

policies set forth in section 2 of the ESA.

Dated: August 14, 2013.

**P. Michael Payne,**

*Chief, Permits and Conservation Division,  
Office of Protected Resources, National  
Marine Fisheries Service.*

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**BILLING CODE 3510–22–P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

**RIN 0648–XC519**

#### Endangered Species; File No. 17405

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

**ACTION:** Notice; Issuance of permit.

**SUMMARY:** Notice is hereby given that David Lapota, Ph.D., Department of the Navy, SPAWAR Systems Center, Pacific, Environmental Sciences Division, 53475 Strothe Road, San Diego, CA 92152, has been issued a permit to take black abalone (*Haliotis cracherodii*) for purposes of scientific research.

**ADDRESSES:** The permit and related documents are available for review upon written request or by appointment in the following offices:

Permits and Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910; phone (301) 427–8401; fax (301) 713–0376; and

Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802–4213; phone (562) 980–4001; fax (562) 980–4018.

**FOR FURTHER INFORMATION CONTACT:** Rosa L. González or Jennifer Skidmore, (301) 427–8401.

**SUPPLEMENTARY INFORMATION:** On March 4, 2013, notice was published in the *Federal Register* (78 FR 14078) that a request for a scientific research permit to take black abalone had been submitted by the above-named individual. The requested permit has been issued under the authority of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*) and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR parts 222–226).

Permit No. 17405 authorizes scientific research activities to overcome key barriers to captive propagation of the endangered black abalone, specifically, identifying limitations to their

reproduction (focusing on successful spawning, increased fertilization, increased settlement, and recruitment). No black abalone will be taken from the wild, nor will animals be returned to the wild under the permit. All animals will come from existing captive populations. The permit is valid for five years and expires on August 8, 2018.

Issuance of this permit, as required by the ESA, was based on a finding that such permit (1) was applied for in good faith, (2) will not operate to the disadvantage of such endangered or threatened species, and (3) is consistent with the purposes and policies set forth in section 2 of the ESA.

Dated: August 14, 2013.

**P. Michael Payne,**

*Chief, Permits and Conservation Division,  
Office of Protected Resources, National  
Marine Fisheries Service.*

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## DEPARTMENT OF COMMERCE

### National Telecommunications and Information Administration

**[Docket Number: 130809701–3701–01]**

**RIN 0660–XC006**

#### Common Format for Federal Entity Transition Plans

**AGENCY:** National Telecommunications and Information Administration, U.S. Department of Commerce.

**ACTION:** Notice of Inquiry.

**SUMMARY:** The National Telecommunications and Information Administration (NTIA) issues this Notice of Inquiry (NOI) to seek public input on a common format for transition plans to be developed by federal entities to facilitate the relocation of, and spectrum sharing with, U.S. Government stations in spectrum bands reallocated from federal use to non-federal use, or to shared use, and auctioned by the Federal Communications Commission (FCC). Pursuant to Section 923(h)(1) of Title 47 of the U.S. Code, NTIA will specify, after public input, a common format for all affected federal entities to follow in preparing transition plans for the eligible frequencies in the 1695–1710 MHz and 1755–1780 MHz bands.

**DATES:** Submit comments on or before September 18, 2013.

**ADDRESSES:** Written comments may be submitted by email to [transitionplans@ntia.doc.gov](mailto:transitionplans@ntia.doc.gov). Comments submitted should be machine searchable and should not be copy-protected.

Comments also may be submitted by mail to: National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW., Room 4623, Washington, DC 20230, Attn: Gary Patrick, Office of Spectrum Management. Each commenter should include the name of the person or organization filing the comment as well as a page number on each page of the submission. Paper submissions should also include a CD or DVD with an electronic version of the document, which should be labeled with the name and organizational affiliation of the filer. All email messages and comments received are a part of the public record in this docket and will be posted to NTIA's Web site (<http://www.ntia.doc.gov>). All personally identifiable information (*e.g.*, name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information. Comments should not exceed 15 double-spaced pages.

**FOR FURTHER INFORMATION CONTACT:** Gary Patrick, Office of Spectrum Management, National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW., Room 4623, Washington, DC 20230; (202) 482–3650; or [gpatrick@ntia.doc.gov](mailto:gpatrick@ntia.doc.gov).

#### SUPPLEMENTARY INFORMATION:

##### Background

On February 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 (Tax Relief Act) amended the NTIA Organization Act to expand the types of costs for which federal agencies can be reimbursed from the Spectrum Relocation Fund (SRF), which the Commercial Spectrum Enhancement Act (CSEA) originally established in 2004.<sup>1</sup> Among other things, the changes made by the Tax Relief Act now permit federal agencies to receive SRF funds for relocation and spectrum sharing costs associated with engineering, equipment, software, site acquisition, and construction; research, engineering studies, and economic analyses; planning for and managing relocations or sharing arrangements with auction winners; and costs associated with the

<sup>1</sup> See Public Law 112–96, Title VI, Subtitle G, §§ 6701–6703, 126 Stat. 245–255 (Feb. 22, 2012) (amending, among other provisions, sections 113(g)–(i) and 118 of the NTIA Organization Act, codified at 47 U.S.C. 923(g)–(i) and 928); see also CSEA, Public Law 108–494, Title II, §§ 201–209, 118 Stat. 3986 (Dec. 23, 2004).

accelerated replacement of systems and equipment, if necessary to ensure the timely relocation or accommodation of sharing.<sup>2</sup> Other modifications to the CSEA were aimed at facilitating better transparency, coordination, and predictability for bidders in FCC spectrum auctions and the ultimate winners of those auctions.

These changes to the CSEA require each federal entity using eligible frequencies to submit a transition plan to NTIA and a new Technical Panel established by the Tax Relief Act.<sup>3</sup> The statute also requires NTIA to “specify, after public input, a common format for all Federal entities to follow in preparing transition plans . . . .”<sup>4</sup> Each federal entity’s transition plan must contain basic operational and technical data, including: (1) The current use by the federal entity of the eligible frequencies to be auctioned; (2) the geographic location of the federal entity’s facilities or systems; and (3) the frequency bands used by such facilities or systems.<sup>5</sup>

The plan must also set forth the “steps to be taken by the Federal entity to relocate its spectrum use from such frequencies or to share such frequencies, including timelines for specific geographic locations in sufficient detail to indicate when use of such frequencies at such locations will be discontinued by the Federal entity or shared between the Federal entity and non-Federal users.”<sup>6</sup> The plan will include the contact information for the person from the agency who is responsible for relocation or sharing efforts and who is authorized to meet and negotiate with non-federal users regarding the transition.<sup>7</sup>

Each transition plan must describe the federal entity’s specific plans and timelines for using funds received from the SRF as well as for procuring, testing and deploying new equipment, and hiring contract personnel, if needed, and for covering the broad range of other relocation or sharing costs to be incurred to achieve “comparable capability of systems as before the relocation or sharing arrangement.”<sup>8</sup>

The plan must also identify any factor that could “hinder fulfillment of the transition plan,”<sup>9</sup> such as the extent to which any classified information will affect “the implementation of the relocation or sharing arrangement.”<sup>10</sup>

The transition plan of a federal entity that seeks payments for pre-auction costs must also provide: (1) For sharing, coordination, and reasonable accommodations for the use of eligible frequencies by non-federal users during the period that the federal entity is relocating its spectrum uses; (2) for non-federal users to use eligible frequencies during this transition period in geographic areas where an eligible federal entity does not use such frequencies; (3) that the eligible federal entity will, during the transition period, make itself available for negotiation and discussion with non-federal users; and (4) that the eligible federal entity will assist the non-federal user during the transition period by making available relevant classified information to those with appropriate security clearances and a need to know.<sup>11</sup>

The CSEA requires the FCC to notify NTIA at least 18 months before the start of an auction of eligible frequencies.<sup>12</sup> On March 20, 2013, the Chairman of the FCC notified NTIA that it “plans to commence the auction of licenses in the 1695–1710 MHz band and the 1755–1780 MHz band as early as September 2014.”<sup>13</sup> On July 23, 2012, the FCC released a *Notice of Proposed Rulemaking (NPRM)* that proposes rules

limited to: (1) Relocation of a federal station to a new frequency assignment or to a different geographic location; (2) modification of equipment to mitigate interference or use less spectrum to enable spectrum sharing among federal entities; and (3) utilizing “alternative technology” and “state-of-the-art replacement systems intended to meet comparable operational scope, which may include incidental increases in functionality.” *Id.* at § 923(g)(3)(B).

<sup>9</sup> See *id.* at § 923(h)(2)(H).

<sup>10</sup> *Id.* at § 923(h)(7)(A).

<sup>11</sup> *Id.* at § 928(d)(3)(B)(ii). The “transition period” under this provision refers to the period that the federal entity is “relocating its spectrum uses.” *Id.* The authorized pre-auction costs include research, engineering studies, economic analyses or other planning expenses. *Id.* at 923(g)(3)(A)(iii). See also Office of Management and Budget, “Guidance for Agencies on Transfers from the Spectrum Relocation Fund for Certain Pre-Auction Costs,” M–13–01 (Nov. 20, 2012), available at <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-01.pdf>.

<sup>12</sup> See 47 U.S.C. 923(g)(4).

<sup>13</sup> Letter from Julius Genachowski, Chairman, FCC, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce (Mar. 20, 2013), available at <http://go.usa.gov/2VR5>; see also Letter from Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to Julius Genachowski, Chairman, FCC (Apr. 19, 2013), available at <http://go.usa.gov/ThUY>.

for reallocating and auctioning the 1695–1710 and 1755–1780 MHz bands, among others, making this spectrum available for additional Advanced Wireless Services (AWS–3).<sup>14</sup>

The Tax Relief Act’s changes to the CSEA provide that each federal entity must submit its transition plan to NTIA and the Technical Panel no later than 240 days prior to the auction start date.<sup>15</sup> Accordingly, NTIA has notified the federal agencies that they should plan for a September 20, 2014, auction start date for these two bands of eligible frequencies, which means that each affected agency must formally submit to NTIA and the Technical Panel a complete transition plan no later than January 23, 2014. Then, the Technical Panel will submit to NTIA and to the federal entity a report on the sufficiency of the transition plan within 30 days after the submission of the plan.<sup>16</sup> NTIA must make the transition plans, with the exception of classified or other sensitive information, publicly available on its Web site no later than 120 days before the start date of the auction.<sup>17</sup>

#### Request for Comments

NTIA requests public input on the common format for all federal entities to follow in preparing transition plans for the eligible frequencies in the 1695–1710 MHz and 1755–1780 MHz bands. In anticipation of the FCC’s auction of these two bands, NTIA will require affected federal entities to prepare their transition plans following a common format that is substantially similar to the one set forth in the Appendix to Annex O of the *NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management (NTIA Manual)*.<sup>18</sup> Annex O of the *NTIA*

<sup>14</sup> See Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz Bands (AWS–3 NPRM), GN Docket No. 13–185, FCC 13–102, *Notice of Proposed Rulemaking*, (rel. Jul. 23, 2013), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-13-102A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-13-102A1.pdf).

<sup>15</sup> See 47 U.S.C. 923(h)(1).

<sup>16</sup> See *id.* at § 923(h)(4)(A); see also NTIA, Relocation of and Spectrum Sharing by Federal Government Stations—Technical Panel and Dispute Resolution Boards, *Final Rule*, 78 FR 5310 (Jan. 25, 2013) (to be codified at 47 CFR Part 301), available at <http://go.usa.gov/jRHB> (Technical Panel Rules). If the Technical Panel finds that a federal entity’s plan is “insufficient,” the Technical Panel informs the affected federal entity and such entity has up to 90 days to submit a revised plan to NTIA and the Technical Panel. The panel would then have 30 days during which to determine whether the revised plan is sufficient. See Technical Panel Rules at § 301.120, 78 FR 5316–17.

<sup>17</sup> See 47 U.S.C. 923(h)(5).

<sup>18</sup> The *NTIA Manual* governs the federal agencies’ use of the radio frequency spectrum and specifies NTIA’s regulation thereof pursuant to the NTIA Organization Act, as amended. See generally 47

<sup>2</sup> See 47 U.S.C. 923(g)(3) (defining “relocation or sharing costs”).

<sup>3</sup> *Id.* at § 923(h)(1).

<sup>4</sup> *Id.*

<sup>5</sup> See *id.* at § 923(h)(2)(A)–(C).

<sup>6</sup> *Id.* at § 923(h)(2)(D).

<sup>7</sup> See *id.* at § 923(h)(2)(F). Although this statutory provision only requires the “name” of responsible officer or employee of the Federal entity, NTIA will request that agencies include additional contact information in their plans. See, e.g., Annex O at § O.4.3.2.

<sup>8</sup> 47 U.S.C. 923(h)(2)(G), (g)(3). Under the statute, “comparable capability of systems” may be achieved by several means, including but not

*Manual* contains information, policies, and procedures applicable to federal agencies that are preparing and implementing transition plans.<sup>19</sup> The Appendix to Annex O specifies a generic, common format for all federal entities to follow in preparing transition plans.

NTIA will provide the affected agencies standard spreadsheet templates for completing their transition plans. NTIA may also offer a tool for on-line upload of data and submission of plans that would contain the same or similar data elements and fields as set forth in the Appendix to Annex O. Section O.4.3 of Annex O describes each part of the generic transition plan common format and the Appendix to Annex O provides specific instructions and sample spreadsheets for identifying and submitting the requested information.<sup>20</sup>

Based on the comments received in response to this NOI and other relevant information, NTIA may, in its discretion, provide additional instructions and guidance to the agencies in connection with the specific eligible frequencies and may develop, if necessary, auction- or band-specific templates.<sup>21</sup> For example, the geographic service areas that enclose the federal systems' transmitters and receivers encumbering the eligible frequencies will be identified in auction-specific guidance and will be related to the specific service areas to be auctioned and licensed by the FCC.<sup>22</sup> NTIA notes that the FCC's AWS-3 NPRM proposes to assign licenses in the 1695–1710 MHz and 1755–1780 MHz bands by competitive bidding, offering five megahertz blocks that can be aggregated using Economic Areas (EAs) as the area for geographic licensing.<sup>23</sup> NTIA seeks input on whether the information on geographic areas based on EAs would adequately address the requirement in 47 U.S.C. 923(h)(2)(D)

that each transition plan set forth the “steps to be taken by the federal entity to relocate its spectrum use from such frequencies or to share such frequencies, including timelines for specific geographic locations in sufficient detail to indicate when use of such frequencies at such locations will be discontinued by the federal entity or shared between the federal entity and non-federal users.”<sup>24</sup>

With regard to the transition timelines called for in the above-referenced statutory provision, NTIA plans to instruct the affected agencies to follow the recommendations made by the Commerce Spectrum Management Advisory Committee (CSMAC) regarding the prioritization of EAs for the transition of federal systems in the eligible frequencies.<sup>25</sup> As the CSMAC report notes, the industry members of the working group would prefer that federal relocation efforts be based on the suggested EA rankings. However, the report also acknowledges that affected agencies will need to establish timelines for clearing based on their operational requirements and in some cases, operational needs may require clearing larger geographic areas. Accordingly, while this prioritized list of EAs will serve as an input for consideration as the agencies develop their transition plans, NTIA also seeks comment on whether the common format will adequately capture and reveal this transition timeline information in sufficient detail.<sup>26</sup>

NTIA has received, and expects to receive, additional recommendations from the CSMAC in the near future regarding the content of agency transition plans for the eligible frequencies.<sup>27</sup> Based on the nature of those forthcoming recommendations, NTIA seeks further input on what, if any, modifications or additional instructions would be necessary to

reflect, for example, protection zones in which AWS-3 operations would be coordinated pursuant to applicable regulatory sharing criteria.

As noted above, NTIA must make the agency transition plans, with the exception of classified or other sensitive information, publicly available on its Web site no later than 120 days before the auction start date.<sup>28</sup> Section O.7 of Annex O sets forth regulations to ensure that the information contained in publicly released transition plans, and updates thereto, do not contain classified information or other sensitive information. In addition, NTIA will publish only those transition plans that have been found to be sufficient by the Technical Panel as well as any updates to such plans.<sup>29</sup> Pursuant to 47 U.S.C. 923(h), each transition plan must also identify factors that could hinder fulfillment of the transition plan by the federal entity, including the extent to which any classified information will affect the implementation of the relocation or sharing arrangement.<sup>30</sup> NTIA seeks input on how such risk factors should be disclosed and explained in the transition plans.

Section O.3.7 of Annex O provides that NTIA will determine for each auction the file formats in which it will publish the transitions plans. For the auction of the eligible frequencies in the 1695–1710 MHz and 1755–1780 MHz bands, NTIA will collect data and information through standard spreadsheet files (e.g., Microsoft Excel) or via an online transition plan builder tool with a standardized back-end database (e.g., SQL database supporting XML data). Under either scenario, NTIA plans to publish the transition plans in an open format that enables interested stakeholders, to the extent practicable and subject to appropriate restrictions and authentication, to retrieve, download, and search the publicly available information. Pursuant to applicable federal guidelines, this open format will be platform independent, machine readable, and available to the public without restrictions that would impede the re-use of that information.<sup>31</sup> NTIA seeks input on this approach.

CFR 300.1 (2012). The May 2013 edition of *NTIA Manual* is available online at <http://www.ntia.doc.gov/osmhome/redbook/redbook.html>. It will become effective on the date that it is incorporated by reference in 47 CFR 300.1 by publication of a Final Rule in the **Federal Register**.

<sup>19</sup> Annex O is available at [http://www.ntia.doc.gov/files/ntia/publications/redbook/2013/O\\_13.pdf](http://www.ntia.doc.gov/files/ntia/publications/redbook/2013/O_13.pdf); see also Technical Panel Rules at § 301.10, 78 FR 5315 (cross-referencing Annex O).

<sup>20</sup> Annex O at § O.4.3.

<sup>21</sup> See *id.* at §§ O.1.2, ¶ 2; O.4, n.9; O.4.3; see also 47 U.S.C. 923(g)(6) (requiring NTIA to “take such actions as necessary to ensure the timely relocation of federal entities’ spectrum-related operations from [eligible] frequencies . . . to frequencies or facilities of comparable capability and to ensure the timely implementation of arrangements for the sharing of [eligible] frequencies”).

<sup>22</sup> See Annex O, Appendix at pp. O–20, O–21 (instructions for Tab C, items 10, 13; Tab D).

<sup>23</sup> See AWS-3 NPRM at ¶¶ 3, 52.

<sup>24</sup> 47 U.S.C. 923(h)(2)(D); see also Annex O at §§ O.4.2.3, O.4.3.4. The transition timeline in Tab D of the Appendix to Annex O is based on the number of months following the start of the transition period. While NTIA will define the start of the transition period reference date in subsequent guidance to the agencies, it will consider the award of licenses by the FCC as the default reference event to use when determining transition timelines. NTIA may, however, specify an alternate event (e.g., release of SRF funds), if necessary.

<sup>25</sup> See CSMAC, “1755–1850 MHz Law Enforcement Surveillance, Explosive Ordnance Disposal, and other short distance links,” *Final Report of Working Group 2* (Jan. 2013), available at [http://www.ntia.doc.gov/files/ntia/publications/csmac\\_wg-2\\_final\\_report\\_jan-4-2012.pdf](http://www.ntia.doc.gov/files/ntia/publications/csmac_wg-2_final_report_jan-4-2012.pdf).

<sup>26</sup> See also AWS-3 NPRM at ¶ 74.

<sup>27</sup> See, e.g., CSMAC, “1695–1710 MHz Meteorological-Satellite,” *Final Report of Working Group 1*, Rev. 1 (Jul. 23, 2013), available at [http://www.ntia.doc.gov/files/ntia/publications/wg1\\_report\\_07232013.pdf](http://www.ntia.doc.gov/files/ntia/publications/wg1_report_07232013.pdf).

<sup>28</sup> See 47 U.S.C. 923(h)(5), (6).

<sup>29</sup> See Annex O at §§ O.3.7, O.3.8.

<sup>30</sup> See 47 U.S.C. 923(h)(2)(H), (7)(A)(ii); see also Annex O at § O.4.3.8, Appendix at p. O–22, O–30 (Tab H).

<sup>31</sup> See Office of Management and Budget, *Open Government Directive, M–10–06* (Dec. 8, 2009), available at [http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda\\_2010/m10-06.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf).

Dated: August 14, 2013.

**Karl B. Nebbia,**

*Associate Administrator, Office of Spectrum Management.*

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## DEPARTMENT OF COMMERCE

### National Telecommunications and Information Administration

[Docket Number 130809703-3703-01]

RIN 0660-XC007

#### Spectrum Monitoring Pilot Program

**AGENCY:** National Telecommunications and Information Administration, U.S. Department of Commerce.

**ACTION:** Notice of inquiry.

**SUMMARY:** In his June 2013 Executive Memorandum on *Expanding America's Leadership in Wireless Innovation*, President Obama directed the National Telecommunications and Information Administration (NTIA) to design and conduct a pilot program to monitor spectrum usage in real time in selected communities throughout the country. NTIA's budget request to Congress for fiscal year (FY) 2014 seeks an initial \$7.5 million research and development investment for a two-year pilot program to determine the benefits of an automated spectrum measurement and data collection system to better analyze actual spectrum usage. NTIA issues this Notice of Inquiry (NOI) to seek public comment on this proposed spectrum monitoring pilot program that, if funded, would develop and deploy a prototype system to monitor spectrum usage in up to ten metropolitan areas throughout the United States. The NOI requests input from all interested stakeholders on the measurement system's design, features, deployment options, operational parameters, expected utility, potential benefits, and other issues. Subject to the availability of funds, NTIA will design, develop, validate, and field this prototype system and evaluate whether a more comprehensive monitoring program would create additional opportunities for more efficient spectrum access through, for example, increased and more dynamic sharing. NTIA intends to use the input received in response to this NOI to help design and implement the spectrum monitoring program.

**DATES:** Submit comments on or before October 3, 2013.

**ADDRESSES:** The public is invited to submit written comments in paper or electronic form. Written comments may

be submitted by email to [measurementNOI@ntia.doc.gov](mailto:measurementNOI@ntia.doc.gov). Comments submitted should be machine searchable and should not be copy-protected. Written comments also may be submitted by mail to: National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW., HCHB Room 6725, Attn: Ed Drocella, Office of Spectrum Management, Washington, DC 20230. Each commenter should include the name of the person or organization filing the comment as well as a page number on each page of the submission. All comments received will be made a part of the public record in this docket and will be posted to NTIA's Web site (<http://www.ntia.doc.gov>) without change. All personally identifiable information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

**FOR FURTHER INFORMATION CONTACT:** Ed Drocella, Office of Spectrum Management, National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW., HCHB Room 6725, Washington, DC 20230; (202) 482-2608; or [edrocella@ntia.doc.gov](mailto:edrocella@ntia.doc.gov).

**SUPPLEMENTARY INFORMATION:** The continued growth in demand for spectrum for commercial wireless services, unlicensed devices, and government operations—whether at the federal, state, local, tribal, or territorial level—focuses attention on the ability of spectrum policy-makers, researchers, and industry stakeholders to identify relocation or spectrum sharing opportunities and approaches. While clearing spectrum bands of incumbent users to make way for new wireless services has been a viable approach for many years, opportunities to find spectrum to which to relocate federal operations are dwindling rapidly, getting more expensive, and taking longer to implement. Technologies that enable a variety of different networks and users to share the same spectrum bands in the same geographic areas promise greater utilization and efficiency as relocation options become more challenging. However, assessing these opportunities requires better data gathering and analysis techniques which focus on the nature and extent of actual spectrum usage. Spectrum utilization and occupancy measurements offer the possibility to

collect data and conduct analysis, which are more reflective of actual use.

The June 2013 Executive Memorandum directs NTIA to design and conduct a pilot program to monitor spectrum usage in real time in selected communities throughout the country.<sup>1</sup> In addition, NTIA's FY 2014 budget request to Congress seeks an initial \$7.5 million research and development investment for a two-year pilot program to determine the benefits of an automated spectrum measurement and data collection system to better analyze spectrum usage.<sup>2</sup> Under the proposal in the budget request, NTIA would design, develop, validate, and field a prototype spectrum monitoring system. The input submitted in response to this NOI will be used by NTIA to help design the pilot program, if funded.

NTIA is considering that the initial system for the pilot program include a small network of radiofrequency sensors installed at selected sites in up to ten major metropolitan areas to collect data across particular bands of interest. The measurement equipment would automatically feed data to a centralized database for storing, retrieving, and analyzing spectrum usage and occupancy information. Spectrum policy-makers, researchers, and other stakeholders would have access to the data and analysis to corroborate other quantitative assessments and investigate the feasibility of supporting new and innovative spectrum access capabilities, such as more dynamic spectrum sharing approaches in key federal or non-federal bands. If the pilot phase successfully demonstrates the value of this monitoring capability, NTIA would look to promote more widespread deployment.

NTIA's Office of Spectrum Management (OSM) and the Institute for

<sup>1</sup> Memorandum for Heads of Executive Departments and Agencies, *Expanding America's Leadership in Wireless Innovation* (June 14, 2013), 78 FR 37431, 37433 at § 3(c) (June 20, 2013), available at <http://www.whitehouse.gov/the-press-office/2013/06/14/presidential-memorandum-expanding-americas-leadership-wireless-innovation> (June 2013 Executive Memorandum). The President also directed NTIA to develop a plan that requires applicable federal agencies to make quantitative assessments of the actual usage of spectrum in certain spectrum bands below 6 GHz that have the greatest potential to be shared with nonfederal users. *Id.* at § 3(a). Similarly, the memorandum calls on NTIA to take such actions as are necessary to require that each federal agency's regular reviews of its frequency assignments include a quantitative assessment of its actual usage of spectrum under such assignments. *Id.* at § 3(d).

<sup>2</sup> See U.S. Department of Commerce, National Telecommunications and Information Administration, *FY 2014 Budget as Presented to Congress* at 4, 103-108 (April 2013), available at [http://www.osec.doc.gov/bmi/budget/FY14CJ/NTIA\\_FY\\_2014\\_CJ\\_Final\\_508\\_Compliant.pdf](http://www.osec.doc.gov/bmi/budget/FY14CJ/NTIA_FY_2014_CJ_Final_508_Compliant.pdf).