

SECTION 1

INTRODUCTION

BACKGROUND

The National Telecommunications and Information Administration (NTIA) is the Executive Branch agency principally responsible for developing and articulating domestic and international telecommunications policy. NTIA acts as the principal advisor to the President on telecommunications policies pertaining to the Nation's economic and technological advancement and to the regulation of the telecommunications industry. Accordingly, NTIA conducts studies and makes recommendations regarding telecommunications policies and presents Executive Branch views on telecommunications matters to the Congress, the Federal Communications Commission (FCC), and the public.

NTIA is also responsible for managing the Federal Government's use of the radio spectrum. The FCC is responsible for managing spectrum used by the private sector, including state and local governments. With the proliferation of radio-based technologies, the management and use of the radio spectrum has become increasingly important. Congress found that telecommunications and information are vital to the public welfare, national security, and competitiveness of the United States, and that technological advances in the telecommunications and information fields make it imperative that the United States maintain effective national and international policies and programs capable of taking advantage of these continued advancements.¹

The fiscal year 1998 (FY 1998) budget submitted by President Clinton to Congress in February 1997 contained proposals for the auction of spectrum by the FCC. The President's proposal estimated netting \$ 36.1 billion over a 5 year period in spectrum auction proposals. The House and Senate concurrent budget resolution adopted in May 1997 directed the House and Senate Commerce Committees to raise \$24.7 billion in estimated spectrum revenues.^a

The concurrent budget resolution directed the Congressional Committees to reduce direct spending by more than \$2.2 trillion over the five-year period between FY 1998 and FY 2002. Savings could be achieved only by making changes to existing law. The Committees, however, were given discretion as to precisely what amendments should be made to existing law, provided the changes resulted in \$2.2 trillion in total savings over the five-year period.

The Administration and the Congress addressed these issues in Title III of the Balanced Budget Act of 1997 (Title III of the BBA 97), signed into law on August 8, 1997.² Title III expands the FCC's current authority to auction non-broadcast spectrum and extended FCC auction authority beyond 1998, when the authority was due to expire. Congress first granted the FCC authority to use competitive bidding as a licensing mechanism in 1993, with the enactment of the Omnibus Budget Reconciliation Act (OBRA 93).³

^a Revenue estimates are based on Office of Management and Budget scoring of spectrum.

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Title III requires that the FCC and the NTIA identify at least 120 MHz of spectrum (20 MHz of Federal Government spectrum and 100 MHz of non-Federal spectrum) below 3 GHz for auction. Title III also includes language that would allow Federal users of spectrum that are reallocated to be voluntarily compensated for the cost of moving by the new spectrum users. The following subsection discusses the activities that must be undertaken by the Secretary of Commerce and NTIA in order to comply with Title III. A copy of the NTIA Organization Act as amended by the BBA 97 is given in Appendix A.

COMMERCE DEPARTMENT RESPONSIBILITIES TO COMPLY WITH TITLE III

Spectrum Reallocation Report

Within 6 months after the enactment of the BBA 97, the Secretary of Commerce must prepare a report, to be submitted to the President, the Congress, and the FCC identifying and recommending 20 MHz of spectrum for reallocation. The spectrum identified for reallocation is to be assigned by the FCC prior to 2002 through the process of competitive bidding. The spectrum must be below 3 GHz and allocated to the Federal Government on a primary basis. One half of the spectrum (10 MHz) identified for reallocation can be for mixed-use.^b Title III specifies five band-selection criteria that must be met by bands identified for reallocation, as well as the specific factors that the Secretary of Commerce must consider in determining whether a frequency band meets these criteria. Table 1-1 provides a synopsis of these criteria and factors.

Reallocation of 15 MHz in the 1990-2110 MHz Band

Title III requires that the FCC in coordination with the Secretary of Commerce reallocate 15 MHz of spectrum from the 1990-2110 MHz band for assignment through competitive bidding. The Congress recognized the importance of continued Federal use of this band for space research and exploration activities. Title III permits the President to identify other frequencies for reallocation if it is determined that spectrum in the 1990-2110 MHz band cannot be reallocated due to the need to protect incumbent Federal systems from interference. If the President makes such a determination, then the President within 2 years after the enactment of the BBA 97 must identify other frequencies that are expected to result in comparable receipts through competitive bidding. The President must report to the Congress on the identification of such alternative frequencies.

^b In the bands identified for mixed-use Federal Government use must be limited by geographic area, time, or by other means, and must be substantially less than the potential non-Federal use. See Section 113 (b)(2) of the NTIA Organization Act, 47 U.S.C. § 923 (b)(2).

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TABLE 1-1
Summary of Title III Band Selection Criteria

1. Frequencies are allocated on a primary basis for Federal Government use
2. Frequencies are not required for present or identifiable future needs of the Federal Government
 - Consider whether the band of frequencies is used to provide a communications service that is or could be available from a commercial provider or other vendor
 - Seek to promote maximum practical reliance on commercially available substitutes
 - Seek to promote the sharing of frequencies
 - Seek to promote the development and use of new communications technologies
 - Seek to promote the use of non-radiating communication systems where practical
 - Seek to avoid serious degradation of Federal Government services and operations
 - Seek to avoid excessive costs to the Federal Government and users of Federal Government services
 - Seek to avoid excessive disruption of existing use of Federal Government frequencies by amateur radio licensees
3. Frequencies can feasibly be made available, as of the date of submission of the report or at any time during the next 15 years
 - Assume that the frequency will be assigned by the Commission within 15 years
 - Assume reasonable rate of scientific progress and growth of demand for telecommunications services
 - Seek to include frequencies which can be used to stimulate the development of new technologies
 - Consider the immediate and recurring costs to reestablish services displaced by the reallocation of spectrum
4. The transfer of selected frequencies will not result in costs to the Federal Government, or losses of services or benefits to the public, that are excessive in relation to the benefits to the public that may be provided by non-Federal licensees
5. Frequencies are most likely to have the greatest potential for productive uses and public benefits if allocated for non-Federal use
 - Consider the extent to which equipment will be available that is capable of utilizing the band
 - Consider the proximity of frequencies that are already assigned for commercial or other non-Federal use
 - Consider the extent to which commercial users could share the frequency with amateur radio licensees
 - Consider the activities of foreign governments in making frequencies available for experimentation or commercial assignments in order to support their domestic manufacturers

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Accommodation of Displaced Incumbent Non-Federal Licensees

Title III requires that the FCC attempt to accommodate incumbent non-Federal licensees that are displaced as a result of reallocating spectrum for auction. The FCC is to first consider spectrum allocated for non-Federal use to accommodate the displaced licensees. If the FCC is unable to identify non-Federal spectrum suitable for relocation, they are permitted to notify the Secretary of Commerce identifying bands allocated for Federal Government use that are suitable for relocation of the licensees. Upon receipt of such notice, the Secretary must prepare a report to be submitted to the President, the Congress, and the FCC recommending for reallocation for use other than by the Federal Government frequencies that are suitable for the displaced licensees.

Petition for Relocation of Federal Government Stations

Title III permits an entity to submit to NTIA a petition to relocate a Federal Government station that has been assigned a frequency allocated for mixed Federal and non-Federal use, or has been scheduled for reallocation to non-Federal use. Within 6 months of receiving such a petition, the NTIA is to limit or terminate the Federal Government station's operating license if the petitioner meets all the requirements specified in section 113 of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 923) as amended by section 3002(d)(1) of the BBA 97. (See Appendix A)

OBJECTIVE

The objective of this report is to develop a plan for the reallocation of at least 20 MHz of spectrum below 3 GHz from the Federal Government to the private sector in accordance with the requirements of Title III of the BBA 97.

APPROACH

The Federal Government uses frequencies below 3 GHz to support missions that are of direct benefit to the public. These missions include Federal law enforcement activities, air traffic control, national defense, weather services, scientific studies, and environmental monitoring. The estimated Federal investment exceeds \$280 billion.⁴ Approximately half of this spectrum is shared with non-Federal users. Federal and non-Federal use of the spectrum is concentrated below 3 GHz because atmospheric and foliage penetration losses are relatively low, components are inexpensive, and small, efficient antennas can be used for hand-held operations between 100 MHz and 3 GHz. These features have made use of the spectrum below 3 GHz so desirable that many bands have become congested and entrepreneurs can no longer find spectrum for new technologies.

Spectrum congestion for Federal operations below 3 GHz has been exacerbated by Congressionally mandated reallocation under OBRA 93. OBRA 93 required that the Secretary of Commerce identify at least 200 MHz of spectrum used by the Federal Government for reallocation

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to new spectrum-based technologies. Of the 235 MHz identified, 135 MHz was below 3 GHz.^c Title III of the BBA 97 requires the Secretary of Commerce to identify an additional 20 MHz below 3 GHz for reallocation to non-Federal users. This will increase congestion in the remaining bands used by the Federal Government, possibly affecting critical agency missions even though NTIA will try to balance spectrum requirements of the Federal agencies with benefits to the public.

In order to complete this spectrum reallocation report, NTIA used four principal data sources:

1. Advice on spectrum usage, estimated investment, estimated reallocation cost, and mission impact from the Federal agency representatives on the Interdepartment Radio Advisory Committee (IRAC);^d
2. Testimony and legislative history associated with Title III of the BBA 97;
3. Data sources available within NTIA, including frequency-authorization records, spectrum certification data, and previously completed spectrum assessments of frequency bands below 3 GHz; and
4. Relevant publicly available documents including articles, reports, studies, etc., that describe Federal and non-Federal use of the radio spectrum.

The process used in identifying Federal Government spectrum for reallocation pursuant to Title III consisted of the following steps:

1. Identification of the total bands below 3 GHz allocated to the Federal Government on a primary basis;
2. Elimination of bands that should not be reallocated because they: 1) would result in excessive impact (cost and mission) to the Federal Government, 2) could not be made available during the next 15 years, or 3) already provide significant and unique benefits to the public;
3. For the remaining bands obtain estimated investment cost, estimation of the reallocation costs, and mission impact from the Federal agencies;

^c The estimated reallocation cost to comply with OBRA 93 exceeds \$500 million in 1993 dollars.

^d The IRAC, consisting of representatives of 20 Federal agencies, serves in an advisory capacity to the Assistant Secretary of Commerce for Communications and Information. The IRAC, in existence since 1922, assists the Assistant Secretary in the discharge of his responsibilities pertaining to use of the electromagnetic spectrum.

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4. Development of a methodology to apply the band selection criteria of the BBA 97;
5. Assessment of the Federal Government use of the remaining bands and identification of mission and cost implications;
6. Identification of the factors that would effect the benefits to be accrued by the public for the various reallocation options;
7. Analysis of the various reallocation options on a band-by-band basis.

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ENDNOTES

Requests for copies of references from Federal departments and agencies should be referred to the originating organization. Parts of the reference material may be exempt from public release.

1. The Omnibus Budget Reconciliation Act of 1993 required the transfer of Federally-controlled spectrum to the FCC, and provides other spectrum management guidance to both the FCC and NTIA. Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 31 (1993) [hereinafter OBRA 93]. The functions of NTIA were codified as a result of the National Telecommunications and Information Administration Organization Act. National Telecommunications and Information Administration Organization Act, Pub. L. No. 102-538, 106 Stat. 3533 (codified at 47 U.S.C. 901-904).
2. Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997).
3. OBRA 93, *supra* note 1.
4. National Telecommunications and Information Administration, U.S. Department of Commerce, NTIA Special Publication 94-27, *Preliminary Spectrum Reallocation Report* (Feb. 1994).