

112TH CONGRESS  
1ST SESSION

# S. 455

To promote development and opportunity with regards to spectrum occupancy and use, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

MARCH 2, 2011

Ms. SNOWE (for herself and Mr. KERRY) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To promote development and opportunity with regards to spectrum occupancy and use, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the  
5 “Reforming Airwaves by Developing Incentives and Op-  
6 portunistie Sharing Act” or the “RADIOS Act”.

7 (b) **TABLE OF CONTENTS.**—The table of contents for  
8 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Definitions.
- Sec. 3. Spectrum inventory.
- Sec. 4. Spectrum survey and measurement study.

- Sec. 5. Spectrum analysis and utilization study.  
 Sec. 6. Relocation cost-benefit analysis.  
 Sec. 7. Spectrum relocation fund modifications.  
 Sec. 8. Spectrum efficiency through receiver standards.  
 Sec. 9. Spectrum auctions.  
 Sec. 10. General spectrum management.  
 Sec. 11. Promoting Wi-Fi and wireless facilities deployment.

1 **SEC. 2. DEFINITIONS.**

2 As used in this Act—

3 (1) the term “Commission” means the Federal  
 4 Communications Commission;

5 (2) the term “licensee” means the holder of a  
 6 license granted for the operation of a broadcasting  
 7 station pursuant to section 307 of the Communica-  
 8 tions Act of 1934 (47 U.S.C. 307);

9 (3) the term “National Academies” means the  
 10 National Academy of Sciences, the National Acad-  
 11 emy of Engineering, the Institute of Medicine, and  
 12 the National Research Council;

13 (4) the term “NTIA” means the National Tele-  
 14 communications and Information Administration;

15 (5) the term “spectrum sharing” means the  
 16 temporary use by a secondary user of unused spec-  
 17 trum in a band at a geographical location licensed  
 18 to a primary user during idle periods of the primary  
 19 license use;

20 (6) the term “spectrum reuse” means the tem-  
 21 porary use by a secondary user of unused spectrum

1 in a band at a geographical location where there is  
2 no primary licensed user;

3 (7) the term “temporary dynamic short-term  
4 use”—

5 (A) means the assignment of a temporary  
6 spectrum license to a user that is not the in-  
7 cumbent licensee for the use of spectrum in a  
8 given band and specified location for a short pe-  
9 riod of time in which the spectrum will be unoc-  
10 cupied or in which the incumbent licensee tem-  
11 porarily relinquishes rights to use; and

12 (B) includes short-term spectrum sharing  
13 and short-term spectrum reuse; and

14 (8) the term “spectrum layering” means the  
15 temporary use by a secondary user of unused spec-  
16 trum in a band at an altitudinal level where there  
17 is no primary user or during idle periods of the pri-  
18 mary license use.

19 **SEC. 3. SPECTRUM INVENTORY.**

20 (a) AMENDMENT TO COMMUNICATIONS ACT.—Part  
21 I of title III of the Communications Act of 1934 (47  
22 U.S.C. 301 et seq.) is amended by adding at the end the  
23 following:

1 **“SEC. 342. SPECTRUM INVENTORY.**

2       “(a) RADIO SPECTRUM INVENTORY.—Not later than  
3 180 days after the date of enactment of the RADIOS Act,  
4 and biennially thereafter, the Commission, in consultation  
5 with the NTIA and the Office of Science and Technology  
6 Policy, shall carry out the following activities:

7           “(1) REPORT.—Prepare a report that includes  
8 an inventory of each radio spectrum band, from 300  
9 megahertz to 6.5 gigahertz, at a minimum, managed  
10 by each such agency. Except as provided in sub-  
11 section (b), the report shall include—

12           “(A) the licensee or Federal Government  
13 user authorized in the band;

14           “(B) the total spectrum authorized for  
15 each licensee or Federal Government user (in  
16 percentage terms and in sum) in the band;

17           “(C) the approximate number of transmit-  
18 ters, end-user terminals, or receivers, excluding  
19 unintended radiators, that have been deployed  
20 or authorized, for each licensee or Federal Gov-  
21 ernment user, in the band; and

22           “(D) if such information is available—

23           “(i) the type of transmitters, end-user  
24 terminals, or receivers, excluding unin-  
25 tended radiators, operating in the band

1 and whether they are space-, air-, or  
2 ground-based;

3 “(ii) the type of transmitters, end-  
4 user terminals, or receivers, excluding un-  
5 intended radiators, authorized to operate  
6 in the band and whether they are space-,  
7 air-, or ground-based;

8 “(iii) contour maps or other informa-  
9 tion that illustrate the coverage area, re-  
10 ceiver performance, and other parameters  
11 relevant to an assessment of the avail-  
12 ability of spectrum in each band;

13 “(iv) the approximate geo-location of  
14 base stations or fixed transmitters;

15 “(v) the approximate extent of use, by  
16 geography, of each band of frequencies,  
17 such as the amount and percentage of time  
18 of use, number of end-users, or other  
19 measures as appropriate to the particular  
20 band;

21 “(vi) the activities, capabilities, func-  
22 tions, or missions supported by the trans-  
23 mitters, end-user terminals, or receivers;  
24 and

1                   “(vii) the types of unlicensed devices  
2                   authorized to operate in the band.

3                   “(2) PUBLIC ACCESS.—Create a centralized  
4                   portal or Web site utilizing data from the Commis-  
5                   sion and the NTIA to make a centralized inventory  
6                   of the bands of each agency available to the public  
7                   via an Internet-accessible and searchable Web site.

8                   “(3) UPDATES.—Make all reasonable efforts to  
9                   maintain and update the information required under  
10                  paragraph (2) no less frequently than quarterly to  
11                  reflect, at a minimum, any transfer or auction of li-  
12                  censes or change in allocation, assignment, or au-  
13                  thorization.

14                  “(4) FCC TO BEAR COSTS.—Notwithstanding  
15                  any other provision of law, all costs incurred by the  
16                  Commission and the NTIA in establishing and main-  
17                  taining the centralized inventory and the centralized  
18                  portal or Web site shall be borne exclusively by the  
19                  Commission.

20                  “(b) NATIONAL SECURITY; CLASSIFIED INFORMA-  
21                  TION.—

22                  “(1) IN GENERAL.—If the head of a Federal  
23                  agency determines that disclosure of information re-  
24                  quired by subsection (a) would be harmful to the na-

1 tional security of the United States, the agency  
2 shall—

3 “(A) notify the NTIA of its determination;

4 and

5 “(B) provide to the NTIA—

6 “(i) the other publicly releasable infor-  
7 mation required by subsection (a);

8 “(ii) to the maximum extent prac-  
9 ticable, a summary description of the infor-  
10 mation with respect to which the deter-  
11 mination was made; and

12 “(iii) an annex containing the infor-  
13 mation with respect to which the deter-  
14 mination was made.

15 “(2) CLASSIFIED INFORMATION.—If the head  
16 of a Federal agency determines that any information  
17 required by subsection (a) is classified in accordance  
18 with Executive Order 13526 of December 29, 2009,  
19 or any successor Executive Order establishing or  
20 modifying the uniform system for classifying, safe-  
21 guarding, and declassifying national security infor-  
22 mation, the agency shall—

23 “(A) notify the NTIA of its determination;

24 and

25 “(B) provide to the NTIA—

1 “(i) the information required by sub-  
2 section (a)(1) that is not classified;

3 “(ii) to the maximum extent prac-  
4 ticable, a summary description of the infor-  
5 mation that is classified; and

6 “(iii) an annex containing the infor-  
7 mation that is classified.

8 “(3) ANNEX RESTRICTION.—The NTIA shall  
9 make an annex described in paragraph (1)(B)(iii) or  
10 (2)(B)(iii) available to the Commission. Neither the  
11 NTIA nor the Commission may make any such  
12 annex available to the public pursuant to subsection  
13 (a)(2) or to any unauthorized person through any  
14 other means.

15 “(c) PUBLIC SAFETY NONDISCLOSURE.—

16 “(1) IN GENERAL.—If a licensee of non-Federal  
17 spectrum determines that public disclosure of certain  
18 information held by that licensee and required to be  
19 included in the report under subsection (a) would re-  
20 veal information for which public disclosure would be  
21 detrimental to public safety, or that the licensee is  
22 otherwise prohibited by law from disclosing, the li-  
23 censee may petition the Commission for a partial or  
24 total exemption from inclusion on the centralized



1 portal or Web site under subsection (a)(2) and in  
2 the reports required under subsection (d).

3 “(2) BURDEN.—A licensee seeking an exemp-  
4 tion under this subsection bears the burden of justi-  
5 fying the exemption and shall provide clear and con-  
6 vincing evidence to support the requested exemption.

7 “(3) INFORMATION REQUIRED.—If the Com-  
8 mission grants an exemption under this subsection,  
9 the licensee shall provide to the Commission—

10 “(A) the publicly releasable information re-  
11 quired by subsection (a)(1) for the inventory;

12 “(B) to the maximum extent practicable, a  
13 summary description, suitable for public re-  
14 lease, of the information for which public disclo-  
15 sure would be detrimental to public safety or  
16 that the licensee is prohibited by law from dis-  
17 closing; and

18 “(C) an annex, under appropriate cover,  
19 containing the information that the Commission  
20 has determined should be withheld from public  
21 disclosure.

22 “(d) INFORMING THE CONGRESS.—

23 “(1) IN GENERAL.—Except as provided in para-  
24 graph (3), the NTIA and the Commission shall sub-

1 mit each report required by subsection (a)(1) to the  
2 appropriate Congressional committees.

3 “(2) NONDISCLOSURE OF ANNEXES.—Each  
4 such report shall be submitted in unclassified form,  
5 but may include one or more annexes as provided for  
6 by subsections (b)(1)(B)(iii), (b)(2)(B)(iii), and  
7 (c)(3)(C). No Congressional committee may make  
8 any such annex available to the public or to any un-  
9 authorized person.

10 “(3) CLASSIFIED ANNEXES.—If a report in-  
11 cludes a classified annex as provided for by sub-  
12 section (b)(2)(B)(iii), the NTIA and the Commission  
13 shall—

14 “(A) submit the classified annex only to  
15 the appropriate Congressional committees with  
16 primary oversight jurisdiction for the user agen-  
17 cies or licensees concerned; and

18 “(B) provide notice of the submission to  
19 the other appropriate Congressional commit-  
20 tees.

21 “(e) DEFINITIONS.—In this section:

22 “(1) APPROPRIATE CONGRESSIONAL COMMIT-  
23 TEES.—The term ‘appropriate Congressional com-  
24 mittees’ means the Committee on Commerce,  
25 Science, and Transportation of the Senate, the Com-

1        mittee on Energy and Commerce of the House of  
2        Representatives, and any other congressional com-  
3        mittee with primary oversight jurisdiction for the  
4        user agencies or licensees concerned.

5            “(2) NTIA.—The term ‘NTIA’ means the Na-  
6        tional Telecommunications and Information Admin-  
7        istration.”.

8        (b) PROGRESS REPORT.—Within 180 days after the  
9        date of enactment of this Act, the Commission and the  
10       NTIA shall provide an update as to the status of the in-  
11       ventory and report required by section 342(a) of the Com-  
12       munications Act of 1934, as added by subsection (a), to  
13       the Senate Committee on Commerce, Science, and Trans-  
14       portation and the House of Representatives Committee on  
15       Energy and Commerce.

16    **SEC. 4. SPECTRUM SURVEY AND MEASUREMENT STUDY.**

17        (a) SURVEY AND STUDY.—

18            (1) IN GENERAL.—The Commission and the  
19        NTIA shall jointly conduct a study of occupancy on  
20        the electromagnetic spectrum based on the extent of  
21        the use of such spectrum, including the amount and  
22        percentage of spectrum used in the band and the du-  
23        ration and percentage of time such spectrum is in  
24        use.

1           (2) EXPERT CONSULTATION.—In carrying out  
2 the study required under paragraph (1), the Com-  
3 mission and the NTIA may consult with the Na-  
4 tional Academies, other agencies, or nongovern-  
5 mental organizations with relevant expertise in de-  
6 veloping appropriate measurement procedures and  
7 systems, data analysis methodologies, or another  
8 other aspect related to the surveying and measure-  
9 ment of electromagnetic spectrum.

10           (3) REQUIRED CONTENT.—The study required  
11 under paragraph (1) shall—

12           (A) examine occupancy measurements and  
13 usage patterns on the electromagnetic spectrum  
14 between, at least, 100 megahertz and 10  
15 gigahertz;

16           (B) record occupancy measurements on the  
17 electromagnetic spectrum in several diverse geo-  
18 graphical locations across the Nation over an  
19 appropriate period of time, as determined joint-  
20 ly by the Commission and the NTIA;

21           (C) provide band-by-band commentary as  
22 appropriate;

23           (D) provide an analysis of the interaction  
24 of receivers and transmitters in adjacent fre-  
25 quencies and the impact that such interaction

1 has on the respective licensees or users of such  
2 frequencies; and

3 (E) predict occupancy and usage patterns  
4 from existing licensee and Federal Government  
5 user spectrum data, and correlate such pre-  
6 dictions with the findings made under subpara-  
7 graphs (A) and (B) in order to determine the  
8 accuracy of the data from each agencies' data-  
9 bases or an inventory of the electromagnetic  
10 spectrum and what additional data, if any,  
11 would be beneficial to collect in the future.

12 (b) NATIONAL SECURITY; CLASSIFIED INFORMA-  
13 TION.—

14 (1) IN GENERAL.—If the head of a Federal  
15 agency determines that disclosure of information to  
16 the Commission and the NTIA as part of the study  
17 required by subsection (a) would be harmful to the  
18 national security of the United States, the agency  
19 shall—

20 (A) notify the Commission and the NTIA  
21 of its determination; and

22 (B) provide to the Commission and the  
23 NTIA—

24 (i) the other publicly releasable infor-  
25 mation required by subsection (a);

1           (ii) to the maximum extent prac-  
2           ticable, a summary description of the infor-  
3           mation with respect to which the deter-  
4           mination was made; and

5           (iii) an annex containing the informa-  
6           tion with respect to which the determina-  
7           tion was made.

8           (2) CLASSIFIED INFORMATION.—If the head of  
9           a Federal agency determines that any information  
10          required to be disclosed as part of the study required  
11          by subsection (a) is classified in accordance with Ex-  
12          ecutive Order 13526 of December 29, 2009, or any  
13          successor Executive Order establishing or modifying  
14          the uniform system for classifying, safeguarding,  
15          and declassifying national security information, the  
16          agency shall—

17               (A) notify the Commission and the NTIA  
18               of its determination; and

19               (B) provide to the Commission and the  
20               NTIA—

21                   (i) the information required by sub-  
22                   section (a)(3) that is not classified;

23                   (ii) to the maximum extent prac-  
24                   ticable, a summary description of the infor-  
25                   mation that is classified; and

1 (iii) an annex containing the informa-  
2 tion that is classified.

3 (3) ANNEX RESTRICTION.—Neither the NTIA  
4 nor the Commission may make any annex under this  
5 subsection available to the public pursuant to sub-  
6 section (d)(3) or to any unauthorized person through  
7 any other means.

8 (c) PUBLIC SAFETY NONDISCLOSURE.—

9 (1) IN GENERAL.—If a licensee of non-Federal  
10 spectrum determines that public disclosure of certain  
11 information held by that licensee and required to be  
12 included in the study under subsection (a) would re-  
13 veal information for which public disclosure would be  
14 detrimental to public safety, or that the licensee is  
15 otherwise prohibited by law from disclosing, the li-  
16 censee may petition the Commission and the NTIA  
17 for a partial or total exemption from inclusion in the  
18 public report required under subsection (d)(3).

19 (2) BURDEN.—A licensee seeking an exemption  
20 under this subsection bears the burden of justifying  
21 the exemption and shall provide clear and convincing  
22 evidence to support the requested exemption.

23 (3) INFORMATION REQUIRED.—If the Commis-  
24 sion and the NTIA grant an exemption under this

1 subsection, the licensee shall provide to the Commis-  
2 sion and the NTIA—

3 (A) the publicly releasable information re-  
4 quired by subsection (a)(3);

5 (B) to the maximum extent practicable, a  
6 summary description, suitable for public re-  
7 lease, of the information for which public disclo-  
8 sure would be detrimental to public safety or  
9 that the licensee is prohibited by law from dis-  
10 closing; and

11 (C) an annex, under appropriate cover,  
12 containing the information that the Commission  
13 and the NTIA has determined should be with-  
14 held from public disclosure.

15 (d) REPORT.—

16 (1) IN GENERAL.—Not later than 2 years after  
17 the date of enactment of this Act, the Commission  
18 and the NTIA shall jointly submit a report to the  
19 Committee on Commerce, Science, and Transpor-  
20 tation of the Senate and the Committee on Energy  
21 and Commerce of the House of Representatives that  
22 includes—

23 (A) the findings of the study required  
24 under subsection (a); and



1 (B) recommendations on the feasibility of  
2 promoting alternative types of services or sys-  
3 tems that result in more effective and efficient  
4 use of the electromagnetic spectrum.

5 (2) NONDISCLOSURE OF ANNEXES.—The report  
6 required under paragraph (1) shall be submitted in  
7 unclassified form, but may include 1 or more an-  
8 nexes as provided for by subsections (b)(1)(B)(iii),  
9 (b)(2)(B)(iii), and (c)(3)(C). Notwithstanding para-  
10 graph (3), no Congressional committee may make  
11 any such annex available to the public or to any un-  
12 authorized person.

13 (3) PUBLIC AVAILABILITY.—Subject to para-  
14 graph (2), the Commission and the NTIA shall  
15 make publicly available on the Web site of each  
16 agency the report required under paragraph (1).

17 (e) AUTHORIZATION OF APPROPRIATIONS.—There  
18 are authorized to be appropriated to the Chairman of the  
19 Federal Communications Commission and the Assistant  
20 Secretary at the National Telecommunications and Infor-  
21 mation Administration for carrying out this section  
22 \$5,000,000 for fiscal year 2012 and \$5,000,000 for fiscal  
23 year 2013.

1 **SEC. 5. SPECTRUM ANALYSIS AND UTILIZATION STUDY.**

2 (a) DETERMINATION OF UTILIZATION DEFINI-  
3 TION.—

4 (1) IN GENERAL.—Not later than 1 year after  
5 the date of enactment of this Act, the Commission  
6 and the NTIA, in consultation with the Office of  
7 Science and Technology Policy and the National Se-  
8 curity Council as needed on frequencies or bands re-  
9 lated to national security, shall determine appro-  
10 priate benchmarks for assessing—

11 (A) the utilization of each electromagnetic  
12 spectrum band based on the occupancy, activi-  
13 ties, capabilities, functions, and missions sup-  
14 ported in that band, as well as any additional  
15 factors the Commission and the NTIA deem ap-  
16 propriate; and

17 (B) the availability of similar services oper-  
18 ating in other bands capable of offering substi-  
19 tutable services.

20 (2) USE OF COMMON METRICS.—The bench-  
21 marks developed under paragraph (1) shall include  
22 a set of common metrics that apply to respective  
23 broad classes of services, allowing comparison of  
24 measurements and analysis in multiple bands pro-  
25 viding similar classes of services across the electro-  
26 magnetic spectrum.

1 (b) STUDY ON INTERFERENCE SENSING.—

2 (1) STUDY AND COMMENT.—Not later than 90  
3 days after the date of enactment of this Act, the  
4 Commission, in consultation with the NTIA, shall  
5 conduct a study and seek public comment on various  
6 means to provide greater predictability in the deter-  
7 mination of harmful interference along the electro-  
8 magnetic spectrum.

9 (2) REPORT.—Upon completion of the study re-  
10 quired under paragraph (1), the Commission shall  
11 submit a report to the Committee on Commerce,  
12 Science, and Transportation of the Senate and the  
13 Committee on Energy and Commerce of the House  
14 of Representatives that includes—

15 (A) the findings of the study; and

16 (B) recommendations for providing such  
17 predictability to both Federal and non-Federal  
18 users.

19 (c) IDENTIFY SPECTRUM SHARING AND REUSE OP-  
20 PORTUNITIES PILOT PROGRAM.—

21 (1) IDENTIFICATION.—Not later than 1 year  
22 after the completion of electromagnetic spectrum  
23 survey and measurement study required under sec-  
24 tion 4, the Commission and the NTIA shall identify,  
25 based on an analysis of the utilization of the electro-

1 magnetic spectrum, using the benchmarks estab-  
2 lished under subsection (a), and with the benefit of  
3 public comment—

4 (A) 80 megahertz below 4 gigahertz worth  
5 of close proximity electromagnetic spectrum  
6 that is most feasible for spectrum sharing op-  
7 portunities for commercial and Federal Govern-  
8 ment users;

9 (B) 80 megahertz below 4 gigahertz worth  
10 of close proximity electromagnetic spectrum  
11 that is most feasible for spectrum reuse oppor-  
12 tunities for commercial and Federal Govern-  
13 ment users;

14 (C) 80 megahertz below 4 gigahertz worth  
15 of electromagnetic spectrum that is most fea-  
16 sible for temporary or dynamic short-term as-  
17 signment and use; and

18 (D) 80 megahertz below 4 gigahertz worth  
19 of close proximity electromagnetic spectrum  
20 that is most feasible for spectrum layering op-  
21 portunities for commercial and Federal Govern-  
22 ment users.

23 (2) SHARING AND REUSE OPPORTUNITIES  
24 PILOT PROGRAM.—

1 (A) IN GENERAL.—Not later than 12  
2 months after the time period set forth in para-  
3 graph (1), the Commission and the NTIA shall  
4 jointly establish and implement pilot programs  
5 to advance and promote spectrum sharing and  
6 reuse activities for the bands of spectrum iden-  
7 tified under paragraph (1).

8 (B) EVALUATION.—The Commission and  
9 the NTIA shall—

10 (i) utilize the existing Spectrum Shar-  
11 ing Innovation Test-Bed for the evaluation  
12 of the pilot programs established under  
13 subparagraph (A); and

14 (ii) establish such additional test beds,  
15 as appropriate, to provide effective re-  
16 sources to carry out the determination of  
17 the technical and operational feasibility of  
18 the spectrum sharing and reuse opportuni-  
19 ties identified under paragraph (1) for  
20 both Federal and non-Federal users.

21 (3) PILOT PROGRAM REPORT AND REC-  
22 OMMENDATION.—Not later than 8 months after the  
23 conclusion of the sharing and reuse opportunities  
24 pilot program established under paragraph (2), the  
25 Commission and the NTIA shall jointly submit a re-

1 port to the Committee on Commerce, Science, and  
2 Transportation of the Senate and the Committee on  
3 Energy and Commerce of the House of Representa-  
4 tives that summarizes the feasibility of such pro-  
5 grams. If the Commission and the NTIA jointly  
6 deem such programs viable, each agency shall begin  
7 to implement similar permanent programs within 18  
8 months after the date on which the report is sub-  
9 mitted.

10 (d) IDENTIFICATION OF SPECTRUM REALLOCA-  
11 TION.—Not later than 12 months after the adoption of  
12 the utilization benchmarks described under subsection (a),  
13 the Commission and the NTIA shall, based on an analysis  
14 of utilization using such benchmarks and after notice and  
15 opportunity for public comment on such utilization anal-  
16 ysis—

17 (1) jointly prepare and submit to the President  
18 and the Committee on Commerce, Science, and  
19 Transportation of the Senate and the Committee on  
20 Energy and Commerce of the House of Representa-  
21 tives a report that identifies, by relevant geographic  
22 area, not less than 200 megahertz of spectrum below  
23 4 gigahertz of the least utilized or most appropriate  
24 blocks of electromagnetic spectrum and an expla-  
25 nation of the basis for that identification; and

1           (2) develop a plan, taking into consideration  
2 whether the primary service on a band may be  
3 deemed essential to national security or public safe-  
4 ty, or otherwise determined to serve the public inter-  
5 est, convenience, and necessity, for reallocation of  
6 any entities or services currently operating in the  
7 spectrum described under paragraph (1), along with  
8 an estimate for the costs of relocating such entities  
9 or services to an alternative band of such spectrum.

10       (e) SPECTRUM REVIEW; LOW-POWER DEVICE HAR-  
11 MONIZATION.—

12           (1) EXAMINATION.—The Commission and the  
13 NTIA shall jointly examine each radio spectrum  
14 band, from 2.5 GHz to 6 GHz, to determine spec-  
15 trum sharing opportunities for high bandwidth, low-  
16 power applications and services.

17           (2) FURTHER ACTION.—In carrying out the ex-  
18 amination requirement under paragraph (1), and to  
19 further promote the market for such spectrum shar-  
20 ing opportunities, the Commission and the NTIA  
21 shall, after notice and opportunity for public com-  
22 ment, jointly define coexistence and licensing agree-  
23 ments between primary licensees and secondary  
24 users that seek to enter into a spectrum sharing  
25 agreement.

1 **SEC. 6. RELOCATION COST-BENEFIT ANALYSIS.**

2 (a) IN GENERAL.—The Commission and the NTIA,  
3 in consultation with the Office of Management and Budg-  
4 et, the Office of Science and Technology Policy, and the  
5 National Security Council, shall perform a cost-benefit  
6 analysis on electromagnetic spectrum relocation opportu-  
7 nities to move certain Federal users and services currently  
8 operating in a specific band of the spectrum to more effi-  
9 cient spectrum bands in order to maximize the social and  
10 economic advantages of the use of such spectrum.

11 (b) REQUIRED CONSIDERATIONS.—The relocation  
12 analysis required under subsection (a) shall—

13 (1) include projected overall costs and time-  
14 frames of any potential move; and

15 (2) be consistent with the processes set forth in  
16 the Commercial Spectrum Enhancement Act (47  
17 U.S.C. 901 note).

18 (c) SYSTEM UPGRADES.—In bands determined to be  
19 necessary and appropriate for continued primary Federal  
20 use, the NTIA, in consultation with the Commission, shall  
21 determine what, if any, radio system or service upgrades  
22 or other changes could be implemented to enhance spec-  
23 trum efficiency or the ability to share unused co-channel  
24 or adjacent channel capacity on the spectrum with other  
25 agencies or private sector users.



1 **SEC. 7. SPECTRUM RELOCATION FUND MODIFICATIONS.**

2 (a) RETENTION OF UNUSED FUNDS.—Section  
3 118(d)(3) of the National Telecommunications and Infor-  
4 mation Administration Organization Act (47 U.S.C.  
5 928(d)(3)) is amended by striking “8 years” and inserting  
6 “20 years”.

7 (b) USE OF SPECTRUM RELOCATION FUND FOR  
8 PLANNING AND RESEARCH.—

9 (1) IN GENERAL.—Section 118(c) of the Na-  
10 tional Telecommunications and Information Admin-  
11 istration Organization Act (47 U.S.C. 928) is  
12 amended—

13 (A) by amending the heading to read as  
14 follows: “(c) USES OF FUND.—”;

15 (B) by striking “used to pay relocation  
16 costs” and inserting the following: “used—  
17 “(1) to pay relocation costs”;

18 (C) by striking the period at the end and  
19 inserting a semicolon; and

20 (D) by adding at the end the following:

21 “(2) to fund planning and research with the  
22 goal of improving the efficiency of Federal use of  
23 spectrum; and

24 “(3) to cover the costs of eligible Federal enti-  
25 ties to upgrade their equipment and facilities as long  
26 as such upgrades including but not limited to spec-

1 trum sharing, reuse, and layering, result in more ef-  
2 ficient use of spectrum by such entities.”.

3 (2) CONFORMING AMENDMENT.—Section  
4 118(d)(2) of the National Telecommunications and  
5 Information Administration Organization Act (47  
6 U.S.C. 928(d)(3)) is amended after “subsection” by  
7 inserting “to pay relocation costs”.

8 (c) NATIONAL SCIENCE FOUNDATION.—Section  
9 118(e) of the National Telecommunications and Informa-  
10 tion Administration Organization Act (47 U.S.C. 928(e))  
11 is amended by adding at the end the following:

12 “(3) ELIGIBLE FEDERAL ENTITY; NATIONAL  
13 SCIENCE FOUNDATION.—For purposes of this sec-  
14 tion, the term ‘eligible Federal entity’ shall be  
15 deemed to include the National Science Foundation.  
16 As an eligible Federal entity the National Science  
17 Foundation may submit to the Director of OMB re-  
18 quests for funds under this section to support spec-  
19 trum research and experimental facilities by the  
20 Foundation, provided that such requests have, in the  
21 determination of the Director of OMB, in consulta-  
22 tion with the NTIA, clear benefits to existing and  
23 future Federal users of spectrum.”.

24 (d) AUCTION PROCEEDS DEPOSITED TO SPECTRUM  
25 RELOCATION FUND.—

1           (1) AMENDMENT TO COMMUNICATIONS ACT.—  
2 Paragraph (8) of section 309(j) of the Communica-  
3 tions Act of 1934 (47 U.S.C. 309(j)) is amended—

4           (A) by striking “(B), (D), and (E),” in  
5 subparagraph (A) and inserting “(B), (D), (E),  
6 (F), and (G),”; and

7           (B) by inserting at the end the following:

8           “(F) INCREASED FUNDING FOR SPECTRUM  
9 RELOCATION FUND.—Notwithstanding subpara-  
10 graph (A), and in addition to any proceeds de-  
11 posited in accordance with subparagraph (D),  
12 15 percent of the proceeds (including deposits  
13 and upfront payments from successful bidders)  
14 from the use of any competitive bidding system  
15 under this subsection shall be deposited in the  
16 Spectrum Relocation Fund established under  
17 section 118 of the National Telecommunications  
18 and Information Administration Organization  
19 Act, and shall be available in accordance with  
20 that section.”.

21           (2) CONFORMING AMENDMENT.—Section  
22 118(b) of the National Telecommunications and In-  
23 formation Administration Organization Act (47  
24 U.S.C. 928(b)) is amended by striking “section 309”  
25 and all that follows through the period at the end

1 and inserting the following: “subparagraphs (D) and  
 2 (F) of section 309(j)(8) of the Communications Act  
 3 of 1934.”.

4 (e) CLARIFICATION OF PAYMENT OF RELOCATION  
 5 COST.—Paragraph (1) of section 118(c) of the National  
 6 Telecommunications and Information Administration Or-  
 7 ganization Act (47 U.S.C. 928(c)), as so redesignated by  
 8 subsection (b)(1), is further amended by striking “those  
 9 frequencies” and inserting “from frequencies that have  
 10 been identified and recommended for reallocation”.

11 **SEC. 8. SPECTRUM EFFICIENCY THROUGH RECEIVER**  
 12 **STANDARDS.**

13 (a) INTERFERENCE REJECTION.—Each transmission  
 14 system that employs radio spectrum shall be designed and  
 15 operated so that reasonable use of adjacent spectrum does  
 16 not excessively impair the functioning of such system.

17 (b) MANUFACTURERS’ RESPONSIBILITIES.—Manu-  
 18 facturers that provide for commercial sale devices, serv-  
 19 ices, technologies, products, or applications that are de-  
 20 signed to operate on or with any transmission system de-  
 21 scribed under subsection (a) shall ensure that such de-  
 22 vices, services, technologies, products, or applications com-  
 23 ply with the requirements of subsection (a).

24 (c) LICENSEE AND GOVERNMENT USER RESPON-  
 25 SIBILITIES.—Each licensee or approved Federal Govern-

1 ment user of radio spectrum shall ensure that any trans-  
2 mission system newly deployed or upgraded by the licensee  
3 or Federal Government user complies with the require-  
4 ments of subsection (a).

5 (d) EXISTING SYSTEM PROTECTIONS.—Beginning on  
6 the date that is 10 years after the date of enactment of  
7 this Act, a determination that harmful interference exists  
8 may only be made if a transmission system in compliance  
9 with the requirements of subsection (a) encounters, in the  
10 determination of the Commission, unacceptable impair-  
11 ment due to the interfering emission.

12 (e) INDUSTRY SELF-COMPLIANCE.—A licensee shall  
13 be found to be in compliance with the requirements of sub-  
14 sections (a) through (d) if it utilizes equipment, facilities,  
15 and support services that are in compliance with publicly  
16 available technical requirements or standards relating to  
17 radio-based receivers adopted by either—

18 (1) an appropriate telecommunications industry  
19 association or standard-setting organization; or

20 (2) the Commission or the NTIA under sub-  
21 section (f).

22 (f) AGENCY BACKSTOPS.—If an appropriate tele-  
23 communications industry association or standard-setting  
24 organization fails to issue technical requirements or stand-  
25 ards relating to radio-based receivers in accord with this

1 section, or if a Federal Government agency or licensee be-  
2 lieves that such requirements or standards are deficient,  
3 the Federal Government agency or licensee may petition  
4 the Commission or the NTIA to establish, by rule, such  
5 technical requirements or standards for non-Federal or  
6 Federal use, respectively, as prescribed in subsection (g).

7 (g) INDUSTRY CONSULTATION; TECHNICAL STAND-  
8 ARDS.—If the Commission or the NTIA determines it is  
9 in the public interest to develop any technical require-  
10 ments and standards for radio-based receivers so as to en-  
11 sure their compliance with the requirements of subsections  
12 (a) through (d), the Commission and the NTIA shall—

13 (1) consult with—

14 (A) appropriate associations and standard-  
15 setting organizations within the telecommuni-  
16 cations industry;

17 (B) representatives of users of tele-  
18 communications equipment, facilities, and sup-  
19 port services; and

20 (C) State utility commissions; and

21 (2) adopt, as its rules for transmission systems  
22 operating in a specific spectrum band, a proposal  
23 consisting of a publicly available standard that has  
24 been endorsed by a predominance of directly affected  
25 entities, provided the proposal is consistent with

1 guidelines established by the Commission or the  
2 NTIA.

3 (h) VALUATION STUDY.—The Commission and NTIA  
4 shall conduct a cost benefit analysis on the value of im-  
5 proving received standards as it relates to increasing spec-  
6 tral efficiency, improving operation of services in adjacent  
7 frequencies, narrowing the guard bands between adjacent  
8 spectrum use, and improving overall receiver performance  
9 for the end user.

10 (i) DEFINITION.—For purposes of this section, the  
11 term “transmission system” means any telecommuni-  
12 cations, broadcast, satellite, commercial mobile service, or  
13 other communications system that employs radio spec-  
14 trum.

15 **SEC. 9. SPECTRUM AUCTIONS.**

16 (a) VOLUNTARY INCENTIVE AUCTIONS FOR COMMERCIAL  
17 LICENSEES.—Section 309(j)(8) of the Communica-  
18 tions Act of 1934 (47 U.S.C. 309(j)(8)), as previously  
19 amended, is further amended by adding at the end the  
20 following:

21 “(G) INCENTIVE AUCTIONS; REVENUE  
22 SHARING PLAN.—

23 “(i) IN GENERAL.—Notwithstanding  
24 subparagraph (A), if the Commission de-  
25 termines that it is consistent with the pub-

1           lic interest in utilization of the spectrum  
2           for an eligible licensee to relinquish some  
3           or all of its licensed spectrum usage rights  
4           in order to permit the assignment of new  
5           initial licenses or the allocation of spec-  
6           trum for unlicensed use subject to new  
7           service rules, the proceeds from the use of  
8           a competitive bidding system under this  
9           subsection may be shared, in an amount or  
10          percentage determined in the discretion of  
11          the Commission, with any such eligible li-  
12          censee.

13           “(ii) ELIGIBLE LICENSEE DEFINED.—  
14          For purposes of this subparagraph, the  
15          term ‘eligible licensee’ means the holder of  
16          any existing license granted for the oper-  
17          ation of an active and operating broad-  
18          casting station pursuant to section 307.

19           “(iii) PROHIBITION OF SPECTRUM  
20          SPECULATION.—The Commission shall  
21          take such actions, as the Commission  
22          deems necessary, to prohibit speculation  
23          with respect to incentive auctions author-  
24          ized under this subparagraph, including by  
25          prohibiting the acquisition of licenses by a



1 third party with the sole intent of relin-  
2 quishing such licenses so that such party  
3 may participate in an incentive auction.

4 “(iv) WHITE SPACES.—The Commis-  
5 sion shall carry out incentive auctions  
6 under this subparagraph in a manner that  
7 ensures there continues to be adequate op-  
8 portunity nationwide for unlicensed access  
9 to any spectrum that is the subject of such  
10 an auction. The Commission, in its discre-  
11 tion, may make additional accommodation  
12 for unlicensed use of such spectrum.

13 “(v) RULE OF CONSTRUCTION RE-  
14 LATED TO VOLUNTARY NATURE OF PAR-  
15 TICIPATION.—This subparagraph shall not  
16 be construed to require that any eligible li-  
17 censee participate in any activity author-  
18 ized under this subparagraph.”.

19 (b) EXTENSION OF AUCTION AUTHORITY.—Section  
20 309(j)(11) of the Communications Act of 1934 (47 U.S.C.  
21 309(j)(11)) is amended by striking “2012” and inserting  
22 “2017”.

1 **SEC. 10. GENERAL SPECTRUM MANAGEMENT.**

2 (a) SPECTRUM COORDINATION.—Section 112 of the  
3 National Telecommunications and Information Adminis-  
4 tration Organization Act (47 U.S.C. 922) is amended—

5 (1) by striking “The Assistant Secretary” and  
6 inserting “(a) JOINT SPECTRUM PLANNING.—The  
7 Assistant Secretary”; and

8 (2) by adding at the end the following:

9 “(b) REPORTING REQUIREMENT.—

10 “(1) IN GENERAL.—The Assistant Secretary  
11 and the Chairman shall, on an annual basis, submit  
12 a report to the Committee on Commerce, Science,  
13 and Transportation of the Senate and the Com-  
14 mittee on Energy and Commerce of the House of  
15 Representatives that provides a summary of the bi-  
16 annual meetings required under this section, as well  
17 as the action items, deliverables, and the status of  
18 such action items and deliverables related to the  
19 issues identified in subsection (a).

20 “(2) CONTENTS.—The report required under  
21 paragraph (1) shall include—

22 “(A) an identification of emerging tech-  
23 nologies and ideas for test-bed programs that  
24 expand opportunities for spectrum sharing by  
25 Federal and non-Federal users, increased public  
26 transparency into spectrum databases, and a

1 progress report on reallocation and sharing ef-  
2 forts required by the RADIOS Act;

3 “(B) recommended procedures for dispute  
4 resolution between Federal and non-Federal  
5 users;

6 “(C) a list of any recommendations made  
7 by the Commerce Spectrum Management Advi-  
8 sory Committee and the status of each such  
9 recommendation; and

10 “(D) a score card that includes the amount  
11 of spectrum shared by Federal and non-Federal  
12 users, the geographical extent of coverage, as  
13 well as the number of requests for sharing and  
14 their geographical locations that were rejected  
15 and the reasons for such rejections.”.

16 (b) FEASIBILITY STUDY ON SPECTRUM INCENTIVE  
17 PRICING.—

18 (1) STUDY.—The Commission and the NTIA  
19 shall jointly conduct a study on the feasibility of de-  
20 signing, implementing, and maintaining a system of  
21 spectrum incentive pricing that would promote a  
22 more efficient and effective use of the electro-  
23 magnetic spectrum. If such a system is deemed fea-  
24 sible, the study shall include a proposed model for  
25 such a system.

1           (2) USER COMMENTS TO BE SOLICITED.—In  
2 carrying out the study required under paragraph  
3 (1), the Commission and the NTIA shall solicit com-  
4 ments from both Federal and non-Federal spectrum  
5 users, including from any users that may be subject  
6 to usage fees, if any, under any proposed system for  
7 spectrum incentive pricing.

8           (3) REPORT.—Upon completion of the study re-  
9 quired under paragraph (1), the Commission and  
10 the NTIA shall jointly submit a report to the Com-  
11 mittee on Commerce, Science, and Transportation of  
12 the Senate and the Committee on Energy and Com-  
13 merce of the House of Representatives that in-  
14 cludes—

15                   (A) the findings of the study; and

16                   (B) recommendations on implementing any  
17 proposed system for spectrum incentive pricing.

18 (c) FEDERAL USERS SPECTRUM INCENTIVES.—

19           (1) IN GENERAL.—Based upon the common  
20 metrics and benchmarks developed by the NTIA  
21 under section 5(a) or based upon consultation from  
22 independent technical experts, the NTIA shall estab-  
23 lish spectrum efficiency and utilization baselines for  
24 the use of spectrum assigned to each Federal agen-  
25 cy.

1           (2) FAILURE OF FEDERAL AGENCIES TO MEET  
2 BASELINE.—If a Federal agency fails to meet the  
3 spectrum efficiency and utilization baseline estab-  
4 lished by the NTIA under paragraph (1), the NTIA  
5 shall require the head of such Federal agency to pro-  
6 vide a report and analysis of the costs necessary to  
7 upgrade the telecommunications equipment, facili-  
8 ties, and support services of that agency in order to  
9 for such agency to meet the efficiency and utilization  
10 baseline.

11           (3) COST REPORT AND ANALYSIS.—

12           (A) IN GENERAL.—If the NTIA deter-  
13 mines that the cost report and analysis sub-  
14 mitted by a Federal agency under paragraph  
15 (2) is reasonable, the NTIA and the Director of  
16 the Office of Management and Budget shall  
17 provide funds to the head of such Federal agen-  
18 cy to defray such costs.

19           (B) FAILURE TO SUBMIT.—If a Federal  
20 agency fails to submit the report required under  
21 paragraph (2), the NTIA—

22           (i) shall withhold all future spectrum  
23 allocation requests of that Federal agency;  
24 and

1                   (ii) may apply a spectrum incentive  
2                   pricing charge, if any system for such pric-  
3                   ing is implemented pursuant to subsection  
4                   (b), for use of the spectrum currently as-  
5                   signed to that Federal agency.

6           (d) NATIONAL STRATEGIC SPECTRUM PLAN.—

7                   (1) IN GENERAL.—Not later than 18 months  
8                   after the date of enactment of this Act, and every  
9                   3 years thereafter, the Assistant Secretary of Com-  
10                  merce for Communications and Information and the  
11                  Chairman of the Commission assisted by the Radio  
12                  Spectrum Advisory Committee, shall develop an ini-  
13                  tial 10-year National Strategic Spectrum Plan that  
14                  includes the following:

15                       (A) Long-range spectrum planning of both  
16                       commercial, State and local government, and  
17                       Federal Government users.

18                       (B) New technologies or expanded services  
19                       requiring spectrum.

20                       (C) The nature and characteristics of the  
21                       new radio communication systems required and  
22                       the nature and characteristics of the spectrum  
23                       required.

1 (D) Efficient approaches to meeting the  
2 future spectrum requirements of all users, in-  
3 cluding—

4 (i) requiring certain standards-based  
5 technologies that improve spectrum effi-  
6 ciencies;

7 (ii) spectrum sharing and reuse op-  
8 portunities;

9 (iii) possible reallocation; and

10 (iv) any other approaches that pro-  
11 mote efficient use of spectrum.

12 (E) An evaluation of—

13 (i) current auction processes to deter-  
14 mine the effectiveness of such processes  
15 in—

16 (I) promoting competition;

17 (II) improving spectrum use effi-  
18 ciency; and

19 (III) maximizing the full eco-  
20 nomic value to customers, industry,  
21 and the taxpayer of the spectrum; and

22 (ii) if any type of license reform is  
23 necessary.

24 (2) SUBMISSION OF THE PLAN.—The Assistant  
25 Secretary of Commerce for Communications and In-

1 formation and the Chairman of the Commission  
2 shall, on an annual basis, jointly submit, after notice  
3 and opportunity for public comment on, to the Presi-  
4 dent and the Committee on Commerce, Science, and  
5 Transportation of the Senate and the Committee on  
6 Energy and Commerce of the House of Representa-  
7 tives a report summarizing the progress made with  
8 respect to the National Strategic Spectrum Plan re-  
9 quired under paragraph (1).

10 (e) RADIO SPECTRUM ADVISORY COMMITTEE.—

11 (1) ESTABLISHMENT.—Not later than 60 days  
12 after the date of enactment of this Act, the Chair-  
13 man of the Commission and the Administrator of  
14 the NTIA shall establish a working group, to be  
15 known as the Spectrum Advisory Committee.

16 (2) MEMBERSHIP.—

17 (A) APPOINTMENT; CO-CHAIRS.—The  
18 Chairman of the Commission and the Adminis-  
19 trator of the NTIA shall appoint an equal num-  
20 ber of members of the Working Group as soon  
21 as practicable after the date of enactment of  
22 this Act and shall serve as its co-chair. In ap-  
23 pointing members of the Working Group, the  
24 co-chairs shall ensure that the number of mem-  
25 bers appointed provides appropriate and ade-



1           quate representation for all stakeholders and in-  
2           terested and affected parties.

3           (3) MEETINGS.—

4                 (A) INITIAL MEETING.—The initial meet-  
5           ing of the Working Group shall take place not  
6           later than 60 days after the date of the enact-  
7           ment of this Act.

8                 (B) OTHER MEETINGS.—After the initial  
9           meeting, the Working Group shall meet at the  
10          call of the co-chairs.

11                (C) NOTICE; OPEN MEETINGS.—Any meet-  
12          ings held by the Working Group shall be duly  
13          noticed at least 14 days in advance and shall be  
14          open to the public.

15          (4) RESOURCES.—

16                (A) FEDERAL AGENCIES.—The Working  
17          Group shall have reasonable access to—

18                   (i) materials, resources, data, and  
19                   other information from the National Insti-  
20                   tute of Standards and Technology, the De-  
21                   partment of Commerce and its agencies,  
22                   and the Federal Communications Commis-  
23                   sion; and

24                   (ii) the facilities of any such agency  
25                   for purposes of conducting meetings.

1           (B) GIFTS AND GRANTS.—The Working  
2           Group may accept, use, and dispose of gifts or  
3           grants of services or property, both real and  
4           personal, for purposes of aiding or facilitating  
5           the work of the Working Group. Gifts or grants  
6           not used at the expiration of the Working  
7           Group shall be returned to the donor or grant-  
8           or.

9           (5) RULES.—

10           (A) QUORUM.—One-third of the members  
11           of the Working Group shall constitute a  
12           quorum for conducting business of the Working  
13           Group.

14           (B) SUBCOMMITTEES.—To assist the  
15           Working Group in carrying out its functions,  
16           the co-chairs may establish appropriate sub-  
17           committees composed of members of the Work-  
18           ing Group and other subject matter experts as  
19           deemed necessary.

20           (C) ADDITIONAL RULES.—The Working  
21           Group may adopt other rules as needed.

22           (6) FEDERAL ADVISORY COMMITTEE ACT.—  
23           Neither the Federal Advisory Committee Act (5  
24           U.S.C. App.) nor any rule, order, or regulation pro-

1 mulgated under that Act shall apply to the Working  
2 Group.

3 (f) IRAC SHOT CLOCK.—Section 104(b) of the Na-  
4 tional Telecommunications and Information Administra-  
5 tion Organization Act (47 U.S.C. 903(b)) is amended—

6 (1) in paragraph (4), by striking “; and” and  
7 inserting a semicolon;

8 (2) in paragraph (5), by striking the period at  
9 the end and inserting “; and”; and

10 (3) by adding at the end the following:

11 “(6) in the event that a spectrum related  
12 project is referred to the Interdepartmental Radio  
13 Advisory Committee from the Commission, require  
14 that a public notice detailing the project be provided,  
15 and that the Committee shall act within 30 days to  
16 complete the item, provided that a 30-day extension  
17 may be provided upon a finding of extraordinary cir-  
18 cumstances by NTIA.”.

19 (g) OMB CIRCULAR A–11 MODIFICATIONS.—

20 (1) IN GENERAL.—Not later than 180 days  
21 after the date of enactment of this Act, the Director  
22 of the Office of Management and Budget shall re-  
23 view and rewrite Circular A–11 to ensure agencies  
24 and departments of the Federal Government give

1 more consideration to spectrum use in their manage-  
2 ment processes.

3 (2) ADDITIONAL AGENCY AND DEPARTMENT  
4 REQUIREMENTS.—The review and revision required  
5 under paragraph (1) shall include requirements for  
6 the—

7 (A) use of more spectral efficient tech-  
8 nologies by agencies and departments of the  
9 Federal Government;

10 (B) promotion of increased spectrum shar-  
11 ing by such agencies and department, when ap-  
12 propriate; and

13 (C) increased consideration of non-spec-  
14 trum dependent and commercial alternatives to  
15 meet the mission and operational requirements  
16 of each such agency or department.

17 (h) SPECTRUM SHARING OPPORTUNITIES.—Each  
18 agency of the Federal Government shall, to the extent  
19 technically and operationally feasible, share their existing  
20 spectrum assignments with non-Federal users. If a Fed-  
21 eral agency declines to share spectrum in accordance with  
22 this subsection during non-critical times (as such times  
23 are determined by the NTIA), the NTIA may apply a  
24 spectrum incentive pricing charge, if any system for such

1 pricing is implemented pursuant to subsection (b), for use  
2 of the spectrum currently assigned to that Federal agency.

3 (i) UNLICENSED SPECTRUM POLICY.—

4 (1) REPORT.—Not later than 1 year after the  
5 date of enactment of this Act, the Commission and  
6 the NTIA shall issue, and seek public comment on,  
7 a report that provides—

8 (A) a comprehensive strategy for the coex-  
9 istence of licensed and unlicensed use of spec-  
10 trum; and

11 (B) a determination of the appropriate  
12 amount of spectrum that should be provided for  
13 use by unlicensed devices.

14 (2) CONTENT OF REPORT.—The report re-  
15 quired under paragraph (1) shall address the fol-  
16 lowing issues:

17 (A) What type of rules should be used to  
18 manage unlicensed use of spectrum?

19 (B) What frequencies and amounts of  
20 spectral bandwidth should be used for unli-  
21 censed use?

22 (C) Whether there should be certain bands  
23 exclusively reserved for unlicensed use?

1 (D) How to harmonize unlicensed uses  
2 (whether incumbent or new uses) with future  
3 auctions of licensed use?

4 (E) What is the appropriate transmission  
5 power limits for unlicensed use both exclusively  
6 (homogeneous and heterogeneous applications)  
7 or in coexistence with licensed uses?

8 (F) How should the United States Govern-  
9 ment harmonize its unlicensed policy with inter-  
10 national policies?

11 (G) Whether there should be any addi-  
12 tional protections provided to unlicensed use be-  
13 yond existing legal obligations?

14 **SEC. 11. PROMOTING WI-FI AND WIRELESS FACILITIES DE-**  
15 **PLOYMENT.**

16 (a) **INSTALLATION OF WI-FI HOTSPOTS AND WIRE-**  
17 **LESS NEUTRAL HOST SYSTEMS IN ALL FEDERAL BUILD-**  
18 **INGS.—**

19 (1) **IN GENERAL.—**The Administrator of the  
20 General Services Administration shall—

21 (A) install Wi-Fi hotspots in all publicly  
22 accessible Federal buildings constructed after  
23 the date of enactment of this Act;

24 (B) allow for the installation of wireless  
25 neutral host systems by any wireless neutral

1 host provider upon request in all publicly acces-  
2 sible Federal buildings; and

3 (C) in a manner consistent with sound  
4 management principles, retrofit all Federal  
5 buildings with Wi-Fi hotspots and wireless neu-  
6 tral host systems constructed prior to the date  
7 of enactment of this Act on a timetable that re-  
8 flects the importance of wireless communication  
9 to the Federal functions being performed by the  
10 occupants of such buildings, provided that all  
11 such building shall be retrofitted not later than  
12 December 31, 2013.

13 (2) FUNDING.—There shall be made available  
14 from the Federal Buildings Fund established under  
15 section 592 of title 40, United States Code,  
16 \$15,000,000 to carry out this section. Such sums  
17 shall be derived from the unobligated balance of  
18 amounts made available from the Federal Buildings  
19 Fund for fiscal year 2010, and prior fiscal years, for  
20 repairs and alterations and other activities (exclud-  
21 ing amounts made available for the energy pro-  
22 gram). Such sums shall remain available until ex-  
23 pended.

24 (b) FEDERAL EASEMENTS AND RIGHTS-OF-WAY.—

1           (1) GRANT.—If an executive agency, a State, a  
2 political subdivision or agency of a State, or a per-  
3 son applies for the grant of an easement or rights-  
4 of-way to, in, over, or on a building owned by the  
5 Federal Government for the right to install, con-  
6 struct, and maintain wireless antennas and equip-  
7 ment, and backhaul transmission, the executive  
8 agency having control of the building may grant to  
9 the applicant, on behalf of the Federal Government,  
10 an easement or rights-of-way to perform such instal-  
11 lation, construction, and maintenance.

12           (2) APPLICATION.—The Administrator of the  
13 General Services Administration shall develop a com-  
14 mon form for rights-of-way applications required  
15 under paragraph (1) for all executive agencies that  
16 shall be used by applicants with respect to the build-  
17 ings of each such agency.

18           (3) FEE.—

19           (A) IN GENERAL.—Notwithstanding any  
20 other provision of law, in making a grant of an  
21 easement or rights-of-way pursuant to para-  
22 graph (1), the Administrator of the General  
23 Services Administration shall establish a rea-  
24 sonable fee for the award of such grant that is  
25 based on fair market prices.



1 (B) EXCEPTIONS.—The Administrator of  
2 the General Services Administration may estab-  
3 lish exceptions to the fee amount required  
4 under subparagraph (A)—

5 (i) in consideration of the public ben-  
6 efit provided by a grant of an easement or  
7 rights-of-way; and

8 (ii) in the interest of expanding wire-  
9 less and broadband coverage.

10 (4) USE OF FEES COLLECTED.—Any fee  
11 amounts collected by an executive agency pursuant  
12 to paragraph (2) shall be used by the agency for the  
13 construction and maintenance of Wi-Fi hotspots and  
14 wireless neutral host systems.

15 (c) MASTER CONTRACTS FOR WIRELESS ANTENNA  
16 SITINGS.—

17 (1) IN GENERAL.—Notwithstanding section 704  
18 of the Telecommunications Act of 1996, or any reg-  
19 ulation pursuant thereto, or any other provision of  
20 law, and not later than 60 days after the date of en-  
21 actment of this Act, the Administrator of the Gen-  
22 eral Services Administration shall develop one or  
23 more master contracts that shall govern the place-  
24 ment of wireless antennas on buildings owned by the  
25 Federal Government. Such master contract shall,

1 with respect to the siting of wireless antennas,  
2 standardize the treatment of the placement of wire-  
3 less antennas on rooftop or building facades, the  
4 placement of equipment on rooftops or inside build-  
5 ings, and technology, and any other key issues that  
6 the Administrator determines appropriate.

7 (2) APPLICABILITY.—The master contract de-  
8 veloped by the Administrator of the General Services  
9 Administration under paragraph (1) shall apply to  
10 all publicly accessible buildings owned by the Fed-  
11 eral Government, unless the Administrator decides  
12 that issues with respect to the siting of wireless an-  
13 tenna on a specific building requires non-standard  
14 treatment of a specific building.

15 (3) APPLICATION.—The Administrator of the  
16 General Services Administration shall develop a com-  
17 mon form or set of forms for wireless transmitter  
18 siting applications required under this section for all  
19 executive agencies that shall be used by applicants  
20 with respect to the buildings of each such agency.

21 (d) DEFINITIONS.—As used in this section:

22 (1) WIRELESS NEUTRAL HOST SYSTEM.—The  
23 term “wireless neutral host system” means a small  
24 cellular communications base station and related an-  
25 tenna or a system of wireless antennas and associ-

1       ated equipment connected to a broadband service,  
2       backhaul, or wireless repeater and capable of radi-  
3       ating one or more wireless frequency.

4               (2)   WI-FI   HOTSPOT.—The   term   “Wi-Fi  
5       hotspot” means a site or area in which the public  
6       can access the Internet via a wireless connection.

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