
CSMAC

**Spectrum Management Improvements
Working Group**

**Reply to March 1, 2012 NTIA
Response**

[DATE]

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I. INTRODUCTION

On November 10, 2011, the Spectrum Management Improvements Working Group (“Working Group”) of the Commerce Spectrum Management Advisory Committee (“CSMAC”) presented an Initial Report to the National Telecommunications & Information Administration (NTIA).¹ The Initial Report included a series of recommendations designed to improve the accuracy of spectrum data. On March 1, 2012, NTIA issued a response.² While NTIA generally agreed with the recommendations, it asked the Working Group for additional guidance concerning three of the recommendations. This document provides that guidance. Accordingly, set forth below are each of the three recommendations, the NTIA responses, and the Working Group’s reply to those responses.

II. RECOMMENDATION: PERFORM A ONE-TIME, SYSTEM-WIDE DATA ACCURACY AND CLEAN-UP EFFORT**Working Group Recommendation**

A soon as practicable, NTIA should perform a one-time, system-wide data accuracy and clean-up effort. This effort is needed to establish a data baseline and address existing errors. All Federal government spectrum assignments should be reviewed. NTIA could lead this effort with a mandate for Federal agency cooperation. The goals of this effort should be to assure that assignments in the Government Master File (“GMF”) accurately reflect the systems that are deployed and in operation and to capture any missing assignments.

NTIA Response and Explanation

Agree. NTIA notes that funding is necessary. Therefore, NTIA would like greater clarity to understand what CSMAC expects. Given that the GMF has approximately 250,000 Federal records, a complete review within a year would require at least 20,000 per month. If extended over the 5 year review period, NTIA would still have to review 4000 records per month. On this basis, site visits seem impossible. Even in-depth reviews of each record by a knowledgeable engineer/technical expert with dialog through the appropriate agency to the local

¹ CSMAC, Spectrum Management Improvements Working Group, Report (Nov. 10, 2011) (“Initial Report”), available at http://www.ntia.doc.gov/files/ntia/meetings/spectrum_management_improvements_report_10nov2011.pdf.

² NTIA Response to CSMAC Recommendations (Mar. 1, 2012) (“NTIA Response”), available at http://www.ntia.doc.gov/files/ntia/meetings/ntia_evaluation_of_csmac_recommendations_for_cy_2011_120220.doc.

user organization seem unlikely. NTIA concludes that it would need to prioritize and select samples.

Working Group Reply

The Working Group agrees that NTIA should prioritize the bands subjected to the one-time data accuracy and clean-up effort. Accordingly, the Working Group recommends that NTIA initially focus the data accuracy and clean-up effort on the fast-track and priority spectrum bands currently under review for near-term repurposing to wireless broadband use. These bands include: 1675-1710 MHz, 1755-1850 MHz, 3500-3650 MHz, 4200-4220 MHz, and 4380-4400 MHz.³ Thereafter, NTIA should focus on the remaining candidate bands it has identified for repurposing.⁴ The data accuracy and clean-up effort should focus on those data fields needed to form a complete data set sufficient for spectrum planning, as identified in the Second Report of the Working Group presented on March 1, 2012.⁵ The Working Group also recommends that NTIA automate the process to find and correct errors, and consider outsourcing the entire effort to companies specializing in development and maintenance of spectrum management databases.

With regard to funding, the Working Group recommends that NTIA seek the judgment of the Office of the Chief Counsel (“OCC”) that costs incurred by Federal agencies in connection with this effort are subject to reimbursement from the Spectrum Relocation Fund, pursuant to the Middle Class Tax Relief and Job Creation Act of 2012 (“Jobs Act”) amendments to the funding provisions of the Commercial Spectrum Enhancement Act (“CSEA”).⁶ Among other things, the Jobs Act amendments provide NTIA with a vehicle for funding agency spectrum planning prior to auction. Specifically, Federal agencies are entitled to compensation from the Spectrum Relocation Fund (“SRF”) for “relocation or sharing costs” incurred because of planning for the reallocation of spectrum from Federal to non-Federal or shared use to be assigned by auction.⁷ “Relocation or sharing costs” include costs incurred by Federal agencies that are “attributable” to

³ NTIA initially selected the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, 4200-4220 MHz, and 4380-4400 MHz bands for “fast-track” evaluation to determine if spectrum within these bands could be made available for wireless broadband use within five years. NTIA subsequently identified the 1755-1850 MHz band as the highest ranked priority band for repurposing. See U.S. DEPARTMENT OF COMMERCE, SECOND INTERIM PROGRESS REPORT ON THE TEN-YEAR PLAN AND TIMETABLE, at 2-3 (Oct. 17, 2011), available at http://www.ntia.doc.gov/files/ntia/publications/second_interim_progress_report_on_the_ten_year_plan_and_timetable.pdf.

⁴ NTIA and the FCC have identified over 2200 megahertz of Federal and non-Federal spectrum as candidate bands for repurposing for broadband use. U.S. DEPARTMENT OF COMMERCE, PLAN AND TIMETABLE TO MAKE AVAILABLE 500 MHZ OF SPECTRUM FOR WIRELESS BROADBAND, at ii (Oct. 2010) (“Ten-Year Plan”), http://www.ntia.doc.gov/files/ntia/publications/tenyearplan_11152010.pdf. The full list of candidate bands is set forth in Table 2-1 of the Ten-Year Plan. See *id.* at 7. According to NTIA, the bands identified in Table 2-1 “are the most fertile sources for the spectrum called for by the President” for repurposing to wireless broadband. *Id.* at 6.

⁵ CSMAC, Spectrum Management Improvements Working Group, Report on the Second Question, at 4 (Mar. 1, 2012) (“Second Report”), available at http://www.ntia.doc.gov/files/ntia/meetings/sm_improvements_report_second_question.pdf. The data fields include administrative information, location information, technical information (transmitter, receiver, and antenna), and operational information. See *id.*

⁶ Middle Class Tax Relief and Job Creation Act of 2012, Title VI of Pub. L. No. 112-96, 126 Stat. 156, 245-52 (2012); Commercial Spectrum Enhancement Act, Title II of P.L. 108-494, 118 Stat. 3986, 3991, codified at 47 U.S.C. §§ 923, 928.

⁷ 47 U.S.C. § 923(g)(1)-(2).

relocation or sharing, as well as the costs of research or other expenses incurred in connection with planning for a relocation or sharing agreement.⁸ Planning costs are subject to reimbursement at any time, including prior to a scheduled auction.⁹

Here, costs incurred in connection with the one-time data accuracy and clean-up effort for the fast track/priority bands targeted for repurposing appear to fall within the relocation and sharing planning costs that are now reimbursable under the statute.¹⁰ That is, agencies must be able to identify current Federal spectrum uses to plan for relocation or sharing, which in turn depends on good underlying spectrum data. As the Government Accountability Office (“GAO”) has found:

As experienced in previous relocations, inaccurate and incomplete data submitted by agencies can impact the transition time from federal to commercial use once reallocated spectrum has been auctioned by FCC and purchased by commercial users....¹¹

The fix, according to GAO, is to provide “adequate and timely funding for agencies to conduct research and planning,” including “data collection and band analysis.”¹² NTIA should thus seek the judgment of OCC that the Jobs Act amendments did just that: provide agencies with funding for costs attributable to relocation or sharing, including costs to perform the one-time data accuracy and clean-up effort based initially on the fast-track and priority bands.¹³

If SRF funding is not available and NTIA is not capable of pursuing a system-wide data accuracy assessment and clean-up effort due to budget issues, then the Working Group recommends that licensing and operational verification processes be instituted that will serve the same objective over a period of time. These processes are described in the following section.

⁸ *Id.* § 923(g)(3).

⁹ *Id.* § 928(d)(3)(A).

¹⁰ Although the Conference Report does not elaborate on the meaning of “planning,” as used in the Jobs Act, the White House explained near-identical language in the American Jobs Act legislative proposal as “permit[ting] Federal agencies to be fully reimbursed through the [SRF] for relocation costs (*including planning costs that occur before an auction*), to better enable agencies to evaluate the cost and scheduling implications of relocation activities, and thereby facilitate both an improved auction and relocation process while ensuring the continuity of agency missions.” MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING A LEGISLATIVE PROPOSAL ENTITLED THE “AMERICAN JOBS ACT OF 2011,” H.R. DOC. NO. 112-53, at 19 (Sept. 13, 2011) (emphasis added), <http://www.gpo.gov/fdsys/pkg/CDOC-112hdoc53/pdf/CDOC-112hdoc53.pdf>.

¹¹ GAO, SPECTRUM MANAGEMENT: NTIA PLANNING AND PROCESSES NEED STRENGTHENING TO PROMOTE THE EFFICIENT USE OF SPECTRUM BY FEDERAL AGENCIES, REPORT TO CONGRESSIONAL COMMITTEES, at 34 (Apr. 2011), www.gao.gov/new.items/d11352.pdf.

¹² *Id.*

¹³ Indeed, NTIA has noted that “[t]he recently enacted Middle Class Tax Relief and Job Creation Act of 2012 included some significant improvements to the Commercial Spectrum Enhancement Act (CSEA), such as providing required resources for planning before an auction, for sharing, and clarifications of activities that may be supported. These changes will provide greater certainty to the relocation process for federal agencies and commercial operators.” U.S. DEPARTMENT OF COMMERCE, AN ASSESSMENT OF THE VIABILITY OF ACCOMMODATING WIRELESS BROADBAND IN THE 1755–1850 MHZ BAND, at iv n.3 (Mar. 2012), http://www.ntia.doc.gov/files/ntia/publications/ntia_1755_1850_mhz_report_march2012.pdf.

II. RECOMMENDATION: ESTABLISH GOALS AND METRICS FOR DATA ACCURACY AND MILESTONES FOR ACHIEVING

Working Group Recommendation

Recognizing that implementation of the first recommendation may take time, NTIA should consider a phased approach with established interim phase milestones. NTIA could apportion this effort by band, Federal agency, station class, etc. In addition, the effort could be separated into a system-wide review of all data records to determine whether errors may be concentrated to a particular band, Federal agency, station class, etc., then focus the data accuracy and clean-up effort on the areas with the highest concentration of errors or on errors that have the greatest impact on accurate spectrum assignment (*e.g.*, coordinates, ground elevations, antenna centerlines, etc.).

NTIA Response and Explanation

Agree. NTIA asks the CSMAC for further guidance regarding sampling and techniques used by the FCC and industry, and priorities in the bands or systems to be checked. Fixed and mobile systems represent the greatest number of Federal assignments, but these may have the least impact in terms of searching for spectrum for wireless broadband. NTIA also seeks further advice whether such an effort is best left to the conversion of data to the Federal Spectrum Management System (“FSMS”) with its associate updated data checks and databases.

Working Group Reply

NTIA’s task of determining the continued operational characteristics of wireless communication systems using Federal Government spectrum is handicapped at the outset, as authorizations are apparently issued without expiration dates or without requirements to report back to NTIA on dates of installation, continuing operations, system modifications, or system terminations. By comparison, the FCC’s processes include many such user reporting obligations, which facilitates maintaining an accurate database. Processes implemented by the FCC that facilitate database maintenance include the following:

- Specified License Terms—Non-Federal government licenses are normally issued for a specified license term, and licensees must file an application to renew their license prior to the end of the license term.¹⁴ In addition to other requirements discussed below to keep license data current, the filing of renewal applications at a minimum ensures a regular cycle for licensees to review and update license information. While license terms vary, ten years is typical—although some argue that five-years is optimal, as normally during a ten-year license period there is a significant opportunity for both administrative and technical changes to occur that may not be reported.
- Performance/Build-out Requirements—Licensees who acquire spectrum through competitive bidding processes are required to meet either geographic or population

¹⁴ See, *e.g.*, 47 C.F.R. §§ 1.949, 1.955(a)(1).

coverage thresholds at specific intervals, *e.g.*, after five, seven, or ten years.¹⁵ Failure to meet these minimum requirements may result in reductions to either permitted geographical coverage and/or authorized spectrum capacity or other sanctions. These rules help ensure that spectrum assignments identified in FCC databases are utilized and do not become stale.

- Construction Notification—Site-specific licensees are required to provide the FCC with written notice that the licensed system has been constructed and is operational within a fixed period of time after license grant (*e.g.*, one year or 18 months).¹⁶ Failure to provide this notification may result in license termination. Like the performance requirements applicable to auctioned spectrum, these site-specific construction notification rules help ensure that spectrum assignments identified in FCC databases are utilized and do not become stale.
- Secondary Market Rules—FCC secondary market rules require licensees to file applications or notifications with the FCC to assign, transfer, lease, partition and/or disaggregate licensed spectrum, or face sanctions.¹⁷ These rules and the threat of sanctions are another tool to ensure that spectrum assignments are accurately tracked in FCC databases.
- Notification of Technical/Administrative Changes—Certain technical and/or administrative changes to station licenses require prior FCC approval or follow-up FCC notification,¹⁸ which again helps to ensure the FCC license data remains current.
- Data Accuracy Certification—FCC applications require applicants to certify that information contained in applications is “true, complete, correct, and made in good faith.”¹⁹ Because information in FCC databases is initially derived from applicant-provided data, this certification helps ensure that applicant-provided data is accurate.
- Keep Current Obligation—Section 1.65 of the FCC’s rules requires applicants to keep their license applications “substantially accurate and complete” while they are pending at the Commission, and to file updates within 30 days as needed to reflect changes.²⁰ This “keep current” rule helps ensure that applicant-provided data remains accurate upon grant.
- Discontinuance of Station Operations—The FCC requires licensees to report when station operations are permanently discontinued.²¹ What constitutes permanent

¹⁵ *See, e.g.*, 47 C.F.R. §§ 1.946, 1.955(a)(2).

¹⁶ *See, e.g.*, 47 C.F.R. §§ 1.946, 90.155, 101.63.

¹⁷ *See, e.g.*, 47 C.F.R. §§ 1.948, 1.9020(e), 1.9030(e).

¹⁸ *See, e.g.*, 47 C.F.R. § 1.947; *see also id.* § 1.929.

¹⁹ *See, e.g.*, FCC Forms 601, 603, 608.

²⁰ *See, e.g.*, 47 C.F.R. § 1.65.

²¹ *See, e.g.*, 47 C.F.R. §§ 1.955(a)(3), 90.157, 101.65(a).

discontinuance varies by service (e.g., in some services, any station that has not operated for one year or more is considered to have been permanently discontinued). This reporting requirement helps ensure that spectrum that is taken out of service is removed from FCC databases.

- **Audits**—The FCC has in the past conducted audits of certain radio services to verify system operations.²² In such cases, licensees receive certified notifications and were requested to respond to questions concerning system operations, providing another vehicle to keep license data current—especially where there is a particular concern that data for a certain service is not accurate. Indeed, as a result of prior audit successes, the FCC has developed license audit software that is integrated with its Universal Licensing System (“ULS”), making the audit process easier for all parties involved.²³

Establishing similar goals and metrics for data accuracy going forward on the Federal side should be a priority for all Federal spectrum bands, other than perhaps those established for unlicensed uses.

Regarding NTIA’s second request, the Working Group is not sufficiently familiar with the workings of the FSMS at this juncture. As a matter of principle, however, database accuracy and ongoing verification processes should be incorporated within the FSMS conversion effort applying processes similar to those noted above.

III. RECOMMENDATION: SUGGEST THAT CONGRESS ALLOCATE FUNDING TO SUPPORT THESE INITIATIVES

Working Group Recommendation

NTIA should request that Congress fund these initiatives within NTIA and across all involved Federal agencies. The Working Group estimates an appropriate funding level to fully perform the data accuracy review and clean-up may run between \$2.0M to \$4.0M, depending upon how the scope is defined, when the project would start, the period of performance, etc. This estimate is based upon assuming a percentage of data errors across all Federal spectrum assignments combined with an estimated level of effort required to correct any given error.²⁴ Funding could come from several sources, including possibly spectrum auction proceeds.

NTIA Response and Explanation

For Congress. Funding for a data accuracy check is not included in NTIA FY 2012 funding and was not included in the President’s FY 2013 budget recently submitted to Congress. NTIA requests that CSMAC consider costs to spectrum user agencies to support data improvement.

²² See FCC, About License Audits, available at http://wireless.fcc.gov/licensing/index.htm?job=audits_about (visited May 23, 2012).

²³ See *id.*

²⁴ The Working Group assumed a total of 244,000 Federal assignments.

Working Group Reply

At the time the Working Group initially made this recommendation in November 2011, the Jobs Act had not yet passed and become law. As discussed above, NTIA should seek the judgment of the OCC that costs incurred by Federal agencies in connection with the data accuracy review and clean-up effort are now subject to reimbursement from the SRF, pursuant to Jobs Act amendments to CSEA. Alternatively, NTIA can address these costs by increasing the frequency assignment fees charged to agencies. It is the understanding of the Working Group that the current fee structure is based upon assignment only, with little to no consideration given to bandwidth or how much spectrum is used for a given assignment. The Working Group understands that frequency assignment fees are insufficient to accommodate the costs involved in maintaining the GMF and/or FSMS. NTIA should study the frequency assignment fee structure with a goal of aligning fees with costs to ensure that there is sufficient funding to properly maintain the GMF and/or FSMS.

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