



JAN 16 2015

The Honorable John McCain  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

<sup>2</sup> See Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands, *Report and Order*, GN Docket No. 13-185, 29 FCC Rcd 177 (Mar. 31, 2014) (*AWS-3 Report and Order*).

<sup>3</sup> See NTIA, Manual of Regulations and Procedures for Federal Radio Frequency Management, Sec. 2.3.13, ¶ 1.a. n. 2 (defining a "band of frequencies in which the Department of Defense is a primary user").

<sup>4</sup> See NTIA, An Assessment of the Viability of Accommodating Wireless Broadband in the 1755-1850 MHz Band (Mar. 2012).

2. 1780-1850 MHz;
3. 2200-2290 MHz;
4. 4400-4940 MHz; and
5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
Aeronautical Mobile Telemetry	1780-1850 MHz (compressed)
Air Combat Training System	1780-1850 MHz
High Resolution Video	1780-1850 MHz, 2025-2110 MHz
Point-to-Point Microwave Links	7125-8150 MHz
Precision Guided Munitions	1780-1850 MHz (compressed)
Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

<sup>6</sup> Such coordination will occur via a memorandum of understanding between the federal and non-federal fixed and mobile operators in the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service.

<sup>7</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US92.

<sup>8</sup> Although certain DoD systems are relocating from 25 megahertz of spectrum into 85 megahertz of spectrum, the conditions described are intended solely to ensure that DoD can maintain comparable capability of current activities



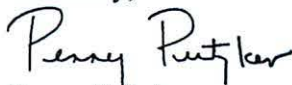
In addition, DoD will relocate certain systems from the 1755-1780 MHz band into the 2200-2290 MHz, 4400-4940 MHz, and 7125-8500 MHz bands, which are already allocated for federal use and will provide comparable technical characteristics for those systems and capabilities.<sup>9</sup> While many DoD systems will be relocated, the following capabilities will continue to operate on a primary basis (except as noted) and share spectrum with commercial users in the 1755-1780 MHz band as identified in the FCC's rules: Joint Tactical Radio System at six locations; Air Combat Training System at two locations; Satellite Space Ground Link Subsystem in the 1761-1780 MHz sub-band at 25 locations; and Electronic Warfare on federal ranges and within associated airspace (on a non-interference basis).<sup>10</sup>

Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

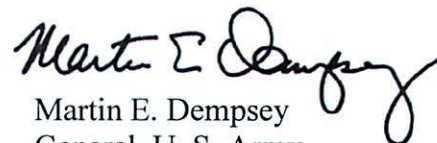


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

<sup>9</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (July 22, 2013); see also Letter from Teresa M. Takai, Chief Information Officer, DoD, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Dept. of Commerce (Jul. 17, 2013).

<sup>10</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US91.

<sup>11</sup> See Section 113(g)(6) of the NTIA Organization Act, as amended (47 U.S.C. § 923(g)(6)).

<sup>12</sup> See Commercial Spectrum Enhancement Act, Pub. L. No. 108-494, Title II, § 206, 118 Stat. 3996 (Dec. 23, 2004) (47 U.S.C. §921 note) ("Nothing in this title is intended to modify section 1062(b) of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65).").



JAN 16 2015

The Honorable John "Jack" Reed  
Ranking Member  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Senator Reed:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

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2. 1780-1850 MHz;
3. 2200-2290 MHz;
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5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
Aeronautical Mobile Telemetry	1780-1850 MHz (compressed)
Air Combat Training System	1780-1850 MHz
High Resolution Video	1780-1850 MHz, 2025-2110 MHz
Point-to-Point Microwave Links	7125-8150 MHz
Precision Guided Munitions	1780-1850 MHz (compressed)
Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

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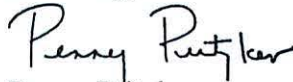
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Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

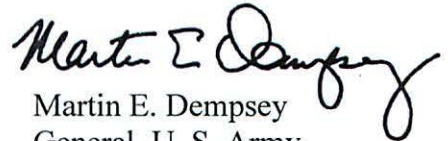


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

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JAN 16 2015

The Honorable John Thune  
Chairman  
Committee on Commerce, Science, and Transportation  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

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2. 1780-1850 MHz;
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To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
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High Resolution Video	1780-1850 MHz, 2025-2110 MHz
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Precision Guided Munitions	1780-1850 MHz (compressed)
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Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

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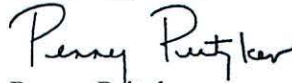
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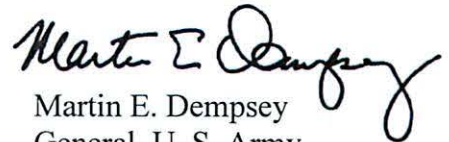


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
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JAN 16 2015

The Honorable Clarence "Bill" Nelson II  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate  
Washington, DC 20510

Dear Senator Nelson:

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Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

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<sup>7</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US92.

<sup>8</sup> Although certain DoD systems are relocating from 25 megahertz of spectrum into 85 megahertz of spectrum, the conditions described are intended solely to ensure that DoD can maintain comparable capability of current activities



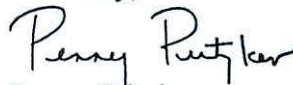
In addition, DoD will relocate certain systems from the 1755-1780 MHz band into the 2200-2290 MHz, 4400-4940 MHz, and 7125-8500 MHz bands, which are already allocated for federal use and will provide comparable technical characteristics for those systems and capabilities.<sup>9</sup> While many DoD systems will be relocated, the following capabilities will continue to operate on a primary basis (except as noted) and share spectrum with commercial users in the 1755-1780 MHz band as identified in the FCC's rules: Joint Tactical Radio System at six locations; Air Combat Training System at two locations; Satellite Space Ground Link Subsystem in the 1761-1780 MHz sub-band at 25 locations; and Electronic Warfare on federal ranges and within associated airspace (on a non-interference basis).<sup>10</sup>

Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

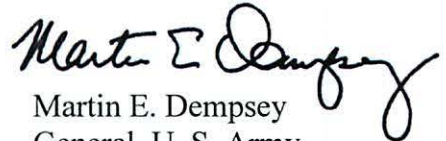


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

---

utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

<sup>9</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (July 22, 2013); see also Letter from Teresa M. Takai, Chief Information Officer, DoD, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Dept. of Commerce (Jul. 17, 2013).

<sup>10</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US91.

<sup>11</sup> See Section 113(g)(6) of the NTIA Organization Act, as amended (47 U.S.C. § 923(g)(6)).

<sup>12</sup> See Commercial Spectrum Enhancement Act, Pub. L. No. 108-494, Title II, § 206, 118 Stat. 3996 (Dec. 23, 2004) (47 U.S.C. §921 note) ("Nothing in this title is intended to modify section 1062(b) of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65).").



JAN 16 2015

The Honorable William "Mac" Thornberry  
Chairman  
Committee on Armed Services  
House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

<sup>2</sup> See Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands, *Report and Order*, GN Docket No. 13-185, 29 FCC Rcd 177 (Mar. 31, 2014) (*AWS-3 Report and Order*).

<sup>3</sup> See NTIA, Manual of Regulations and Procedures for Federal Radio Frequency Management, Sec. 2.3.13, ¶ 1.a. n. 2 (defining a "band of frequencies in which the Department of Defense is a primary user").

<sup>4</sup> See NTIA, An Assessment of the Viability of Accommodating Wireless Broadband in the 1755-1850 MHz Band (Mar. 2012).



2. 1780-1850 MHz;
3. 2200-2290 MHz;
4. 4400-4940 MHz; and
5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
Aeronautical Mobile Telemetry	1780-1850 MHz (compressed)
Air Combat Training System	1780-1850 MHz
High Resolution Video	1780-1850 MHz, 2025-2110 MHz
Point-to-Point Microwave Links	7125-8150 MHz
Precision Guided Munitions	1780-1850 MHz (compressed)
Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

<sup>6</sup> Such coordination will occur via a memorandum of understanding between the federal and non-federal fixed and mobile operators in the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service.

<sup>7</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US92.

<sup>8</sup> Although certain DoD systems are relocating from 25 megahertz of spectrum into 85 megahertz of spectrum, the conditions described are intended solely to ensure that DoD can maintain comparable capability of current activities



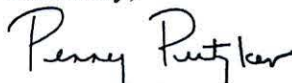
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Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

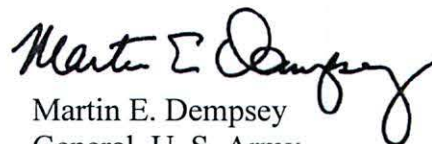


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

<sup>9</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (July 22, 2013); see also Letter from Teresa M. Takai, Chief Information Officer, DoD, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Dept. of Commerce (Jul. 17, 2013).

<sup>10</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US91.

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JAN 16 2015

The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives  
Washington, DC 20515

Dear Representative Smith:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

<sup>2</sup> *See* Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands, *Report and Order*, GN Docket No. 13-185, 29 FCC Rcd 177 (Mar. 31, 2014) (*AWS-3 Report and Order*).

<sup>3</sup> *See* NTIA, Manual of Regulations and Procedures for Federal Radio Frequency Management, Sec. 2.3.13, ¶ 1.a. n. 2 (defining a "band of frequencies in which the Department of Defense is a primary user").

<sup>4</sup> *See* NTIA, An Assessment of the Viability of Accommodating Wireless Broadband in the 1755-1850 MHz Band (Mar. 2012).

2. 1780-1850 MHz;
3. 2200-2290 MHz;
4. 4400-4940 MHz; and
5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
Aeronautical Mobile Telemetry	1780-1850 MHz (compressed)
Air Combat Training System	1780-1850 MHz
High Resolution Video	1780-1850 MHz, 2025-2110 MHz
Point-to-Point Microwave Links	7125-8150 MHz
Precision Guided Munitions	1780-1850 MHz (compressed)
Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

<sup>6</sup> Such coordination will occur via a memorandum of understanding between the federal and non-federal fixed and mobile operators in the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service.

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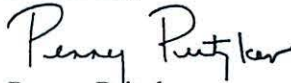
In addition, DoD will relocate certain systems from the 1755-1780 MHz band into the 2200-2290 MHz, 4400-4940 MHz, and 7125-8500 MHz bands, which are already allocated for federal use and will provide comparable technical characteristics for those systems and capabilities.<sup>9</sup> While many DoD systems will be relocated, the following capabilities will continue to operate on a primary basis (except as noted) and share spectrum with commercial users in the 1755-1780 MHz band as identified in the FCC's rules: Joint Tactical Radio System at six locations; Air Combat Training System at two locations; Satellite Space Ground Link Subsystem in the 1761-1780 MHz sub-band at 25 locations; and Electronic Warfare on federal ranges and within associated airspace (on a non-interference basis).<sup>10</sup>

Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

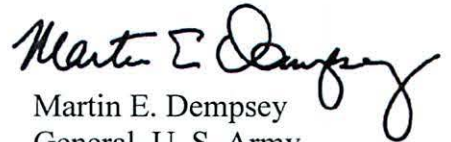


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

<sup>9</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (July 22, 2013); see also Letter from Teresa M. Takai, Chief Information Officer, DoD, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Dept. of Commerce (Jul. 17, 2013).

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JAN 16 2015

The Honorable Fred Upton  
Chairman  
Committee on Energy and Commerce  
House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

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2. 1780-1850 MHz;
3. 2200-2290 MHz;
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5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
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Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

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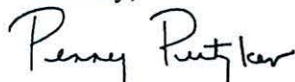
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Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

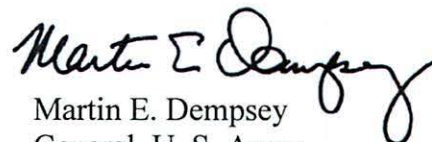


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

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JAN 16 2015

The Honorable Frank Pallone, Jr.  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives  
Washington, DC 20515

Dear Representative Pallone:

In accordance with Section 1062(b)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000,<sup>1</sup> the undersigned hereby certify that the alternative bands of frequencies specified below provide comparable technical characteristics to restore essential military capability that will be lost as a result of the Department of Defense (DoD) surrendering certain use of frequencies in the 1755-1780 MHz band. Pursuant to Section 1062(b)(1)(A) of the NDAA for FY 2000, the National Telecommunications and Information Administration (NTIA), in consultation with the Federal Communications Commission (FCC), has identified and will make available to DoD for its primary use the alternative bands of frequencies described below as replacements for the 1755-1780 MHz band.

The FCC, in consultation with NTIA, DoD, and other affected federal agencies, adopted final rules to make the 1755-1780 MHz band available for additional Advanced Wireless Services (AWS-3).<sup>2</sup> DoD is a primary user of the 1755-1780 MHz band and will need to relocate various systems to accommodate the introduction of commercial systems into the band.<sup>3</sup> Based on an extensive assessment spanning a three-year period,<sup>4</sup> NTIA, in consultation with the FCC, identified the following alternative bands of frequencies that, in combination, provide comparable technical characteristics that will restore essential military capabilities that will be lost in order to make the 1755-1780 MHz band available for commercial use:

1. 2025-2110 MHz;

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<sup>1</sup> Pub. L. No. 106-65, 113 Stat. 768 (Oct. 5, 1999), *codified at* 47 U.S.C. § 921 note (NDAA 2000).

<sup>2</sup> See Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands, *Report and Order*, GN Docket No. 13-185, 29 FCC Rcd 177 (Mar. 31, 2014) (*AWS-3 Report and Order*).

<sup>3</sup> See NTIA, Manual of Regulations and Procedures for Federal Radio Frequency Management, Sec. 2.3.13, ¶ 1.a. n. 2 (defining a "band of frequencies in which the Department of Defense is a primary user").

<sup>4</sup> See NTIA, An Assessment of the Viability of Accommodating Wireless Broadband in the 1755-1850 MHz Band (Mar. 2012).



2. 1780-1850 MHz;
3. 2200-2290 MHz;
4. 4400-4940 MHz; and
5. 7125-8500 MHz.

To make 1755-1780 MHz available for AWS-3 and to satisfy the NDAA for FY 2000 requirements, several essential components are needed to enable a complete solution for DoD that adequately restores the following essential military capabilities:

<b>Capability</b>	<b>Alternate Spectrum Band(s)</b>
Aeronautical Mobile Telemetry	1780-1850 MHz (compressed)
Air Combat Training System	1780-1850 MHz
High Resolution Video	1780-1850 MHz, 2025-2110 MHz
Point-to-Point Microwave Links	7125-8150 MHz
Precision Guided Munitions	1780-1850 MHz (compressed)
Small Unmanned Aerial Systems	1780-1850 MHz, 2025-2110 MHz
Tactical Targeting Network Technology	1780-1850 MHz, 2025-2110 MHz
Tactical Radio Relay	1780-1850 MHz, 2200-2290 MHz, 2025-2110 MHz
Video Surveillance/Robotics	4400-4940 MHz

Successful implementation of this solution required changes to the U.S. Table of Frequency Allocations for the 2025-2110 MHz band as follows:<sup>5</sup> (1) added primary FIXED and MOBILE allocations in this band to the Federal Table of Frequency Allocations in column 4, 47 C.F.R. §2.106; (2) included two new footnotes limiting federal operations to the military and specifying coordination requirements for new military operations;<sup>6</sup> and (3) deleted current footnote US393 from the table. Under these changes,<sup>7</sup> DoD will use this spectrum efficiently, taking into account national security requirements and the need to have the flexibility to share with the non-federal fixed and mobile operators of the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service in the 2025-2110 MHz band. To the extent practicable, fixed and mobile military stations restored in the 1780-1850 MHz and 2025-2110 MHz bands will employ frequency agile technologies and techniques, including the capability to tune to other frequency bands. This overall approach will increase spectrum efficiency and utilization while replacing frequencies that will be surrendered by DoD to free up valuable frequencies in the 1755-1780 MHz band for commercial use.<sup>8</sup>

<sup>5</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (Nov. 25, 2013).

<sup>6</sup> Such coordination will occur via a memorandum of understanding between the federal and non-federal fixed and mobile operators in the Television Broadcast Auxiliary Service, the Cable Television Relay Service, or the Local Television Transmission Service.

<sup>7</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US92.

<sup>8</sup> Although certain DoD systems are relocating from 25 megahertz of spectrum into 85 megahertz of spectrum, the conditions described are intended solely to ensure that DoD can maintain comparable capability of current activities



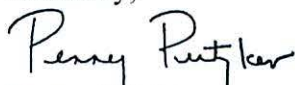
In addition, DoD will relocate certain systems from the 1755-1780 MHz band into the 2200-2290 MHz, 4400-4940 MHz, and 7125-8500 MHz bands, which are already allocated for federal use and will provide comparable technical characteristics for those systems and capabilities.<sup>9</sup> While many DoD systems will be relocated, the following capabilities will continue to operate on a primary basis (except as noted) and share spectrum with commercial users in the 1755-1780 MHz band as identified in the FCC's rules: Joint Tactical Radio System at six locations; Air Combat Training System at two locations; Satellite Space Ground Link Subsystem in the 1761-1780 MHz sub-band at 25 locations; and Electronic Warfare on federal ranges and within associated airspace (on a non-interference basis).<sup>10</sup>

Finally, we note that NTIA must terminate or limit a federal entity's authorization and notify the FCC upon a finding by NTIA that such entity has achieved "comparable capability of systems."<sup>11</sup> The NDAA for FY 2000, however, provides that DoD shall not surrender use of any assignments in the 1755-1780 MHz band until NTIA makes replacement frequencies available to DoD.<sup>12</sup> Accordingly, NTIA will continue to work with DoD to ensure that these replacement frequencies will restore the essential military capabilities addressed above.

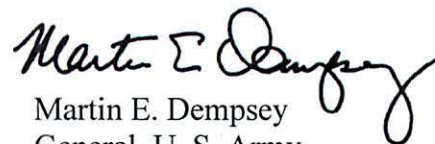


Chuck Hagel  
Secretary of Defense

Sincerely,



Penny Pritzker  
Secretary of Commerce



Martin E. Dempsey  
General, U. S. Army

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utilizing the 1755-1780 MHz band following relocation. Providing DoD access to the wider swath of spectrum in the 2025-2110 MHz band follows from the fact that, unlike the 1755 MHz band, the federal systems will share with non-federal systems. Thus, the DoD systems will have the flexibility needed to operate without limiting existing non-federal users or current DoD capabilities.

<sup>9</sup> See Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, Office of Engineering and Technology, FCC (July 22, 2013); *see also* Letter from Teresa M. Takai, Chief Information Officer, DoD, to Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Dept. of Commerce (Jul. 17, 2013).

<sup>10</sup> See *AWS-3 Report and Order* at Appendix A, Final Rules, § 2.106, Footnote US91.

<sup>11</sup> See Section 113(g)(6) of the NTIA Organization Act, as amended (47 U.S.C. § 923(g)(6)).

<sup>12</sup> See Commercial Spectrum Enhancement Act, Pub. L. No. 108-494, Title II, § 206, 118 Stat. 3996 (Dec. 23, 2004) (47 U.S.C. §921 note) ("Nothing in this title is intended to modify section 1062(b) of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65).").