viewable signals were observed on the channels. In some instances, however, three of the devices incorrectly reported channels as unoccupied (available) when the device was operated within a station's service contour and the signal was viewable. All of the devices reported some channels as occupied when the WSD was operated outside of the service contours of stations broadcasting on those channels whether the signal was viewable or not. In addition, one device generally reported most channels occupied, whether the device was operating inside or outside any service contours and whether the signal was viewable or not. During the field tests, the Motorola device's geolocation/database access feature was used in combination with its sensing capabilities. In those tests, the Motorola device correctly reported all occupied channels used by stations within whose contours the WSD was operated.

15. The second phase study also examined the ability of devices to sense wireless microphones designed to operate under part 74 of our rules. The two operating devices with wireless microphone sensing capability, those of Philips and I2R, were tested in the laboratory for their ability to detect wireless microphones (models using both FM/analog and digital) operating within UHF TV channels. With no other signals present, the devices were able to detect wireless microphones at levels ranging from −103 dBm to −129 dBm depending on the type of microphone, and the device. However, in the presence of DTV signals in adjacent channels, the detection threshold of both devices was degraded such that it affected the ability of the devices to reliably detect the microphone signals.

16. Finally, the second phase study conducted tests with the Adaptrum device's transmitter. The device's transmitter was characterized in the laboratory and then used to investigate interference potential to DTV signal reception. Anecdotal tests demonstrated that co-channel interference would occur at line-of-sight distances of up to 360 meters at an EIRP level of approximately +7 dBm when the DTV set was receiving a weak signal off-the-air using a receive antenna at a height of 9.3 meters. No interference was observed when the device transmitted on an immediate adjacent channel even with the transmitter in close proximity to the receiver with a roof-top antenna. No other configurations were tested for interference. Anecdotal tests with the Adaptrum transmitter were performed at two field sites to assess the interference potential from a TVBD transmitter to cable television reception via direct pick-up of signals by cable system components. These tests showed that under certain circumstances, when the transmit antenna was placed in close proximity to a cable connected TV, direct pick-up interference occurred. The report indicated that the direct pick-up interference potential appears to be highly dependent on the interconnection among the various receive system components (e.g., cable amplifiers, splitters and set-top boxes) being used.

17. In the *Second Report and Order*, the Commission adopted rules to allow unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used by licensed services (this unused TV spectrum is often termed ''white spaces''). This action will open for use a significant amount of spectrum with very desirable propagation characteristics that has heretofore lain fallow. These new rules will allow the development of new and innovative types of unlicensed devices that provide broadband data and other services for businesses and consumers without disrupting the incumbent television and other authorized services that operate in the TV bands. In addition, because transmissions on frequencies in the TV bands are less subject to propagation losses than transmissions in the spectrum bands where existing low power broadband unlicensed operations are permitted, *i.e.*, the 2.4 GHz and 5 GHz bands, the Commission anticipates that allowing unlicensed operation in the TV bands will benefit wireless Internet service providers (WISPs) by extending the service range of their operations. This will allow wireless broadband providers that use unlicensed devices to reach new customers and to extend and improve their services in rural areas. We

anticipate that allowing use of the TV white spaces by unlicensed devices will have significant benefits for both businesses and consumers and thereby promote more efficient and effective use of the TV spectrum.

18. The Commission adopted a plan that will allow both fixed and personal/portable unlicensed devices to operate on unused television channels in locations where such operations will not result in harmful interference to TV services (including reception by cable headends and low power TV stations, i.e., TV translator, low power TV, TV booster, and Class A TV stations) and other services that use the TV bands. The Commission recognizes the importance of protecting licensed services from harmful interference and the novel challenges involved in reliably identifying unused TV channels. Therefore, it is taking a cautious and conservative approach in this plan, balancing the need to provide sufficient opportunities for proponents to develop viable unlicensed TV band devices (TVBDs) with measures to ensure that such devices fully protect the important licensed services that operate in the TV bands. In allowing the introduction of unlicensed TVBDs, the Commission also believes it is important to avoid the possibility of disrupting or causing uncertainty in the DTV transition, the current ongoing process whereby TV stations are changing from analog to digital (DTV) operation. As set forth in the *First Report and Order and Further NPRM of Proposed Rulemaking (First R&O/Further NPRM)* in this proceeding, the Commission addressed this concern with regard to the DTV transition by restricting the marketing of unlicensed TVBDs until February 18, 2009, the date when the DTV transition will end and all full-power TV stations will be operating on a single channel, and only with digital signals.

19. The Commission anticipates that the capabilities of products for operating in this spectrum will develop and evolve over time and that much will be learned about the potential for unlicensed TVBDs to cause interference to licensed services and how to avoid that interference. Therefore, the Commission may need to revisit these rules to make adjustments both to provide more flexibility for unlicensed devices and to refine the protections for licensed services. Consistent with our objective to allow unlicensed TVBDs to operate with the most flexibility and capabilities possible consistent with protection of licensed services, the Commission has directed its staff to conduct a review and report to the Commission in two years from the date of this *Second Report and Order* on the state of these devices, including the types of devices on the market, the extent of their implementation, technical developments, any interference problems that may have arisen, and aspects of the rules that should be altered to increase features and opportunities for use or to address conflicts.

20. The Commission also denied all aspects of a petition for reconsideration submitted by the New America Foundation and the Champaign Urbana Wireless Network (NAF/CUWN). In particular, the Commission denied their request that it (1) Not re-open the issue of whether to permit new uses of the TV bands on a licensed or unlicensed basis; (2) allow personal/portable devices on channels 14–20; and (3) allow marketing of new unlicensed TV band devices prior to the end of the DTV transition.

21. *Overview of Rules for Unlicensed TV Band Devices.* The new rules provide for operation of two types of unlicensed TVBDs that may provide broadband data and other types of communications services: (1) Fixed devices, which will operate from a fixed location with relatively higher power and could be used to provide a variety of services including wireless broadband access in urban and rural areas, and (2) personal/portable devices, which will use lower power and could, for example, take the form of devices such as Wi-Fi-like cards in laptop computers or wireless in-home local area networks (LANs). In order to operate without causing interference to licensed services, both types of devices will be required to be able to reliably determine which channels are occupied by licensed operations at their location at any given time and to avoid interfering with services on those channels using the following methods. Devices will be required to identify unused channels as follows:

(a) A fixed device must employ both geo-location/database access and spectrum sensing capabilities that enable the device to listen for and identify the presence of signals from other transmitters; the geo-location function for a fixed device may also be performed by a professional installer;

(b) A personal/portable device must either (1) be under the control of a fixed device or a personal/portable device that employs geo-location/database access and spectrum sensing or (2) employ geo-location/database access and spectrum sensing itself.

22. In addition, the Commission adopted rules that will allow for certification of personal/portable devices that do not include geo-location and database access capabilities and are not controlled by another device but rather determine available channels using spectrum sensing, perhaps in combination with some other techniques. These devices will be required to meet a ''proof of performance'' standard that they will not cause harmful interference to incumbent radio services. Such devices will be subject to all of the other requirements for personal/portable devices but would be limited to 50 milliwatts (mW) EIRP rather than the 100 mW authorized for personal/portable devices for which available channels are determined based on the geo-location and database method. The certification process will require submittal of a sample for testing in our laboratory and in the field similar to the process that the FCC Laboratory followed for testing of TV band devices. The sample device must be a fully functioning pre-production prototype, identical to the device that will be marketed except for cosmetics. The testing will be open to the public. The application must also show how the device will protect the various incumbent radio services discussed. The determination of whether to certify the device will be based on a demonstrated ability to avoid causing harmful interference with an extremely high degree of reliability. If the device is certificated, the Commission will permit routine certification of other devices that have identical characteristics (i.e., have the identical electrical characteristics and antenna system). It will endeavor to complete the certification process within 180 days of submittal of the device for testing, barring any unforeseen circumstances.

23. *Fixed Devices.* Fixed devices will be allowed to communicate with other fixed devices and with personal portable devices. These devices will be required to determine their geographic location through an incorporated geo-location capability or from a professional installer and to access and register with a database system that contains records of protected services and receive back a list of the available channels at their location. In addition, fixed devices will be required to operate with antennas mounted outdoors and to use spectrum sensing to identify any wireless microphone operations and any other protected signals that might be present at their location but do not appear in the database. These devices will be required to sense, at levels as low as −114 dBm, TV signals (digital and analog), wireless microphone signals, and signals of other services

that operate in the TV bands on intermittent basis. Fixed devices will be allowed to operate at up to 1 watt (W) transmitter output power and with a gain antenna to achieve 4 W equivalent isotropically radiated power (EIRP), and to communicate with other fixed devices and personal/portable devices, except that they may not communicate with personal/portable devices when operating on channels in the range 2–20. The plan for fixed devices is similar to the provisions of the draft standard for TVBDs under consideration by IEEE 802.22.

24. *Personal/portable Devices.* Personal/portable devices will be allowed to communicate with fixed devices and with other personal/portable devices. These devices will be allowed to operate in two different modes: (1) Mode I—client, whereby a personal/portable device is controlled by a fixed or a personal/portable device operating in Mode II that has determined the available channels in the area and/or (2) Mode II—independent, whereby a personal/portable device determines the available channels using its own internal geo-location/database access capabilities. Personal/portable operations will be permitted at up to 100 mW EIRP, with no antenna gain, except that when operating on a channel adjacent to a TV station or other licensed station/service and within the protected coverage area of that service, operations will be limited to 40 milliwatts. A device operating in Mode II using its own internal geo-location and database access capabilities will be allowed to communicate with other personal/portable devices and function as the master device in a master/client link with another personal/portable device. Devices operating in either mode will be required to sense TV signals, wireless microphone signals, and signals of other services that operate in the TV bands, including those that operate on an intermittent basis, at levels as low as −114 dBm. Personal portable devices will not be required to register with the database system.

25. *All Devices.* All unlicensed TV band fixed and personal/portable TV band devices will be permitted to operate on TV channels 21–51, excluding channel 37. In addition, fixed TVBDs that only communicate with other fixed TVBDs will be permitted to operate on channels 2 and 5–20, except that they must avoid operation on channels used by private land mobile radio service (PLMRS), *i.e.,* public safety, and commercial mobile radio service operations on channels in certain markets and areas adjacent to them. Also, in individual markets where there are Private Land Mobile Radio Service or Commercial Mobile Radio Service (PLMRS/CMRS) operations on channels 14–20, two channels in the range 21–51 will be reserved for operation by wireless microphones such that TVBDs will not be permitted on those channels. This plan for channel use is consistent with the requests of the various white space proponents and would reserve channels for a ''safe harbor'' for operation of wireless microphones and ensure protection of the public safety and other land mobile services that use channels 14–20. At this time, we are only permitting fixed TVBDs to operate on channels that are not immediately next to (first adjacent on either side of) the channel of a TV station; personal portable devices will be allowed to operate on first adjacent channels to a TV station subject to the power limitation indicated. All unlicensed TV band devices will be required to limit their out-of-band emissions in the first adjacent channel to a level 55 dB below the power level in the channel they occupy, as measured in a 100 kHz bandwidth. In addition, all TVBDs will be required to comply with a more stringent out-of-band emissions band at the edges of channels 36 and 38 that are adjacent to channel 37 in order to protect medical telemetry devices on that channel 37. Fixed devices will also be required to periodically transmit a signal with their identification when they are operating. This will facilitate identification of sources of interference. The database system for fixed stations and personal/portable devices with geo-location and database access capability will be managed by a database manager or managers selected by our Office of Engineering and Technology. The specific provisions of this plan are presented below.

TV Bands Database System Requirements

26. All unlicensed fixed TV band devices and all personal/portable devices, except for those that operate in Mode I under control of a fixed or Mode II personal/portable device, will be required to access a TV bands database to obtain information on the available channels at their location and all unlicensed fixed TVBDs will be required to register their operations. In the *NPRM* and the *First R&O/Further NPRM*, the Commission made proposals and asked for comment on a number of specific provisions relating to this database system. In particular, the Commission requested comment on the information about authorized stations that should be in a database, such as geographic coordinates, type and class of station, transmit power level, antenna height and other antenna characteristics, the means by which an unlicensed device would access the database, and how often the database would need to be updated. The Commission addresses the specific plan for operation of the database system, including the information to be stored in the database, the requirements that apply to unlicensed TVBDs for accessing the database system, the responsibilities of a database administrator, and database administrator selection.

27. *Database system plan and operation:* The Commission has adopted a database plan that will provide for efficient and effective management of licensee and TVBD records and the identification of available channels for TVBDs. As an initial matter, it will consider authorizing more than one entity to operate a TV bands database. Thus, depending on expressed interest to a solicitation for database managers, the Commission could select multiple database administrators that could offer services on a competitive basis. In this regard, the Commission is mindful that sufficient safeguards must be put in place to ensure that a TVBD would receive the same set of available channels regardless of which database it queries such that entities compete solely on the basis of cost and speed and efficiency of service. The database(s) will be a privately owned and operated service that unlicensed TV band devices must contact to obtain information on channel availability at the locations where they are operated and, in the case of fixed devices, to register their operation at those locations. The Commission will permit database administrators to charge fees for registration of fixed devices and the provision of lists of available channels to fixed devices and personal/portable devices. It believes that third parties will be in the best position to develop and manage a database in a fair and equitable manner and to address the day-to-day operational demands. Any TV bands database will be required to contain information on: (1) All of the authorized services that operate in the TV bands using fixed transmitters with designated service areas, including full service and low power TV stations, (2) the service paths of broadcast auxiliary point-to-point facilities, (3) the geographic regions served by PLMRS/CMRS operations on channels 14–20, (4) regions served by the Offshore Radiotelephone Service, and (5) the locations of cable headends and low

power TV receive sites that are outside the protected contours of the TV stations whose signals they receive. In addition, a TV bands database will be required to contain the locations of registered sites where wireless microphones and other low power auxiliary devices are used on a regular or scheduled basis. A TV bands database will be required to register unlicensed TV band devices in accordance with the rules and to provide such devices with a list of the available channels at the specific locations where they are operating.

28. Unlicensed TV band devices, except for those operating as a client to a either a fixed device or a personal/portable device operating in Mode II, will be required to contact a TV bands database through the Internet to obtain a list of available channels at their location in accordance with the rules set forth herein. Database administrator(s) will define protocols so that TV band devices can access a database automatically without human intervention. A TV bands database will calculate the television channels that are available for use by unlicensed TV band devices at their individual locations based on the information in the database and consistent with the separation distances set forth in the rules and then return a list of those channels to the TV band device on an approximately real-time basis. A device may then transmit only on those channels which the database indicates are available for its use. The database system will also record registration information from each fixed TV band device. The registration information will include the device's location (geographic coordinates) and contact information for its user/operator. This registration information will assist TV band device users in coordinating efficient use of the available television channels at a particular location. In addition, should any interference to licensed services occur, the registration information will assist in the identification of the source of any such interference. Finally, a TV bands database will include provisions for sharing registration data with any other Commission authorized TV bands database.

29. In considering a minimum interval for re-contacting the database system, it is important to note that protection is afforded not only to TV and other fixed facilities that do not change often, but also to mobile/portable facilities such as wireless microphones. As already described, the Commission will allow venues where wireless microphones and other low power auxiliary devices are used on a regular or scheduled basis to register such usage in the TV bands database. Because such usage could change on a daily basis, the Commission will require that fixed and mode II TVBDs to recheck the database, at a minimum, on a daily basis. Rechecking in this manner will also provide for timely protection of new or modified licensed facilities. This approach accounts for the continual changes that will occur over time as new licenses are issued or inaccuracies are corrected. The Commission believes that because database access will be performed automatically over the Internet, rechecking the available channels will not be burdensome. If a device fails to contact a TV bands database on any given day, it will be required to cease transmitting after a one-day grace period. That is, it must cease operating at 11:59 PM on the day following a day when it does not contact a TV bands database. This grace period will allow for situations where there has been a sustained power loss, an Internet outage, or other circumstances that disrupt a device's ability to contact a TV bands database. In accessing a TV bands database to update its list of available channels, a device will only need to provide its identification information, current location and, for fixed devices, any changes in its registration information.

30. In addition to the daily database update requirement, personal/portable devices operating in Mode II will be required to re-establish their location coordinates and to access a TV bands database for a list of available channels each time they are activated, *i.e.*, powered on, or move. If such a device maintains a powered on state for one day or more, the device will then be required to re-check a TV bands database as described above. The Commission finds that these measures will ensure that both fixed and personal/portable devices properly maintain a current list of available channels.

31. *Database information.* To ensure that a TV bands database contains sufficient elements to both determine available TV channels for a given location and to register fixed TVBDs, the Commission must define the set of data elements for the database. The elements for the various types of systems that will be in the database are described herein. Additionally, the Commission notes that for all coordinates it will require that they be referenced to the North American Datum of 1983 (NAD 83) and as described, it will require accuracy to within 50 meters.

32. The information collected from fixed unlicensed TV band devices will include:

(1) FCC Identifier (FCC ID) of the device;

(2) Manufacturer's serial number of the device;

(3) Device's coordinates (latitude and longitude);

(4) Name of the individual or business that owns the device;

(5) Name of a contact person responsible for the device's operation;

(6) Address of the contact person;

(7) E-mail address of the contact person;

(8) Phone number of the contact person.

33. The information collected from personal/portable unlicensed TV band devices, which will not be registered and only access the database for available channels, will include:

(1) FCC Identifier (FCC ID) of the device;

(2) Manufacturer's serial number of the device;

(3) Device's coordinates (latitude and longitude).

34. The FCC ID and serial number of the TV band device will uniquely identify individual fixed unlicensed TV band devices. This information will assist the Commission if compliance issues concerning devices arise. A fixed TV band device will be required to update any information that has changed when it makes its daily check with a TV bands database to determine if the list of available channels at its location has changed. If a fixed device does not check the database for three months, its registration will be removed from the database.

35. A database administrator will not be responsible for resolving claims of interference from TVBDs. If there is a claim of interference, a database administrator, upon request from the Commission, must provide TVBD identifying information. If a device is found to be causing interference, the Commission may then require that the party responsible for the unlicensed device take corrective actions or cease operating the device until the interference is resolved. In addition, if a representative of the Commission attempts and is unable to contact the person responsible for a device that is determined to be causing interference, the Commission may require the TV bands database to return a message of ''no channels available'' to the device at its next scheduled re-check. This will effectively shut down the device until contact is made with the responsible party so that the interference can be resolved. The database administrator

will rescind a ''no channels available'' status for that device only upon authorization by the Commission.

36. Now, regarding services that will be protected, a TV bands database will contain the following information on full-power television stations, digital and analog Class A stations, low-power television stations (LPTV), television translator stations, and television booster stations:

(1) Transmitter coordinates (latitude and longitude);

(2) Effective radiated power (ERP);

(3) Height above average terrain of the transmitter (HAAT);

(4) Horizontal transmit antenna pattern (if the antenna is directional);

(5) Channel number;

(6) Station call sign.

A TV bands database will also be required to include data on the distributed transmission system (DTS) facilities of stations using that technology and to use that data in determining the protected service areas of such stations. The information for full service TV stations is available on the Media Bureau's Consolidated Data Base System (CDBS).

37. A TV bands database will also include information on Broadcast Auxiliary Service (BAS) facilities, which use vacant television channels for fixed point-to-point links. For permanent links, this information is available from the Commission's Universal Licensing System (ULS). For temporary BAS links, the party authorized to operate the link may voluntarily submit this information to a TV bands database. For each BAS link the TV bands database will contain:

(1) Transmitter coordinates (latitude and longitude);

(2) Receiver coordinates (latitude and longitude);

(3) Channel number;

(4) Call sign.

38. In some geographic regions, certain television channels from channel 14 through channel 20 are set aside for use by PLMRS and CMRS operations. These regions are specified in the Commissions rules. A TV bands database will contain the center coordinates (latitude and longitude) for each of these regions and the television channels used in each region. For each of these regions, a TV bands database will include the following data elements:

(1) Region name;

(2) Channel(s) reserved for use in the region;

(3) Geographic center of the region (latitude and longitude);

(4) Call sign.

39. In addition, numerous PLMRS and CMRS licenses have been granted in these channels outside of the identified geographic regions under waivers to the Commission's rules. These ''waiver'' licenses are specified in various ways such as, for example, by allowing a particular transmitted power and antenna height for a base station at a specified location or by specifying a geographic area of coverage, such as the boundaries of a local county administrative area. The database can be populated by information pertaining to facilities authorized by the Commission via an extract from the Wireless Telecommunication Bureau's ULS database. This database contains information on license holders, facility operation parameters (frequency, location, etc.), and any special conditions that apply. For each of these waiver licenses the following information will be placed into a TV bands database:

(1) Transmitter location (latitude and longitude) or geographic area of operations;

(2) Effective radiated power;

(3) Transmitter height above average terrain (if specified);

(4) Antenna height above ground level (if specified);

(5) Call sign.

In cases where the operator of a PLMRS/CMRS system licensed under a waiver operates multiple transmitters (not including systems that are licensed to operate in a coverage area), information on each transmitter will be required to be maintained in a TV bands database.

40. The Offshore Radiotelephone Service uses channels 15–18 along the coast of the Gulf of Mexico. The Commission's rules designate four regions to protect this service. For each of the four regions a TV bands database will contain the following information:

(1) Geographic boundaries of the region (latitude and longitude for each point defining the boundary of the region;

(2) Channel(s) used by the service in that region.

41. As noted, cable television systems often use antennas at their headends to receive broadcast television signals and then retransmit those signals to subscriber households throughout the cable system. In many cases, cable systems are able to receive broadcast TV signals at locations outside a stations' protected service contour by using high gain antennas mounted on top of buildings or tall towers. Records identifying cable systems that receive TV stations outside of their service areas are not currently maintained in the Commission's databases. As indicated, the Commission is extending protection to the reception of TV signals by such cable headends. Therefore, we are allowing cable operators to register, with a TV bands database, their headends that receive TV signals outside of a station's protected contour and requiring that a TV bands database afford protection to those facilities in accordance with the provisions indicated. A TV bands database will collect the following information to register a cable headend:

(1) Name and address of cable company;

(2) Location of the headend receiver (latitude and longitude);

(3) Channel number of each television channel received, subject to the following condition: channels for which the cable headend is located within the protected contour of that channel's transmitting station are not eligible for registration in the database;

(4) Call sign of each television channel received and eligible for registration;

(5) Location (latitude and longitude) of the transmitter of each television channel received.

42. Television translator and low power stations, including Class A TV stations, rebroadcast the signal of a full service station or another low power station. Like many cable headends, TV translators/low power stations often receive the signal of the station they retransmit outside the retransmitted station's protected contour. The TV translators and low power stations that currently receive the signal they retransmit off-the-air at locations beyond the originating station's protected service contour are not currently recorded in the Commission's databases. To protect the reception of signals at the receive sites of these stations, the Commission will allow the licensees of such translators and low power stations to register their receive sites with a TV bands database and require the database to afford those sites protection in the same manner as similarly situated cable headends. A TV bands database will collect the following information to register a translator/low power receive site:

(1) Call sign of the TV translator or low power TV station;

(2) Location of the TV translator or low power station receive site (latitude and longitude);

(3) Channel number of the retransmitted television station, subject to the following condition: a channel for which the television translator receive site is located within the protected contour of that channel's transmitting

station is not eligible for registration in the database;

(4) Call sign of the retransmitted television station;

(5) Location (latitude and longitude) of the transmitter of the retransmitted television station.

43. As discussed, low power auxiliary stations such as wireless microphones and wireless assist video devices operate in the television bands on a secondary basis under part 74 of the Commission's rules. These devices are usually licensed to operate over a broad geographic area and a wide range of television channels. The use of these devices is sometimes sporadic and nomadic and registration of the locations of such operations' locations in a TV bands database would not be practical. However, in many cases wireless microphones and wireless assist video devices are used regularly and predictably, such as at major sporting events facilities, movie studio lots, and television studios. For these situations, the low power auxiliary device users will be allowed to register in a TV bands database, the location where the devices are used to aid in avoiding interference from TV band devices. In the case of large event facilities such as race tracks and golf courses, the Commission will allow multiple registrations with different geographic coordinates to enable protection of the entire site. The Commission will require that requests for registration of low power auxiliary devices that operate on a seasonal basis, only on certain days within a week or only at specific times include such information; TVBDs will be restricted from operation in the channels used at registered sites only on days and at times when low power auxiliary devices at the sites are in operation. Low power auxiliary registrations will be valid for no longer than a year, after which they may be renewed. The database will collect the following information on registered sites that use low power auxiliary devices:

(1) Name of the individual or business that owns the low power auxiliary device(s);

(2) The name of a contact person;

(3) An address for the contact person;

(4) An e-mail address for the contact person (optional);

(5) A phone number for the contact person (optional);

(6) Coordinates where the device(s) are used (latitude and longitude);

(7) Channels used by the low power auxiliary devices operated at the site;

(8) Specific months, days and times when the device(s) are used.

44. *Database Administration.* The Commission does not maintain a database of all TV and other stations and operations in the TV bands that could be accessed regularly in real-time by a large number of TVBDs dispersed throughout the country. It will designate one or more database administrators from the private sector to create and operate a TV bands database or databases. The Commission recognizes the interests of Google and other TVBD proponents in ensuring that database services be made available on a fair and low cost (or no cost) basis and believes that providing for authorization of more than one party to operate a TV bands database will serve that purpose. The Commission will issue a public notice requesting proposals from entities desiring to administer a TV bands database. Any entity that ultimately administrators such a database must make its services available to all TV band device users on a non-discriminatory basis. In addition, to ensure stability for these new devices, the Commission will require each database administrator to provide services for a five-year term, which, at the Commission's discretion, may be renewed. In the event that there is only a single a database administrator and that entity does not wish to continue at the end of its term, it will be required to transfer its database along with the IP address(es) and URL(s) used to access the database to another designated entity and would be allowed to charge a reasonable price for conveyance of that resource.

45. If the Commission chooses multiple entities to administer TV bands databases, it must ensure that each database contains consistent information so that regardless of which database a TVBD queries, it receives the same list of available channels in an area. Because a TVBD will only be required to contact a single TV bands database, there is a need for the TV bands databases to share accurate and timely registration information so that each database has a timely view of the radio environment and can make the best channel availability determinations possible. Therefore, the Commission will require that each TV bands database, at a minimum on a daily basis, provide to each other TV bands database, all registration information it receives during the previous day. This data sharing requirement extends only to registrations of fixed devices and protected facilities that are not otherwise captured in Commission databases, including wireless microphone and wireless assist video device locations, cable headends, and TV translator/low power receive sites. The databases can obtain information on other services, such as full service TV, land mobile licenses, etc. directly from Commission databases. The Commission believes that this sharing requirement is extremely important to the success of TVBDs as it decreases the burden on any one database and also fosters cooperation between the various database administrators. Although, the Commission is requiring the TV bands databases to share information daily, it will leave the actual implementation details up to the database administrators. Once the specific entities are selected, they will need to agree on a specific protocol and data format requirement so that manufacturers can build standard devices that can work with any of the databases and each database can easily transmit and receive data from each other database. In addition, the database administrators may agree whether to share on a more frequent timeframe than daily.

46. A TV bands database will obtain much of the information on licensed use of the television bands for populating the database from the existing Commission databases. The TV bands database will be required to synchronize itself with the existing Commission databases at least once a week so that the information in the TV bands database remains current. Entities operating facilities that are entitled to protection but that are not licensed by the Commission, *e.g.*, cable headends and TV translator/low power TV station receivers, will register their facilities through a process established by the database administrators. The Commission will allow the TV bands databases to charge fees necessary to support the creation and operation of the database. These fees may be imposed on the operators of the TV band devices for access to the database and/or on the manufacturers of TV band devices, but not generally on users of the television bands who are not currently in the Commission's database and desire to be included in the database. The Commission does not believe it is appropriate to charge operators of licensed service for protection of their operations from unlicensed devices. It believes that competition among databases will serve to keep fees low and reasonable. However, if parties believe that the fees charged by a TV bands database are excessive, they may petition the Commission for relief.

47. The Commission recognizes that there is potential for inaccurate

information to be entered into the database, for omissions to occur, and for records to be present for licensed facilities that are no longer operating. Such inaccuracies could be introduced in several ways. For example, any errors that might inadvertently be present in a Commission database could be transferred to a TV bands database. In addition, the fact that we are permitting information on certain services in the TV bands to be voluntarily provided introduces another potential for error. Parties submitting such information could inadvertently provide inaccurate coordinates, channel or other information, and there is also the potential that a party could knowingly provide false information on channel use at a location. The database administrators will be expected to respond quickly to verify and/or correct data in the event that a party brings claims of inaccuracies in the database to its attention, including advising the Commission of any errors that may appear in the Commission's records. Further, the Commission reserves the right to request the removal of voluntarily submitted information from a TV bands database in the event that such information is determined to be inaccurate or not in compliance with the rules.

Ordering Clauses

48. Part 15 of the Commission's rules is amended as specified in Appendix B of the Order, and such rule amendments shall be effective March 19, 2009, except for §§ 15.713, 15.714, 15.715 and 15.717, which contain information collection requirements that have not been approved by the Office of Management and Budget. The Federal Communications Commission will publish a document in the **Federal Register** following approval of the information collection by the Office of Management and Budget (''OMB'') announcing the effective date of those rules.

49. Pursuant to Sections 4(i), 302, 303(e), 303(f), 303(g), 303(r) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(e), 303(f), 303(g), 303(r) and 405, the petition for reconsideration filed by the New America Foundation and the Champaign Urbana Wireless Network *is denied.*

50. Pursuant to Sections 4(i), 302, 303(e), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(e), 303(f), 303(g) and 303(r), the Emergency Request filed by The Association For Maximum Service Television, Inc., The National Association of Broadcasters, The ABC, NBC, CBS, and FOX Television Networks, and The Open Mobile Video Coalition *is denied.*

51. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of the Second Report and Order, including the Final Regulatory Flexibility Analysis, to the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. 801(a)(1)(A).

Final Regulatory Flexibility Analysis

52. As required by the Regulatory Flexibility Act (RFA),[1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making* (NPRM) in ET Docket No. 04–186 [2] and an additional IRFA was incorporated in the *First Report and Order and Further Notice of Proposed Rule Making* (Further NPRM) in ET Docket No. 04–186.[3] The Commission sought written public comment on the proposals in the *NPRM* and in the *Further NPRM,* including comment on the IRFAs. No comments were received in response to either IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[4]

A. Need for, and Objectives of, the Second Report and Order

53. The Second Report and Order allows low power unlicensed transmitters to operate in the TV broadcast bands at locations where spectrum is not being used by authorized services. The new rules provide for operation of two types of unlicensed devices that may provide broadband data and other types of communications services: (1) fixed devices, which will operate from a fixed location with relatively higher power and could be used to provide a variety of services including wireless broadband access in urban and rural areas, and (2) personal/portable devices, which will use lower power and could, for example, take the form of devices such as Wi-Fi-like cards in laptop computers or wireless in-home local area networks (LANs). In order to operate without causing interference to licensed services, both types of devices will be required to be able to reliably determine which channels are occupied by licensed operations at their location at any given time and to avoid interfering with services on those channels. The specific compliance requirements are described in Section D of this RFA.

54. The actions in this Second Report and Order will open for use a significant amount of spectrum with very desirable propagation characteristics that has heretofore lain fallow. These new rules will allow the development of new and innovative types of unlicensed devices that provide broadband data and other services for businesses and consumers without disrupting the incumbent television and other authorized services that operate in the TV bands. In addition, because transmissions on frequencies in the TV bands are less subject to propagation losses than transmissions in the spectrum bands where existing low power broadband unlicensed operations are permitted, *i.e.*, the 2.4 GHz and 5 GHz bands, the Commission anticipates that allowing unlicensed operation in the TV bands will benefit wireless internet service providers (WISPs) by extending the service range of their operations. This will allow wireless broadband providers that use unlicensed devices to reach new customers and to extend and improve their services in rural areas. The Commission anticipates that allowing use of the TV white spaces by unlicensed devices will have significant benefits for both businesses and consumers and thereby promote more efficient and effective use of the TV spectrum.

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

55. No comments were received in response to either the IRFA in the *NPRM* or the IRFA in the *Further NPRM.*

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

56. 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.[5] The RFA generally defines the term ''small entity'' as having the same meaning as the terms ''small business,'' ''small organization,'' and ''small governmental jurisdiction.'' [6] In addition, the term ''small business'' has the same meaning as the term ''small business concern'' under the Small Business Act.[7] A

[1] *See* 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), Public Law 104–121, Title II, 110 Stat. 857 (1996).

[2] *NPRM,* 19 FCC Rcd at 10018.

[3] *Further NPRM,* 21 FCC Rcd at 12299.

[4] *See* 5 U.S.C. 603, Title II, 110 Stat 857 (1996).

[5] 5 U.S.C. 604(a)(3).

[6] 5 U.S.C. 601(6).

[7] 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.

Continued

''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).[8]

57. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: ''This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. 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.'' [9] The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.[10] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[11] Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[12] Thus, under this size standard, the majority of firms can be considered small.

58. *Wireless Service Providers.* The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of ''Paging'' [13] and ''Cellular and Other Wireless Telecommunications.'' [14] Under both categories, the SBA deems a wireless business to be small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 2002 show that there were 807 firms in this category that operated for the entire year.[15] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[16] Thus, under this category and associated small business size standard, the majority of firms can be considered small. For the census category of Cellular and Other Wireless Telecommunications, Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[17] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[18] Thus, under this second category and size standard, the majority of firms can, again, be considered small.

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

59. Unlicensed transmitters are currently required to be authorized under the Commission's certification procedure as a prerequisite to marketing and importation, and TV band devices would be subject to a certification requirement. The existing certification procedure in the Commission's rules will be used for TV band devices, except that TV band devices that rely on spectrum sensing as the sole method of determining whether a channel is available will have additional certification requirements which are described below. The compliance requirements for TV band devices are as follows.

Fixed Devices

- May communicate with other fixed devices and with personal/portable devices
- Are permitted to operate on TV channels 2–51, excluding channels 3, 4 and 37; may not operate on adjacent TV channels; and, must not use any channels used locally by the private land mobile radio service (PLMRS)
- Determine their geographic location by means of an incorporated geo-location capability or a professional installer
- Access a database system to determine the available channels at a location
- Use outdoor antennas
- Are allowed up to 1 watt (W) transmitter output power with a gain antenna to achieve up to 4 W effective isotropic radiated power (EIRP)
- Must register identifying information in a database to help investigate any potential interference due to higher powered operations.

Personal/Portable Devices

- May communicate with fixed devices and with other personal/portable devices
- Are permitted to operate on TV channels 21–51, excluding channel 37
- Can operate in two different modes:
  - Mode I—client, controlled by a fixed device that has determined the available channels in the area
  - Mode II—independent, in which the device determines the available channels using its own internal geo-location/database access capabilities.
- 100 milliwatts (mW) EIRP, but limited to 40 mW EIRP when operating adjacent to occupied channels.

All TV Band Devices

- Must be capable of sensing TV and wireless microphone signals at levels as low as −114 dBm.
  - Operation prohibited on channels where wireless microphones are detected.
  - Will provide an additional indication as to whether a TV channel is occupied.
  - Will encourage the further development of sensing technology.

60. The purpose of the TV bands database system for fixed and Mode II personal/portable devices is to identify all services in the TV bands that are eligible for protection. A TV band device will send its geographic coordinates to the database, which will return a list of channels available at that location. The Commission will issue a Public Notice to solicit interested parties in administering the database.

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**.''

[8] 15 U.S.C. 632.

[9] U.S. Census Bureau, 2002 NAICS Definitions, ''334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing''; *http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.*

[10] 13 CFR 121.201, NAICS code 334220.

[11] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); *http://factfinder.census.gov.* The number of ''establishments'' is a less helpful indicator of small business prevalence in this context than would be the number of ''firms'' or ''companies,'' because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

[12] *Id.* An additional 18 establishments had employment of 1,000 or more.

[13] 13 CFR 121.201, NAICS code 517211.

[14] 13 CFR 121.201, NAICS code 517212.

[15] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, ''Establishment and Firm Size (Including Legal Form of Organization,'' Table 5, NAICS code 517211 (issued Nov. 2005).

[16] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with ''1000 employees or more.''

[17] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, ''Establishment and Firm Size (Including Legal Form of Organization,'' Table 5, NAICS code 517212 (issued Nov. 2005).

[18] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with ''1000 employees or more.''

The database will contain information about licensed services operating in the TV bands obtained from the Commission's databases, including full service and low power TV stations, Broadcast Auxiliary Service (BAS) links, and PLMRS operations under waivers. In addition, the database will contain voluntarily submitted information on services in the TV bands that are either not in the Commission's databases or are not licensed by specific coordinates, such as wireless microphones.

61. The *Second Report and Order* provides for certification of devices that rely on sensing alone based on a proof of performance standard. The manufacturer may submit an application for certification of a device that meets all of the requirements for a TV band device except for geo-location and database access. The application would be available to the public, except for information that may qualify as a trade secret under our rules. A fully functioning pre-production prototype would need to be submitted to the Commission for laboratory and field testing. The testing will be open to the public. The determination of whether to certify the equipment will depend on whether the device is shown to provide a high level of confidence that it will not interfere with incumbent radio services. It must perform at least as well as a device that uses geo-location and database access for interference avoidance. Once a device is certified under these provisions, the Commission would certify other devices that are electrically identical under the usual certification process.

62. The *Second Report and Order* imposes new reporting requirements on parties operating fixed TV band devices. Operators of fixed TV band devices will be required to register their location and information about the operator with a TV bands database. When a fixed TV band device queries the database the first time, the device will be registered in the database system. Operators of fixed TV band devices must supply the following registration information and update this information, as necessary, when performing the daily database queries to verify continued channel availability. The Commission may ask a database administrator for this information in the event that a device is found to be causing interference.

(1) FCC identifier (FCC ID) of the device.

(2) Manufacturer's serial number of the device.

(3) Device's coordinates (latitude and longitude accurate to within 50 m).

(4) Name of the entity, whether an individual or business, responsible for the device.

(5) Name of a contact person responsible for the device's operation.

(6) Address for the contact person.

(7) E-mail address for the contact person.

(8) Phone number for the contact person.

63. As noted in the *Second Report and Order,* the Commission's Office of Engineering and Technology will designate a party or parties to administer the database of authorized services in the TV bands. Much of this information will be obtained from the Commission's databases, including information on full service and low power TV stations, Broadcast Auxiliary Service (BAS) links, and PLMRS operations under waivers. However, the database will also contain information submitted voluntarily by parties operating services in the TV bands that are either not listed in the Commission's databases or are not licensed by specific coordinates. These services include BAS links authorized on a temporary basis, receive sites for TV translators and cable TV systems, and sites where wireless microphones are used regularly and predictably, such as major sporting events. The purpose of this voluntarily submitted information is to prevent TV band devices from causing interference to services that do not appear in the Commission's database. The submission of such information is strictly voluntary, but services operated by parties that do not submit this information may not be protected against interference from TV band devices.

E. Steps Taken To Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered

64. The RFA requires an agency to describe any significant alternatives that it has considered in developing its 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.'' [19]

65. The rules adopted in the Second Report and Order may have a significant economic impact on a substantial number of small entities. For an entity that chooses to manufacture or import equipment for the subject bands, the rules would impose costs for compliance with equipment technical requirements. The costs for fixed and Mode II personal/portable devices include incorporating a geo-location method to determine the geographic coordinates and the ability to access a database of authorized services in the TV bands, for which a fee may be charged by the database administrator. The costs for all TV band devices include incorporating the ability to detect TV and wireless microphone signals. However, the burdens for complying with these rules would be the same for both large and small entities. Therefore, no disproportionate burden of compliance would be sustained by small entities. Further, the rules adopted in the Second Report and Order are ultimately beneficial for both large and small entities because they will provide for more efficient and effective use of the TV spectrum and allow the development of new and innovative types of wireless devices and communication services for businesses and consumers. Also, because transmissions in the TV band are subject to less propagation attenuation than transmissions in other bands where lower power operations are permitted (such as unlicensed operations in the 2.4 GHz band), operations in the TV bands can improve the service range of wireless operations, thereby allowing operators to reach new customers.

F. Report to Congress

66. The Commission will send a copy of the Second Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[20] In addition, the Commission will send a copy of the second Report and Order, including the FRFA, to Congress and the Government Accountability Office. A copy of the Second Report and Order and FRFA (or summaries thereof) will also be published in the **Federal Register**.[21]

List of Subjects in 47 CFR Part 15

Communications equipment.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

Final Rules

■ For the reasons discussed in the preamble, the Federal Communications

[19] 5 U.S.C. 603(c)(1)–(c)(4).

[20] *See* 5 U.S.C. 801(a)(1)(A).

[21] *See* 5 U.S.C. 604(b).

Commission amends 47 CFR part 15 to read as follows:

PART 15—RADIO FREQUENCY DEVICES

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

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

■ 2. Section 15.37 is amended by adding a new paragraph (n) to read as follows:

§ 15.37 Transition provisions for compliance with the rules.

* * * * *

(n) Marketing of TV band devices operating under subpart H of this part is not permitted prior to February 18, 2009.

■ 3. A new Subpart H is added to read as follows:

Subpart H—Television Band Devices

Sec.

Subpart H—Television Band Devices

§ 15.701 Scope.

This subpart sets out the regulations for Television Band Devices (TVBDs) which are unlicensed intentional radiators operating on available channels in the broadcast television frequency bands at 54–60 MHz, 76–88 MHz, 174–216 MHz, 470–608 MHz and 614–698 MHz bands.

§ 15.703 Definitions.

(a) *Available channel.* A television channel which is not being used by an authorized user at or near the same geographic location as the TVBD and is acceptable for use by an unlicensed device under the provisions of § 15.709. A TVBD determines television channel availability either from the TV bands database or spectrum sensing.

(b) *Client device.* A TVBD operating in client mode.

(c) *Client mode.* An operating mode in which the transmissions of the TVBD, including frequencies of operation, are under control of the master device. A device in client mode is not able to initiate a network.

(d) *Fixed device.* A TVBD that transmits and/or receives radiocommunication signals at a specified fixed location. Fixed TVBDs may operate as part of a system, transmitting to one or more fixed TVBDs or to personal/portable TVBDs.

(e) *Geo-location.* The capability of a TVBD to determine its geographic coordinates within a specified level of accuracy.

(f) *Master device.* A TVBD operating in master mode.

(g) *Master mode.* An operating mode in which the TVBD has the capability to transmit without receiving an enabling signal. The TVBD is able to select a channel itself based on a list provided by the database and initiate a network by sending enabling signals to other devices. A network always has at least one device operating in master mode.

(h) *Mode I operation.* Operation of a personal/portable TVBD operating only on the available channel identified by either the fixed TVBD or Mode II TVBD that enables its operation. Mode I operation does not require use of a geo-location capability or access to the TV bands database and requires operation in client mode.

(i) *Mode II operation.* Operation of a personal/portable TVBD whereby the device determines the available channels at its location using its own geo-location and TV bands database access capabilities. Devices operating in Mode II may function as master devices.

(j) *Network initiation.* The process by which a fixed or Mode II TVBD sends control signals to another similar device or to a client device(s) and allows them to begin transmissions.

(k) *Operating channel.* An available channel used by a TVBD for transmission and/or reception.

(l) *Personal/portable device.* A TVBD that transmits and/or receives radiocommunication signals while in motion or at unspecified locations that may change.

(m) *Receive site.* The location where the signal of a full service station is received for rebroadcast by a television translator or low power TV, including Class A TV, station.

(n) *Spectrum sensing.* A process whereby a TVBD monitors a television channel to detect whether the channel is occupied by a radio signal.

(o) *Television band device (TVBD).* Intentional radiators operating on available channels in the broadcast television frequency bands at 54–60 MHz, 76–88 MHz, 174–216 MHz, 470–608 MHz and 614–698 MHz.

(p) *TV bands database.* A database of authorized services in the TV frequency bands that is used to determine the available channels at a given location for use by TVBDs.

§ 15.705 Cross reference.

(a) The provisions of subparts A, B, and C of this part apply to TVBDs, except where specific provisions are contained in subpart H.

(b) The requirements of subpart H apply only to the radio transmitter contained in the TVBD. Other aspects of the operation of a TVBD may be subject to requirements contained elsewhere in this chapter. In particular, a TVBD that includes a receiver that tunes within the frequency range specified in § 15.101(b) contains digital circuitry not directly associated with the radio transmitter is also subject to the requirements for unintentional radiators in subpart B.

§ 15.706 Information to the user.

(a) For TV band device, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the rules for TV band devices, pursuant to part 15 of the FCC rules. These rules are designed to provide reasonable protection against harmful interference. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.

2. Increase the separation between the equipment and receiver.

3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

4. Consult the manufacturer, dealer or an experienced radio/TV technician for help.

(b) In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

§ 15.707 Permissible channels of operation.

(a) All TVBDs are permitted to operate in the frequency bands 512–608 MHz and 614–698 MHz, except that in the 13

metropolitan areas listed § 90.303(a) of this chapter and nearby areas where private land mobile services and commercial land mobile services are authorized by waiver, operation of TVBDs is prohibited on the first channel on each side of TV channel 37 (608–614 MHz) that is available at all locations within the protection range of the coordinates of each such area as set forth in § 15.712(d). These channels will be listed in the TV bands database.

(b) Operation in the bands 54–60 MHz, 76–88 MHz, 174–216 MHz, and 470–512 MHz is permitted only for fixed TVBDs that communicate only with other fixed TVBDs.

(c) Fixed and Mode II TVBDs shall only operate on available channels as determined by the TV bands database and in accordance with the interference avoidance mechanisms of § 15.711.

(d) Mode I TVBDs shall only operate on available channels provided to it from a Fixed or Mode II TVBD.

§ 15.709 General technical requirements.

(a) *Power limits for TVBDs are as follows:* (1) For fixed TVBDs, the maximum conducted output power over the TV channel of operation shall not exceed one watt. Transmitter power will be measured at the antenna input to account for any cable losses between the transmitter and the antenna. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For personal/portable TVBDs, the maximum conducted output power over the TV channel of operation shall not exceed 100 milliwatts; except that for personal/portable TVBDs that do not meet the adjacent channel separation requirements in § 15.712(a), the maximum conducted output power shall not exceed 40 milliwatts. If transmitting antennas of directional gain greater than 0 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 0 dBi.

(3) TVBDs shall incorporate transmit power control to limit their operating power to the minimum necessary for successful communication. Applicants for certification shall include a description of a device's transmit power control feature mechanism.

(4) Maximum conducted output power is the total transmit power in the entire emission bandwidth delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (*e.g.*, alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(b) *Antenna requirements.* (1) For personal/portable TVBDs, the antenna shall be permanently attached.

(2) The receive antenna used with fixed devices shall be located outdoors at least 10 meters above the ground. The antenna system shall be capable of receiving signals of protected services equally in all directions. The transmit antenna used with fixed devices may not be more than 30 meters above the ground.

(3) For both fixed and personal/portable TVBDs, the provisions of § 15.204(c)(4) do not apply to an antenna used for transmission and reception/spectrum sensing.

(4) For both fixed and personal/portable TVBDs with a separate sensing antenna, compliance testing shall be performed using the lowest gain antenna for each type of antenna to be certified.

(c) Undesirable emission limits for TVBDs are as follows:

(1) In the 6 MHz channels adjacent to the operating channel, emissions from TVBD devices shall be at least 55 dB below the highest average power in the band in which the device is operating.

(2) The above emission measurements shall be performed using a minimum resolution bandwidth of 100 kHz with an average detector. A narrower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 100 kHz.

(3) At frequencies beyond 6 MHz from the edge of the operating channel, radiated emissions from TVBD devices shall meet the requirements of § 15.209.

(4) Emissions in the band 602–620 MHz must also comply with the following field strength limits at a distance of one meter.

Frequency (MHz)	Field strength dBμV/meter/120 kHz
602–607	120–5[F(MHz)–602]
607–608	95
608–614	30
614–615	95
615–620	120–5[620–F(MHz)]

(5) TVBDs connected to the AC power line are required to comply with the conducted limits set forth in § 15.207.

(d) Compliance with radio frequency exposure requirements. To ensure compliance with the Commission's radio frequency exposure requirements in §§ 1.1307(b), 2.1091 and 2.1093 of this chapter, fixed TVBDs shall be accompanied by instructions on measures to take to ensure that persons maintain a distance of at least 40 cm from the device, as well as any necessary hardware that may be needed to implement that protection. These instructions shall be submitted with the application for certification. Personal/portable TVBDs that meet the definition of portable devices under § 2.1093 of this chapter and that operate with a source-based time-averaged output of less than 20 mW will not be subject to routine evaluation for compliance with the radio frequency exposure guidelines, while devices that operate with a source-based time-average output power greater than 20 mW will be subject to the routine evaluation requirements.

§ 15.711 Interference avoidance mechanisms.

(a) Except as provided in § 15.717, television channel availability for a TVBD is determined based on either the geo-location and database access mechanism described in paragraph (b) of this section or spectrum sensing described in paragraph (c) of this section.

(1) A TVBD shall rely on the geo-location and database access mechanism to identify available television channels consistent with the interference protection requirements of § 15.712. Such protection will be provided for the following authorized services: digital television stations, digital and analog Class A, low power, translator and booster stations; translator receive operations; fixed broadcast auxiliary service links; private land mobile service/commercial radio service (PLMRS/CMRS) operations; offshore radiotelephone service; and cable system head-ends. In addition, protection shall be provided in border areas near Canada and Mexico in accordance with § 15.712(g).

(2) For low power auxiliary services authorized pursuant to §§ 74.801 through 74.882 of this chapter, including wireless microphones, a TVBD shall rely on the geo-location and database access mechanism to identify available television channels to provide interference protection to registered locations of such operations, consistent with the requirements of § 15.712, and

shall rely on spectrum sensing to identify available television channels to provide interference protection to all other operations.

(b) *Geo-location and database access.* (1) The geographic coordinates of a fixed TVBD shall be determined to an accuracy of +/−50 meters by either an incorporated geo-location capability or a professional installer. In the case of professional installation, the party who registers the fixed TVBD in the database will be responsible for assuring the accuracy of the entered coordinates. The geographic coordinates of a fixed TVBD shall be determined at the time of installation and first activation from a power-off condition, and this information may be stored internally in the TVBD. If the fixed TVBD is moved to another location or if the stored coordinates become altered, the operator shall re-establish the device's:

(i) Geographic location and store this information in the TVBD either by means of the device's incorporated geo-location capability or through the services of a professional installer; and

(ii) Registration with the database based on the device's new coordinates.

(2) A Mode II personal/portable device shall incorporate a geo-location capability to determine its geographic coordinates to an accuracy of +/−50 meters. The device must re-establish its position each time it is activated from a power-off condition.

(3)(i) Fixed devices must access a TV bands database over the Internet to determine the TV channels that are available at their geographic coordinates prior to their initial service transmission at a given location. Operation is permitted only on channels that are indicated in the database as being available for TVBDs. Fixed TVBDS shall access the database at least once a day to verify that the operating channels continue to remain available. Operation must cease immediately if the channel is no longer available.

(ii) Mode II personal/portable devices must access a TV bands database over the Internet to determine the TV channels that are available at their geographic coordinates prior to their initial service transmission at a given location. Operation is permitted only on channels that are indicated in the database as being available for TVBDs. A Mode II personal/portable device must access the database for a list of available channels each time it is activated from a power-off condition and re-check its location and the database for available channels if it changes location during operation. A Mode II personal/portable device that has been in a powered state shall re-check its location and access the database daily to verify that the operating channel(s) continue to be available.

(iii) If a fixed or mode II TVBD fails to contact the TV bands database during any given day, it may continue to operate until 11:59 PM of the following day at which time it must cease operations unless it has contacted the TV bands database during the intervening period.

(iv) Personal/portable devices operating in Mode I shall obtain a list of channels on which they may operate from a master device.

(4) All geographic coordinates shall be referenced to the North American Datum of 1983 (NAD 83).

(c) Spectrum sensing.

(1) Detection threshold.

(i) All fixed and personal/portable TVBDs must be capable of detecting ATSC digital TV, NTSC analog TV and wireless microphone signals using analog or digital modulation methods. The required detection thresholds are.

(A) ATSC signals: −114 dBm, averaged over a 6 MHz bandwidth;

(B) NTSC signals: −114 dBm, averaged over a 100 kHz bandwidth;

(C) Wireless microphone signals: −114 dBm, averaged over a 200 kHz bandwidth. (ii) The detection thresholds are referenced to an omnidirectional receive antenna with a gain of 0 dBi. If a receive antenna with a minimum directional gain of less than 0 dBi is used, the detection threshold shall be reduced by the amount in dB that the minimum directional gain of the antenna is less than 0 dBi. Minimum directional gain shall be defined as the antenna gain in the direction and at the frequency that exhibits the least gain. Alternative approaches for the sensing antenna are permitted, *e.g.*, electronically rotateable antennas, provided the applicant for equipment authorization can demonstrate that its sensing antenna provides at least the same performance as an omnidirectional antenna with 0 dBi gain.

(2) Low power auxiliary device channel availability check time. A TVBD may start operating on a TV channel if no wireless microphone or other low power auxiliary device signals above the detection threshold are detected within a minimum time interval of 30 seconds.

(3) TV channel availability check time. A TVBD is required to check for TV signals for a minimum time interval of 30 seconds. If a TV signal is detected on a channel indicated as available for use by the database system, the device will provide a notice of that detection to the operator of the device and a means for the operator to optionally remove the channel from the device's list of available channels.

(4) In-service monitoring. A TVBD must perform in-service monitoring of an operating channel a minimum of once every 60 seconds. There is no minimum channel availability check time for in-service monitoring.

(5) Channel move time. After a wireless microphone or other low power auxiliary device signal is detected on a TVBD operating channel, all transmissions by the TVBD must cease within two seconds.

(6) Personal/portable devices operating in the client mode shall identify to the fixed or Mode II personal/portable device those television channels on which it senses any signals above the detection threshold. The fixed or Mode II device shall respond in accordance with the provisions of this paragraph as if it had detected the signal itself.

(7) TVBDs communicating either directly with one another or linked through a base station must share information on channel occupancy determined by sensing. If any device in a local area group or network determines that a channel is occupied, all other linked devices will also be required to respond in accordance with the provisions of this paragraph as if it had detected the signal itself.

(d) A TVBD must incorporate the capability to display a list of identified available channels and its operating channels.

(e) Fixed TVBDs shall transmit identifying information. The identification signal must conform to a standard established by a recognized industry standards setting organization. The identification signal shall carry sufficient information to identify the device and its geographic coordinates.

(f) If a fixed TVBD device does not have a direct connection to the Internet and has not yet been initialized and registered with the TV bands database, consistent with § 15.713, but can receive the transmissions of another fixed TVBD, the device needing initialization may transmit to that other device on either a channel that the other TVBD has transmitted on or on a channel which the other TVBD indicates is available for use to access the database to register its location and receive a list of channels that are available for it to use. Subsequently, the newly registered TVBD must only use the television channels that the database indicates are available for it to use. Such fixed devices must re-contact the database through another fixed device to review their list of available channels at least

once every 60 seconds. A fixed device may not operate as a client to another fixed device.

(g) A personal/portable TVBD operating in Mode I may only transmit upon receiving the transmissions of fixed or Mode II TVBD. A personal/portable device operating in Mode I may transmit on either an operating channel of the fixed or Mode II TVBD or on a channel the fixed or Mode II TVBD indicates is available for use.

§ 15.712 Interference protection requirements.

(a) Digital television stations, and digital and analog Class A TV, low power TV, TV translator and TV booster stations:

(1) *Protected contour.* TVBDs must protect digital and analog TV services within the contours shown in the following table. The contours are based on the R–6602 curves contained in § 73.699 of this chapter.

Type of station	Protected contour		
	Channel	Contour (dBu)	Propagation curve
Analog: Class A TV, LPTV, translator and booster	Low VHF (2–6)	47	F(50,50)
	High VHF (7–13)	56	F(50,50)
	UHF (14–69)	64	F(50,50)
Digital: Full service TV, Class A TV, LPTV, translator and booster	Low VHF (2–6)	28	F(50,90)
	High VHF (7–13)	36	F(50,90)
	UHF (14–51)	41	F(50,90)

(2) *Required separation distance.* Fixed TVBDs and personal/portable TVBDs operating in Mode II must be located outside the contours indicated in paragraph (a)(1) of this section of co-channel and adjacent channel stations by at least the minimum distances specified in the following table. Personal/portable TVBDs operating in Mode II must comply with the separation distances specified for an unlicensed device with an antenna height of less than 3 meters. Alternatively, Mode II personal/portable TVBDs may operate at closer separation distances, including inside the contour of adjacent channel stations, provided the power level is reduced as specified in § 15.709(a)(2).

Antenna height of unlicensed device	Required separation (km) from digital or analog TV (full service or low power) protected contour	
	Co-channel (km)	Adjacent channel (km)
Less than 3 meters	6.0	0.1
3–Less than 10 meters	8.0	0.1
10–30 meters	14.4	0.74

(b) *Translator receive sites and cable headends.* For translator receive sites and cable headends registered in the TV bands database, TVBDs may not operate within an arc of +/ − 30 degrees from a line between the registered translator or cable headend receive site and the TV station being received within a distance of 80 km from the protected contour for co-channel operation and 20 km from the protected contour for adjacent channel operation. Outside of this +/ − 30 degree arc, TVBDs may not operate within 8 km from the receive site for co-channel operation and 2 km from the receive site for adjacent channel operation.

(c) *Fixed Broadcast Auxiliary Service (BAS) Links.* For permanent BAS receive sites appearing in the Commission's Universal Licensing System or temporary BAS receive sites registered in the TV bands database, TVBDs may not operate within an arc of +/ − 30 degrees from a line between the BAS receive site and its associated permanent transmitter within a distance of 80 km from the receive site for co-channel operation and 20 km for adjacent channel operation. Outside this +/ − 30 degree arc, TVBDs may not operate within 8 km from the receive site for co-channel operation and 2 km from the receive site for adjacent channel operation.

(d) *PLMRS/CMRS operations.* TVBDs may not operate at distances less than 134 km for co-channel operations and 131 km for adjacent channel operations from the coordinates of the metropolitan areas and on the channels listed in § 90.303(a) of this chapter. For PLMRS/CMRS operations outside of the metropolitan areas listed in § 90.303(a) of this chapter, co-channel and adjacent channel TVBDs may not operate closer than 54 km and 51 km, respectively from a base station.

(e) *Offshore Radiotelephone Service.* TVBDs may not operate on channels used by the Offshore Radio Service within the geographic areas specified in § 74.709(e) of this chapter.

(f) *Low power auxiliary services, including wireless microphones.* (1) TVBDs will not be permitted to operate within 1 km of the coordinates of registered wireless microphone sites during designated times on the channels used by wireless microphones.

(2) In the 13 metropolitan areas listed in § 90.303(a) of this chapter and nearby areas where private land mobile services and commercial land mobile services are authorized by waiver, operation of TVBDs will not be permitted to operate on the first channel on each side of TV channel 37 (608–614 MHz) that is available, i.e., not occupied by a licensed service, at all locations within the protection range of the coordinates of each such area as set forth in § 15.712(d).

(g) *Border areas near Canada and Mexico.* (1) Fixed and personal/portable TVBDs shall not operate within 32 kilometers of the Canadian Border.

(2) Fixed and personal/portable TVBDs shall not operate within 40 kilometers of the Mexican border on

UHF channels, or within 60 kilometers of that border on VHF channels.

(h) *Radio astronomy services.* Operation of fixed and personal/portable TVBDs is prohibited on all channels within 2.4 kilometers at the following locations.

(1) The Naval Radio Research Observatory in Sugar Grove, West Virginia.

(2) The Table Mountain Radio Receiving Zone (TMRZ) at 40°07′50″ N and 105°15′40″ W.

(3) The following facilities.

Observatory	Longitude (deg/min/sec)	Latitude (deg/min/sec)
Allen Telescope Array	121°28′24″ W	40°49′04″ N.
Arecibo Observatory	066°45′11″ W	18°20′46″ N.
Green Bank Telescope (GBT)	079°50′24″ W	38°25′59″ N.
Very Large Array (VLA)	107°37′04″ W	34°04′44″ N.
Very Long Baseline Array (VLBA) Stations:		
Pie Town, AZ	108°07′07″ W	34°18′04″ N.
Kitt Peak, AZ	111°36′42″ W	31°57′22″ N.
Los Alamos, NM	106°14′42″ W	35°46′30″ N.
Ft. Davis, TX	103°56′39″ W	30°38′06″ N.
N. Liberty, IA	091°34′26″ W	41°46′17″ N.
Brewster, WA	119°40′55″ W	48°07′53″ N.
Owens Valley, CA	118°16′34″ W	37°13′54″ N.
St. Croix, VI	064°35′03″ W	17°45′31″ N.
Hancock, NH	071°59′12″ W	42°56′01″ N.
Mauna Kea, HI	155°27′29″ W	19°48′16″ N.

§ 15.713 TV bands database.

(a) *Purpose.* The TV bands database serves the following functions:

(1) To determine and provide to a TVBD, upon request, the available TV channels at the TVBD's location. Available channels are determined based on the interference protection requirements in § 15.712.

(2) To register the identification information and location of fixed TVBDs.

(3) To register protected locations and channels as specified in paragraph (b)(2) of this section, that are not otherwise recorded in Commission licensing databases.

(b) Information in the TV bands database. (1) Facilities already recorded in Commission databases. Identifying and location information will come from the official Commission database. These services include:

(i) Digital television stations.

(ii) Class A television stations.

(iii) Low power television stations.

(iv) Television translator and booster stations.

(v) Broadcast Auxiliary Service stations (including receive only sites), except low power auxiliary stations.

(vi) Private land mobile radio service stations.

(vii) Commercial mobile radio service stations.

(viii) Offshore radiotelephone service stations.

(2) Facilities that are not recorded in Commission databases. Identifying and location information will be entered into the TV bands database in accordance with the procedures established by the TV bands database administrator(s). These include:

(i) Cable television headends.

(ii) Class A television station receive sites.

(iii) Low power television station receive sites.

(iv) Television translator station receive sites.

(v) Sites where low power auxiliary stations, including wireless microphones and wireless assist video devices, are used and their schedule for operation.

(vi) Fixed TVBD registrations.

(c) *Restrictions on registration.* (1) Television translator, low power TV and Class A station receive sites within the protected contour of the station being received are not eligible for registration in the database.

(2) Cable television headends within the protected contour of a television channel are not eligible to register that channel in the database.

(d) *Determination of available channels.* The TV bands database will determine the available channels at a location using the interference protection requirements of § 15.712, the location information supplied by a TVBD, and the data for protected stations/locations in the database. The TV bands database will also check for proximity of a TVBD to the Canadian and Mexican borders where operation may be prohibited pursuant to § 15.712(g).

(e) *TVBD initialization.* (1) Fixed and Mode II TVBDs must provide their location and required identifying information to the TV bands database in accordance with the provisions of paragraph (b) of this section.

(2) Fixed and Mode II TVBDs shall not transmit unless they receive, from the TV bands database, a list of available channels.

(3) Fixed TVBDs register and receive a list of available channels from the database by connecting to the Internet, either directly or through another fixed TVBD.

(4) Mode II TVBDs register and receive a list of available channels from the database by connecting to the Internet, either directly or through a fixed TVBD.

(f) *Fixed TVBD registration.* (1) Prior to operating for the first time or after changing location, a fixed TVBD must register with the TV bands database by providing the information listed in paragraph (f)(3) of this section.

(2) The party responsible for a fixed TVBD must ensure that the TVBD registration database has the most current, up-to-date information for that device.

(3) The TVBD registration database shall contain the following information for fixed TVBDs:

(i) FCC identifier (FCC ID) of the device.

(ii) Manufacturer's serial number of the device.

(iii) Device's geographic coordinates (latitude and longitude (NAD 83) accurate to +/− 50 m).

(iv) Name of the individual or business that is responsible for the device.

(v) Name of a contact person responsible for the device's operation.

(vi) Address for the contact person.

(vii) E-mail address for the contact person.

(viii) Phone number for the contact person.

(g) A personal/portable device operating in Mode II shall provide the

database its FCC Identifier (as required by § 2.926 of this chapter), serial number as assigned by the manufacturer, and the device's geographic coordinates (latitude and longitude (NAD 83) accurate to ±50 m)

(h) The TV bands database shall contain the listed information for each of the following:

(1) Digital television stations, digital and analog Class A, low power, translator and booster stations:

(i) Transmitter coordinates (latitude and longitude in NAD 83).

(ii) Effective radiated power (ERP).

(iii) Height above average terrain of the transmitting antenna (HAAT).

(iv) Horizontal transmit antenna pattern (if the antenna is directional).

(v) Channel number.

(vi) Station call sign.

(2) Broadcast Auxiliary Service.

(i) Transmitter coordinates (latitude and longitude in NAD 83).

(ii) Receiver coordinates (latitude and longitude in NAD 83).

(iii) Channel number.

(iv) Call sign.

(3) Metropolitan areas listed in § 90.303(a) of this chapter.

(i) Region name.

(ii) Channel(s) reserved for use in the region.

(iii) Geographic center of the region (latitude and longitude in NAD 83).

(iv) Call sign.

(4) PLMRS/CMRS base station operations located more than 80 km from the geographic centers of the 13 metropolitan areas defined in § 90.303(a) of this chapter (*e.g.*, in accordance with a waiver).

(i) Transmitter location (latitude and longitude in NAD 83) or geographic area of operations.

(ii) Effective radiated power.

(iii) Transmitter height above average terrain (if specified).

(iv) Antenna height above ground level (if specified).

(v) Call sign.

(5) Offshore Radiotelephone Service. For each of the four regions where the Offshore Radiotelephone Service operates.

(i) Geographic boundaries of the region (latitude and longitude in NAD 83 for each point defining the boundary of the region.

(ii) Channel(s) used by the service in that region.

(6) Cable Television headends.

(i) Name and address of cable company.

(ii) Location of the headend receiver (latitude and longitude in NAD 83, accurate to +/−50 m).

(iii) Channel number of each television channel received, subject to the following condition: channels for which the cable headend is located within the protected contour of that channel's transmitting station are not eligible for registration in the database.

(iv) Call sign of each television channel received and eligible for registration.

(v) Location (latitude and longitude) of the transmitter of each television channel received.

(7) Television translator, low power TV and Class A TV station receive sites.

(i) Call sign of the TV translator station.

(ii) Location of the TV translator receive site (latitude and longitude in NAD 83, accurate to +/−50 m).

(iii) Channel number of the re-transmitted television station, subject to the following condition: a channel for which the television translator receive site is located within the protected contour of that channel's transmitting station is not eligible for registration in the database.

(iv) Call sign of the retransmitted television station.

(v) Location (latitude and longitude) of the transmitter of the retransmitted television station.

(8) Low power auxiliary stations, including wireless microphones and wireless assist video devices. Sites with significant wireless microphone use at well defined times and locations may be registered in the database. Multiple registrations that specify more than one point in the facility may be entered for very large sites. Registrations will be valid for no more than one year, after which they may be renewed.

(i) Name of the individual or business that owns the low power auxiliary device(s).

(ii) An address for the contact person.

(iii) An e-mail address for the contact person (optional).

(iv) A phone number for the contact person.

(v) Coordinates where the device(s) are used (latitude and longitude in NAD 83, accurate to +/−50 m).

(vi) Channels used by the low power auxiliary devices operated at the site.

(vii) Specific months, days and times when the device(s) are used.

(i) Commission requests for data. (1) A TV bands database administrator must provide to the Commission, upon request, any information contained in the database.

(2) A TV bands database administrator must remove information from the database, upon direction, in writing, by the Commission.

§ 15.714 TV bands database administration fees.

(a) A TV bands database administrator may charge a fee for provision of lists of available channels to fixed and personal/portable TVBDs and for registering fixed TVBDs and temporary BAS links.

(b) The Commission, upon request, will review the fees and can require changes in those fees if they are found to be excessive.

§ 15.715 TV bands database administrator.

The Commission will designate one or more entities to administer a TV bands database. Each database administrator shall:

(a) Maintain a database that contains the information described in § 15.713.

(b) Establish a process for acquiring and storing in the database necessary and appropriate information from the Commission's databases and synchronizing the database with the current Commission databases at least once a week to include newly licensed facilities or any changes to licensed facilities.

(c) Establish a process for registering fixed TVBDs and registering and including in the database facilities entitled to protection but not contained in a Commission database, including cable headends and TV translator receiver sites.

(d) Establish a process for registering facilities where part 74 low power auxiliary devices are used on a regular basis.

(e) Provide lists of available channels to fixed and personal/portable TVBDs that submit to it the information required under § 15.713(f) based on their geographic location.

(f) Make its services available to all unlicensed TV band device users on a non-discriminatory basis.

(g) Provide service for a five-year term. This term can be renewed at the Commission's discretion.

(h) Respond in a timely manner to verify, correct and/or remove, as appropriate, data in the event that the Commission or a party brings claim of inaccuracies in the database to its attention.

(i) Transfer its database along with the IP addresses and URLs used to access the database and list of registered Fixed TVBDs, to another designated entity in the event it does not continue as the database administrator at the end of its term. It may charge a reasonable price for such conveyance.

(j) The database must have functionality such that upon request from the Commission it can indicate that no channels are available when

queried by a specific TVBD or model of TVBDs.

(k) If more than one database is developed, the database administrators shall cooperate to develop a standardized process for providing on a daily basis or more often, as appropriate, the data collected for the facilities listed in § 15.713(b)(2) to all other TV bands databases to ensure consistency in the records of protected facilities.

§ 15.717 TVBDs that rely on spectrum sensing.

(a) Parties may submit applications for certification of TVBDs that rely solely on spectrum sensing to identify available channels. Devices authorized under this section must demonstrate with an extremely high degree of confidence that they will not cause harmful interference to incumbent radio services.

(1) In addition to the procedures in subpart J of part 2 of this chapter, applicants shall comply with the following.

(i) The application must include a full explanation of how the device will protect incumbent authorized services against interference.

(ii) Applicants must submit a pre-production device, identical to the device expected to be marketed.

(2) The Commission will follow the procedures below for processing applications pursuant to this section.

(i) Applications will be placed on public notice for a minimum of 30 days for comments and 15 days for reply comments. Applicants may request that portions of their application remain confidential in accordance with § 0.459 of this chapter. This public notice will include proposed test procedures and methodologies.

(ii) The Commission will conduct laboratory and field tests of the pre-production device. This testing will be conducted to evaluate proof of performance of the device, including characterization of its sensing capability and its interference potential. The testing will be open to the public.

(iii) Subsequent to the completion of testing, the Commission will issue by public notice, a test report including recommendations. The public notice will specify a minimum of 30 days for comments and, if any objections are received, an additional 15 days for reply comments.

(b) The device shall meet the requirements for personal/portable devices in this subpart except that it will be limited to a maximum EIRP of 50 mw and it does not have to comply with the requirements for geo-location and database access in § 15.711(b). Compliance with the detection threshold for spectrum sensing in § 15.711(c), although required, is not necessarily sufficient for demonstrating reliable interference avoidance. Once a device is certified, additional devices that are identical in electrical characteristics and antenna systems may be certified under the procedures of part 2, subpart J of this chapter.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 071106673–8011–02]

RIN 0648–XN00

Fisheries of the Exclusive Economic Zone Off Alaska; Pacific Cod by Catcher Vessels Less Than 60 feet (18.3 m) Length Overall Using Jig or Hook-and-Line Gear in the Bogoslof Pacific Cod Exemption Area in the Bering Sea and Aleutian Islands Management Area

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; closure.

SUMMARY: NMFS is prohibiting directed fishing for Pacific cod by catcher vessels less than 60 feet (18.3 m) length overall (LOA) using jig or hook-and-line gear in the Bogoslof Pacific cod exemption area of the Bering Sea and Aleutian Islands management area (BSAI). This action is necessary to prevent exceeding the limit of Pacific cod for catcher vessels <60 ft LOA using jig or hook-and-line gear in the Bogoslof Pacific cod exemption area in the BSAI.

DATES: Effective 1200 hrs, Alaska local time (A.l.t.), February 13, 2009, through 2400 hrs, A.l.t., December 31, 2009.

FOR FURTHER INFORMATION CONTACT: Josh Keaton, 907–586–7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the BSAI according to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

In accordance with § 679.22(a)(7)(i)(C), the Administrator, Alaska Region, NMFS (Regional Administrator), has determined that 113 metric tons of Pacific cod have been caught by catcher vessels <60 ft LOA using jig or hook-and-line gear in the Bogoslof exemption area described at § 679.22(a)(7)(i)(C)(1). Consequently, the Regional Administrator is prohibiting directed fishing for Pacific cod by catcher vessels < 60 ft (18.3 m) LOA using jig or hook-and-line gear in the Bogoslof Pacific cod exemption area.

After the effective date of this closure the maximum retainable amounts at § 679.20(e) and (f) apply at any time during a trip.

Classification

This action responds to the best available information recently obtained from the fishery. The Assistant Administrator for Fisheries, NOAA (AA), finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such requirement is impracticable and contrary to the public interest. This requirement is impracticable and contrary to the public interest as it would prevent NMFS from responding to the most recent fisheries data in a timely fashion and would delay the closure of Pacific cod by catcher vessels <60 ft LOA using jig or hook-and-line gear in the Bogoslof Pacific cod exemption area. NMFS was unable to publish a notice providing time for public comment because the most recent, relevant data only became available as of February 10, 2009.

The AA also finds good cause to waive the 30–day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of prior notice and opportunity for public comment.

This action is required by § 679.22 and is exempt from review under Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: February 11, 2009.

Emily H. Menashes,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

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