

# COMMERCIAL SPECTRUM ENHANCEMENT ACT (CSEA)

Annual Progress Report For 2019



**U.S. DEPARTMENT OF COMMERCE**

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**June 2020**

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**EXECUTIVE SUMMARY**

The National Telecommunications and Information Administration (NTIA) submits this report pursuant to Section 207 of the Commercial Spectrum Enhancement Act (CSEA), Title II of Pub. L. 108-494, which requires annual reporting on federal agencies' progress to relocate radio communications systems from spectrum or shared spectrum that has been reallocated and authorized to be auctioned for commercial use. This report covers the period from January through December 2019.

This report provides details on three federal spectrum bands included in separate spectrum auctions conducted by the Federal Communications Commission (FCC) for advanced wireless service (AWS) licenses in: 1) the 1710 to 1755 megahertz (MHz) band as part of two separate AWS-1 auctions, and 2) the 1695-1710 MHz and 1755-1780 MHz bands as part of the AWS-3 auction. As authorized by the CSEA, the Spectrum Relocation Fund (SRF) provides a centralized and streamlined funding mechanism through which federal agencies can recover the costs associated with relocating their radio communications systems or sharing the reallocated spectrum. This report, based on data the federal agencies submitted to NTIA and the Office of Management and Budget (OMB), describes the progress the federal agencies have made in adhering to spectrum transition timelines. It also details, on a system-by-system basis, the costs estimated, funds transferred, and costs paid from the SRF.

Part I of this report documents the cumulative progress made by federal agencies to relocate operations out of the 1710-1755 MHz band from March 2007 through December 2019. It is the thirteenth annual progress report for the 1710-1755 MHz band.

Part II of this report is the fifth annual progress report on federal agency efforts to accommodate commercial use of the 1695-1710 MHz and 1755-1780 MHz bands, auctioned in 2014-2015. Specifically, it documents the cumulative progress made by federal agencies to transition operations from the period of January 2015 through December 2019. Part II includes slightly different information than Part I due to enactment of the Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96 (Tax Relief Act). The Tax Relief Act authorized federal agencies to recover costs stemming from their actions to enable spectrum to be shared or relocated based on an approved transition plan, as well as to recover certain pre-auction costs. Accordingly, Part II reflects transition costs, which include both relocation and sharing costs, as well as separate timelines associated with transitioning federal spectrum use and expending SRF funds.

## PART I

### RELOCATION OF FEDERAL RADIO SYSTEMS FROM THE 1710-1755 MHz SPECTRUM BAND: THIRTEENTH ANNUAL PROGRESS REPORT

In September 2006, the FCC concluded the first auction of licenses for Advanced Wireless Services (AWS-1) in the 1710-1755 MHz band paired with the 2110-2155 MHz band. In August 2008, the FCC held a second auction of licenses that received no winning bids in the first auction. The combined AWS-1 auctions for the 1710-1755 MHz and 2110-2155 MHz bands raised over \$13.7 billion in net winning bids. Auction proceeds attributable to federal frequencies were deposited in the SRF in accordance with the CSEA.

In February 2007, OMB, in consultation with NTIA, submitted a report to Congress detailing a transfer of \$1.008 billion from the SRF to 12 federal agencies to relocate their radio communications systems from the 1710-1755 MHz band. OMB transferred this amount to the agencies in March 2007. Between 2007 and 2012, OMB, consistent with the provisions of the CSEA, in consultation with NTIA, and after Congressional notification, made several additional transfers from the SRF to agencies to cover additional unanticipated relocation expenses.

In October 2008, OMB issued guidance to federal agencies participating in the SRF specifying the information they must provide when requesting additional resources or an extension of their approved projected timeframes.<sup>1</sup> OMB directed the agencies to adhere to their original cost and timeline estimates to the extent possible. However, in unforeseen circumstances, where agencies need additional resources or time to vacate the auctioned spectrum, OMB, in consultation with NTIA, may approve changes to the timeframe and cost estimates associated with relocation of federal systems.

All 12 federal agencies that received SRF funds have reported that they have ceased operations of their systems in the 1710-1755 MHz band, where required to do so.<sup>2</sup> Ten agencies have completed their relocation efforts and achieved comparable capability by relocating to new frequency assignments or by utilizing alternative technology,<sup>3</sup> while the remaining two agencies are delayed beyond their previously planned date for

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<sup>1</sup> OMB, "Spectrum Relocation Fund Guidance," M-09-01 (Oct. 14, 2008), available at <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/memoranda/fy2009/m09-01.pdf>.

<sup>2</sup> The exceptions are specified areas around federal facilities located at Yuma, Arizona and Cherry Point, North Carolina, which are protected indefinitely and for which AWS-1 licensees shall be required to coordinate any operations that could permit mobile, fixed, and portable stations to operate. See 47 C.F.R. §27.1134.

<sup>3</sup> In addition, bureaus within the Department of Energy (DOE) (including the National Nuclear Security Administration (NNSA), and Bonneville Power Administration (BPA)) and the Department of Homeland Security (DHS) (United States Secret Service (USSS)) stated that they have completed relocation efforts and achieved comparable capability of their systems. The notification to the FCC will be submitted for each agency once all bureaus within that agency have informed NTIA that they have completed relocation efforts and reached comparable capability.

achieving comparable capability. The reasons for the delays include contract close out issues for the Department of Homeland Security (DHS) and installation/contractor delays for the Department of Energy (DOE). Both DHS and DOE stated they continue to spend SRF funds and now expect to complete the relocation effort and achieve comparable capability in 2020 and 2022, respectively. NTIA will notify the FCC when each of the remaining two agencies have completed the relocation effort and achieved comparable capability.

The total amount transferred from the SRF to the agencies was \$1.55 billion. For the 12-month period ending December 2019, outlays of the eligible federal agencies totaled \$1 million, bringing the total cumulative outlays to \$1.36 billion. Some agencies have returned or plan to return excess relocation funds totaling approximately \$120 million, while other agencies will continue to expend SRF funds until they have established comparable capabilities.<sup>4</sup>

Attachment A to Part I of this report details the total actual costs incurred (cumulative outlays) on a system-by-system basis for each department, agency, or bureau within the DOE and DHS since they were the only agencies that had activity to report during this reporting period. Information for the other agencies can be found in the 2018 CSEA 1710-1755 MHz Annual Progress Report available at <https://www.ntia.gov/report/2019/commercial-spectrum-enhancement-act-annual-progress-report-2018>.

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<sup>4</sup> Agencies/bureaus that have returned or plan to return funds to the SRF are: the United States Department of Agriculture (USDA), the Department of Defense (DOD), the DOE (Bonneville Power Administration (BPA) and (National Nuclear Security Administration (NNSA)), the Department of Interior (DOI)(Bureau of Reclamation (BOR) and the National Park Service (NPS)), the Department of Justice (DOJ)(Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)), the Department of Transportation (DOT)/Federal Aviation Administration (FAA), and the Department of the Treasury (Internal Revenue Service (IRS)).

# Attachment A

1710 – 1755 MHz Band

Summary of Relocation Activities

By System

## Department of Energy (DOE)

### National Nuclear Security Administration (NNSA)

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From the Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments <sup>3</sup>	Adjusted Total	Cumulative Outlays
1	OST - Remote Keying System, Replacement	24	Completed	\$180,000	\$180,000	-\$180,000 <sup>4</sup>	\$0	\$0
2	SNL - Portable Microwave, System and Laser Tracking Microwave	24	Completed	\$691,000	\$691,000	\$0	\$691,000	\$691,000
3	Pantex Admin System	24	Completed	\$870,000	\$870,000	\$1,500,000	\$2,370,000	\$2,370,000
4a	SNL - Laser Tracking Microwave	24	Completed	\$344,500	\$344,500	\$0	\$344,500	\$344,500
4b	SNL - Telecommand Link	24	Completed	\$384,500	\$384,500	\$0	\$384,500	\$384,500
5	OST - Microwave Link	24	Completed	\$385,000	\$385,000	\$360,000	\$745,000	\$745,000
6	SNL - Remote Control Development Link - Robotics Vehicle	24	Completed	\$240,000	\$240,000	\$0	\$240,000	\$240,000
7	LANL - Robotic Vehicle (Video/Audio)	24	Completed	\$360,000	\$360,000	-\$277,402	\$82,598	\$82,598
8	NSO - YMP Microwave System	24	Completed	\$840,000	\$840,000	-\$763,360	\$76,640	\$76,640
9	NSO - NV Teleoperated System	24	Completed	\$435,000	\$435,000	-\$236,591	\$198,409	\$198,409
10	YMP Seismic Link (Shoshone Mtn and Echo Peak, NV)	24	Completed	\$900,000	\$900,000	\$214,213	\$1,114,213	\$1,114,213
11	NSO - Helicopter Event Video	24	Completed	\$970,000	\$970,000	\$100,000	\$1,070,000	\$1,070,000
12	NSO - Backbone Microwave Link (Nevada Test Site and Angel Peak)	24	Completed	\$770,000	\$770,000	\$98,429	\$868,429	\$868,429
13	NSO - YMP Seismic Link (Yucca Mtn and Sober Peak, NV)	24	Completed	\$830,000	\$830,000	\$650,000	\$1,480,000	\$1,480,000
14	LLNL - Research Microwave between Tracy Airport and LLNL	24	Completed	\$360,000	\$360,000	\$0	\$360,000	\$360,000
15	LLNL - Water System Microwave Link (Livermore to Mocho)	24	Completed	\$890,000	\$890,000	-\$15,289	\$874,711	\$874,711
16	NNSA Inflation Indexed Reserve	24	Completed	\$1,450,000	\$1,450,000	-\$1,450,000	\$0	\$0
<b>Total</b>				<b>\$10,900,000</b>	<b>\$10,900,000</b>	<b>\$0</b>	<b>\$10,900,000</b>	<b>\$10,622,598<sup>5</sup></b>

<sup>1</sup> DOE/NNSA reported it has completed the relocation effort and reached comparable capability.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget Report to Congress.

<sup>3</sup> Column denotes agencies have transferred funds between systems due to either higher or lower than estimated costs to relocate and this action does not affect the total amount received from the Spectrum Relocation Fund.

<sup>4</sup> DOE/NNSA indicated the system has been deleted and is no longer operating in the 1710-1755 MHz band. The funds shown have been transferred to System 5.

<sup>5</sup> DOE/NNSA previously reported in error that NNSA had a zero balance. They are now reporting that NNSA has an excess of \$277,402 which will be returned to the SRF. This error is specific to system 7. The Cumulative Outlay for System 7 has not been corrected in this report, so as a result, the correct total Cumulative Outlay is \$10,622,598 rather than \$10,900,000 as reflected.

## Department of Energy (DOE)

### Bonneville Power Administration (BPA)

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments <sup>3</sup>	Adjusted Total	Cumulative Outlays
1	2N	36	Completed	\$4,896,239	\$4,896,239	\$0	\$4,896,239	\$4,252,435
2	4A	48	Completed	\$1,147,111	\$1,147,111	\$0	\$1,147,111	\$820,467
3	4D	60	Completed	\$1,727,645	\$1,727,645	\$500,000	\$2,227,645	\$2,051,667
4	D	48	Completed	\$2,815,160	\$2,815,160	\$0	\$2,815,160	\$2,215,222
5	H	48	Completed	\$767,501	\$767,501	\$0	\$767,501	\$552,638
6	I	72	Completed	\$8,913,238	\$8,913,238	-\$500,000	\$8,413,238	\$7,151,635
7	N	24	Completed	\$8,589,111	\$8,589,111	\$83,506	\$8,672,617	\$8,415,391
8	PND AC00	48	Completed	\$4,712,537	\$4,712,537	\$250,720	\$4,963,257	\$3,004,466
9	PND D00	48	Completed	\$1,975,385	\$1,975,385	-\$250,720	\$1,724,665	\$1,509,882
10	PND XC00	36	Completed	\$5,063,823	\$5,063,823	\$1,440,000	\$6,503,823	\$4,168,537
11	PND YC00	24	Completed	\$6,441,748	\$6,441,748	-\$1,440,000	\$5,001,748	\$4,995,674
12	T	12	Completed	\$288,198	\$288,198	-\$83,506	\$204,692	\$204,692
13	U	60	Completed	\$915,458	\$915,458	-\$10,000	\$905,458	\$606,087
14	USA <sup>4</sup>	72	Completed	\$374,245	\$374,245	\$10,000	\$384,245	\$388,721
<b>Total</b>				<b>\$48,627,399</b>	<b>\$48,627,399</b>	<b>\$0</b>	<b>\$48,627,399</b>	<b>\$40,337,514</b>

<sup>1</sup> DOE/BPA reported it has completed the relocation effort and reached comparable capability.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget Report to Congress.

<sup>3</sup> Column denotes agencies have transferred funds between systems due to either higher or lower than estimated costs to relocate and this action does not affect the total amount received from the Spectrum Relocation Fund.

<sup>4</sup> This system consists of radios that will be used across the remaining 13 systems during catastrophic emergency conditions where timely restoration of mission critical telecommunication traffic is of the utmost importance. The estimated relocation timeframe is not expected to affect commercial access to the band, since this system operates in a backup capacity only.

### Southwestern Power Administration (SWPA)

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments	Adjusted Total	Cumulative Outlays
1	Southwestern <sup>3</sup>	24	On Time	\$8,091,360	\$42,821,360 <sup>4,5</sup>	\$0	\$42,821,360	\$34,704,234
<b>Total</b>				<b>\$8,091,360</b>	<b>\$42,821,360<sup>4,5</sup></b>	<b>\$0</b>	<b>\$42,821,360</b>	<b>\$34,704,234</b>

<sup>1</sup> DOE/SWPA indicated this system has been relocated from the 1710-1755 MHz band, although funds may continue to be used to implement the transition.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget Report (OMB) Report to Congress.

<sup>3</sup> The March 2008 First Annual Progress Report showed an additional system AD (Corporate Overhead and Reserve). This is now combined with System 1 (Southwestern) and the total amount paid from the Spectrum Relocation Fund (SRF) remains the same.

<sup>4</sup> As indicated in the May 12, 2009 Congressional Notification from OMB, a subsequent transfer of \$17,730,000 from the SRF was made to DOE/SWPA in accordance with the provisions of the Commercial Spectrum Enhancement Act (CSEA).

<sup>5</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$17,000,000 from the SRF to DOE/SWPA in accordance with the provisions of the CSEA.

## Department of Energy (DOE)

### Western Area Power Administration (Western)

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments <sup>3</sup>	Adjusted Total	Cumulative Outlays
1	Sierra-Nevada Region (SNR)	30	On Time	\$9,846,000	\$9,846,000	\$13,301,350	\$23,147,350	\$22,642,825
2	Rocky Mountain Region (RMR)	28	On Time	\$5,971,200	\$5,971,200	\$1,476,874	\$7,448,074	\$7,408,074
3	Desert Southwest Region (DSW)	30	On Time	\$7,320,000	\$7,320,000	\$4,883,147	\$12,203,147	\$11,273,942
4	Upper Great Plains - Montana (UGP-PT)	36 <sup>4</sup>	On Time	\$22,275,000	\$22,275,000	\$1,751	\$22,276,751	\$22,275,451
5	Upper Great Plains - North Dakota (UGP-ND)	36 <sup>4</sup>	On Time	\$21,467,000	\$21,467,000	-\$5,949,443	\$15,517,556	\$15,517,557
6	Upper Great Plains - South Dakota (UGP-SD)	36 <sup>4</sup>	On Time	\$26,688,000	\$26,688,000	-\$16,072,522	\$10,615,477	\$10,616,778
AD <sup>4</sup>	Corporate Overhead and Reserve	N/A	On Time	\$14,635,000	\$14,635,000	\$2,358,843	\$16,993,843	\$0
<b>Total</b>				<b>\$108,202,200</b>	<b>\$108,202,200</b>	<b>\$0</b>	<b>\$108,202,200</b>	<b>\$89,734,627</b>

<sup>1</sup> DOE/Western indicated these systems have been relocated from the 1710-1755 MHz band, although funds may continue to be used to implement the transition.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget Report to Congress.

<sup>3</sup> Agencies indicate they are transferring funds between systems due to either higher or lower than estimated costs to relocate and this action does not affect the total amount received from the Spectrum Relocation Fund.

<sup>4</sup> DOE/Western indicated the System AD is not a radio system but rather an administrative designator to capture the overhead expenditures associated with all systems and funds kept in reserve for inflation, collocation coordination, and planning. Actual costs and associated funding for overhead are distributed out to the system at the end of each fiscal year.

### DOE Headquarters

System Number	System Name	Estimated Relocation Timeframe (Months)	Status (On Time)	Estimated Relocation Cost <sup>1</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments	Adjusted Total	Cumulative Outlays
N/A	DOE Headquarters	72	Completed <sup>2</sup>	\$1,000,000	\$1,650,000 <sup>3</sup>	\$0	\$1,650,000	\$1,650,000
<b>Total</b>				<b>\$1,000,000</b>	<b>\$1,650,000<sup>2</sup></b>	<b>\$0</b>	<b>\$1,650,000</b>	<b>\$1,650,000</b>

<sup>1</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget Report (OMB) Report to Congress.

<sup>2</sup> DOE reported DOE Headquarters has completed the relocation effort and reached comparable capability.

<sup>3</sup> As indicated in the May 12, 2009 OMB Congressional Notification, OMB made a subsequent transfer of \$650,000 from the Spectrum Relocation Fund to DOE Headquarters in accordance with the provisions of the Commercial Spectrum Enhancement Act.

## Department of Homeland Security (DHS)

### Customs and Border Protection (CBP)

System Number	System Name <sup>1</sup>	Estimated Relocation Timeframe (Months)	Status <sup>2</sup>	Estimated Relocation Cost <sup>3</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments <sup>4</sup>	Adjusted Total	Cumulative Outlays
1	El Centro	12	On Time	\$9,913,332	\$11,714,400 <sup>5</sup>	-\$91,754	\$11,622,646	\$ 6,324,054
2	El Paso	12	On Time	\$21,065,830	\$24,893,100 <sup>6</sup>	-\$7,929,930	\$16,963,170	\$ 8,205,548
3	Yuma	12	On Time	\$9,913,332	\$11,714,400 <sup>7</sup>	-\$2,299,119	\$9,415,281	\$ 5,927,938
4	Rio Grande Valley	12	On Time	\$9,913,332	\$11,714,400 <sup>8</sup>	\$1,088,743	\$12,803,143	\$ 4,755,008
5	Laredo	12	On Time	\$9,913,332	\$11,714,400 <sup>9</sup>	\$2,084,743	\$13,799,143	\$ 7,765,996
6	Marfa	12	On Time	\$8,674,166	\$10,250,100 <sup>10</sup>	\$1,502,376	\$11,752,476	\$ 5,744,260
7	Tucson	12	On Time	\$4,956,666	\$5,857,200 <sup>11</sup>	\$5,644,942	\$11,502,142	\$12,990,828
8	Livermore	12	On Time	\$0	\$0	\$0	\$0	\$0
9	San Diego	12	On Time	\$0	\$0	\$0	\$0	\$0
10	Del Rio	12	On Time	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				<b>\$74,349,990</b>	<b>\$87,858,000</b>	<b>\$0</b>	<b>\$87,858,000</b>	<b>\$51,713,631</b>

<sup>1</sup> The February 2007 Office of Management and Budget (OMB) Report to Congress lists DHS/CBP as having 60 systems. The correct number should be a total of 10 systems comprised of 60 point-to-point links. Fixed microwave systems are unique to the operational areas defined by the Office of Border Patrol sector areas of responsibility. The number of relocating frequency assignments remains constant. This has no impact on the total resources required to vacate the band.

<sup>2</sup> DHS/CBP indicated these systems have been relocated from the 1710-1755 MHz band by implementing an interim solution; remaining funds will be used to implement a final long-term solution.

<sup>3</sup> Pre-relocation estimates as indicated in the February 2007 OMB Report to Congress.

<sup>4</sup> Column denotes agencies have transferred funds between systems due to either higher or lower than estimated costs to relocate and this action does not affect the total amount received from the Spectrum Relocation Fund (SRF).

<sup>5</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$1,801,068 from the SRF to DHS/CBP in accordance with the provisions of the Commercial Spectrum Enhancement Act (CSEA).

<sup>6</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$3,827,269 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

<sup>7</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$1,801,068 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

<sup>8</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$1,801,068 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

<sup>9</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$1,801,068 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

<sup>10</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$1,575,934 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

<sup>11</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$900,534 from the SRF to DHS/CBP in accordance with the provisions of the CSEA.

## Department of Homeland Security (DHS)

### Immigration and Customs Enforcement (ICE)

System Number	System Name <sup>1</sup>	Estimated Relocation Timeframe (Months)	Status <sup>2</sup>	Estimated Relocation Cost <sup>3</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments	Adjusted Total	Cumulative Outlays
1	Components for Portable Systems	12	On Time	\$3,559,281	\$160,116,206 <sup>4,5</sup>	\$0	\$160,116,206	\$155,301,937
<b>Total</b>				<b>\$3,559,281</b>	<b>\$160,116,206<sup>4,5</sup></b>	<b>\$0</b>	<b>\$160,116,206</b>	<b>\$155,301,937</b>

<sup>1</sup> The February 2007 Office of Management and Budget (OMB) Report to Congress lists ICE as having four systems. The correct number should be one. DHS/ICE did not explain the difference in reporting systems. However, in other cases, agencies attributed the difference to a correction based on their understanding of the definition of a "system."

<sup>2</sup> DHS/ICE indicated this system has been relocated from the 1710-1755 MHz band, although funds may continue to be used to implement a final long-term solution.

<sup>3</sup> Pre-relocation estimates as indicated in the February 2007 OMB Report to Congress.

<sup>4</sup> As indicated in the November 16, 2007 OMB Congressional Notification, OMB made a subsequent transfer of \$35,570,000 from the Spectrum Relocation Funds (SRF) to DHS/ICE in accordance with the provisions of the Commercial Spectrum Enhancement Act (CSEA).

<sup>5</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$120,986,925 from the SRF to DHS/ICE in accordance with the provisions of the CSEA.

### United States Secret Service (USSS)

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments	Adjusted Total	Cumulative Outlays
1	Fixed (Transportable)	12 <sup>3</sup>	Completed	\$105,800	\$15,179,062 <sup>4</sup>	\$0	\$15,179,062	\$15,179,062
<b>Total</b>				<b>\$105,800</b>	<b>\$15,179,062<sup>4</sup></b>	<b>\$0</b>	<b>\$15,179,062</b>	<b>\$15,179,062</b>

<sup>1</sup> DHS reported USSS has completed the relocation effort and reached comparable capability.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget (OMB) Report to Congress.

<sup>3</sup> DHS/USSS indicated this system has been relocated from the 1710-1755 MHz band by implementing an interim solution; remaining funds will be used to implement a final long-term solution.

<sup>4</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$15,073,262 from the Spectrum Relocation Fund to DHS/USSS in accordance with the provisions of the Commercial Spectrum Enhancement Act (CSEA).

## Department of Homeland Security (DHS)

### DHS-wide Support (Office of the Chief Information Officer (CIO))

System Number	System Name	Estimated Relocation Timeframe (Months)	Status <sup>1</sup>	Estimated Relocation Cost <sup>2</sup>	Total Transferred From Spectrum Relocation Fund (SRF)	Intra-Agency Adjustments	Adjusted Total	Cumulative Outlays
NA	DHS Wide Support	12	On Time	\$11,979,761	\$19,086,572 <sup>3</sup>	\$0	\$19,086,572	\$18,572,322
<b>Total</b>				<b>\$11,979,761</b>	<b>\$19,086,572<sup>3</sup></b>	<b>\$0</b>	<b>\$19,086,572</b>	<b>\$18,572,322</b>

<sup>1</sup> DHS-wide Support indicated this system has been relocated from the 1710-1755 MHz band, although funds may continue to be used to implement a final long-term solution.

<sup>2</sup> Pre-relocation estimates as indicated in the February 2007 Office of Management and Budget (OMB) Report to Congress.

<sup>3</sup> As indicated in the April 2, 2012 OMB Congressional Notification, OMB made a subsequent transfer of \$7,106,811 from the Spectrum Relocation Fund to DHS/CIO in accordance with the provisions of the Commercial Spectrum Enhancement Act.

## **PART II**

### **TRANSITION OF FEDERAL SPECTRUM IN THE 1695-1710 MHz AND 1755-1780 MHz BANDS: FIFTH ANNUAL PROGRESS REPORT**

On March 20, 2013, the FCC announced its plan to commence an auction of the 1695-1710 MHz and 1755-1780 MHz frequency bands, which were allocated for federal use, and the 2155-2180 MHz band, which was allocated for non-federal use. These frequencies would be designated as the Advanced Wireless Services-3 (AWS-3) bands.

On May 13, 2014, NTIA sent a letter to the FCC, on behalf of eligible federal agencies, providing notification of the initial estimated relocation and sharing costs and the estimated transition timelines for the 1695-1710 MHz and the 1755-1780 MHz bands. The total estimated relocation and sharing costs for the 1695-1710 MHz band were \$527.1 million. The total estimated relocation and sharing costs for the 1755-1780 MHz band were \$4.576 billion.

On September 8, 2014, OMB, in consultation with NTIA, submitted a report to Congress detailing its intent to transfer pre-auction planning funds in the amount of \$479,000 to two federal agencies for the 1695-1710 MHz band and \$69.386 million to four federal agencies for the 1755-1780 MHz band. The AWS-3 auction commenced on November 13, 2014 and concluded on January 30, 2015, with \$41.3 billion in net winning bids and a total of 31 bidders winning 1,611 licensees. On June 23, 2015, OMB submitted a second report to Congress detailing its intent to transfer \$526.56 million to three federal agencies for the 1695-1710 MHz band and \$4.503 billion to 12 federal agencies for the 1755-1780 MHz band.

In November 2016, OMB issued guidance to federal agencies participating in the SRF that, consistent with the CSEA, specified the information they must provide when requesting additional resources or an extension of approved projected timeframes to relocate systems and/or share spectrum in the 1695-1710 and 1755-1780 MHz bands (AWS-3 Transition Updated Information Version No. 17-01). The guidance directed the agencies to adhere to their original cost and timeline estimates to the extent possible. OMB, however, acknowledged that unforeseen circumstances could arise where agencies might need additional resources or time to vacate or share the auctioned spectrum. For changes in cost, OMB, in consultation with the FCC and NTIA, may approve federal agency requests. For changes to transition timelines, NTIA, in coordination with OMB and the FCC, will review the federal agency request and respond with a formal memorandum that provides approval, with or without conditions, or disapproval. During this reporting period, OMB approved additional SRF expenditures to cover relocation or sharing expenses beyond the original approved costs for systems in the 1755-1780 MHz band.

This is the fifth year of transition of the AWS-3 spectrum. The majority of affected federal agencies are adhering to their original approved transition timelines for the 1695-1710 MHz and 1755-1780 MHz bands. For the period ending December 2019, outlays for the eligible federal agencies for the 1695-1710 MHz and 1755-1780 MHz bands totaled \$72 million and \$517

million, respectively. This brings the total cumulative outlays to \$148 million for the 1695-1710 MHz band and \$1,527 million for the 1755-1780 MHz band.<sup>5</sup>

For the 1695-1710 MHz band, all three agencies (the Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA), the Department of Defense (DOD)/United States Air Force/Department of the Army/Department of the Navy, and the Department of Interior (DOI)) reported they have transitioned the use of the spectrum but will continue to use funds from the SRF until achieving comparable capability. NTIA will notify the FCC when each of the agencies has completed its transition effort and achieved comparable capability.

For the 1755-1780 MHz band, six agencies (the United States Capitol Police, the DOC/NOAA, the Department of Housing and Urban Development, the Department of Transportation/Federal Aviation Administration, the National Aeronautics and Space Administration (NASA) and the Department of Veterans Affairs) completed their relocation efforts and achieved comparable capability. As required by the CSEA, NTIA has notified the FCC of these results. The Department of Energy (DOE), the Department of Homeland Security (DHS), the Department of Justice (DOJ), the Department of the Treasury, the Department of Interior/National Park Service, the Department of Interior/US Geological Survey, and the United States Agency for International Development (USAID) reported that they have transitioned the use of the spectrum but will continue to use funds from the SRF until achieving comparable capability. NTIA will notify the FCC when each of the agencies has completed its transition effort and achieved comparable capability. Full transition from the spectrum for the remaining agencies is projected for 2025.

One Federal agency, the DOD/United States Marine Corps, missed its original transition timeline to relocate from the 1755-1780 MHz band for one system in one area. Pursuant to OMB Memorandum 17-01, agencies are required to obtain acknowledgement and concurrence from affected licensees prior to requesting an extension. The DOD is in the process of submitting their transition timeline extension request. If NTIA, in consultation with OMB and the FCC, approves the request, it will authorize DOD to continue to operate the systems on a non-interference basis, which will not restrict primary access by the licensees to the 1755-1780 MHz band.

The attachments to Part II provide an overall summary of 2019 transition activities for the 1695-1710 MHz and 1755-1780 MHz bands. Specifically, Attachment B provides — by department, agency, or bureau — an overall summary of relocation or sharing activities from January 2015 through December 2019 for the 1695-1710 MHz band. The table provides estimated transition timelines, status of the progress made in adhering to those timelines, estimated relocation or sharing costs on a fiscal year basis, cumulative outlays, and amounts transferred from the SRF starting in November 2014. Attachment C provides additional detail for each department, agency, or bureau for the 1695-1710 MHz band, including costs and expenditures on a system-by-system basis (Status of Spectrum Relocation Funds). All spectrum transitions are complete. Attachment D provides the same summary as attachment B for the 1755-1780 MHz band, and attachment E conveys the same information as attachment C for each department, agency, or

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<sup>5</sup> Pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, a cumulative total of \$32,266,600 of DOD funds was sequestered.

bureau within the DOE, DOD, DOI, DOJ, DHS, NASA, Treasury, and USAID since they were the only agencies that had activities to report during this reporting period. The status of transition of the spectrum (by relocation or sharing) for each system-use type (Status of Spectrum Transition) is also reflected for those that have not yet completed their transition of spectrum. Information for the other agencies can be found in the 2018 CSEA 1755-1780 MHz Annual Progress Report available at <https://www.ntia.gov/report/2019/commercial-spectrum-enhancement-act-annual-progress-report-2018>.<sup>6</sup>

Below summarizes the differences in the Part II tables (Attachments B-E) from those in Part I (Attachment A) due to changes implemented as a result of the Tax Relief Act.<sup>7</sup>

“Summary” Table (Attachments B and D):

- Estimated Completion of Transition: The month/year when a federal entity estimates it will have completed *the transition of all of its spectrum use in the band* as documented by the “transition timeline” in its transition plan approved by the Technical Panel. This could be achieved by either vacating the auctioned spectrum or implementing an indefinite sharing arrangement enabling non-federal use of the spectrum.
- Transition Status: The overall status of an agency’s transition of the spectrum (by relocation or sharing) considering all operations of the agency, e.g., the status is ongoing unless the federal entity has reported completion of the transition of all of its spectrum use. (Transition status is N/A for the Defense Spectrum Organization, which does not have assignments in the band.)
- Spending Status: This represents the status of expending SRF funds for an agency based on *spending on all of its systems or programs*. The status is ongoing unless the agency has reported completion of spending SRF funds for the band. It is N/A for an agency or system that transitions at zero cost (e.g., compressing operations). Note, agencies can still spend SRF funds after a transition is complete in order to achieve comparable capability.

“Status of Spectrum Relocation Funds” Table (Attachments C and E):

- Estimated End Timeline for Spending Funds: The month/year when a federal entity estimates it will have completed its expenditure of SRF funds on a specific system or program as documented in its transition plan approved by the Technical Panel.

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<sup>6</sup> For DOD agencies, the amounts represented in the “SRF Transfers this Reporting Year” column are on a NET basis reflecting reprogramming, realignment, or transfer of SRF funds between AWS-3 systems.

<sup>7</sup> Additional differences may also be due to the implementation of an automated information system, the Spectrum Transition Tool (ST2), for tracking the transition and cost data presented in the Part II tables. The data reported reflects inputs verified as accurate and submitted by agencies into ST2.

- Spending Status: Identifies the status of SRF spending *by system or program* as either ongoing, completed, or N/A for a system or program that transitions at zero cost.

“Status of Spectrum Transition” Table (Attachments C and E):

- Estimated Completion of Transition: The month/year when a federal entity estimates it will have completed *the transition of its frequency assignments in the band for similar types of systems, represented as the maximum transition timeline for that operation* based on the estimates by “system use” as documented in its transition plan approved by the Technical Panel as well as any extensions approved by NTIA. System use represents a categorization of frequency assignments, by type of system or operational use, and the status column reflects an aggregation of status of assignments or operations in the band. This could be achieved by either vacating the auctioned spectrum or implementing an indefinite sharing arrangement enabling non-federal use of the spectrum.
- Status: Identifies the aggregated status of the transition of the federal entity’s frequency assignments for the indicated system use or operation. Status may be ongoing, completed, delayed, or N/A for an agency that does not have assignments in the band. A delay in the transition of any assignment will reflect a delayed status for that type of system use or operation.

# Attachment B

1695 – 1710 MHz Band

Summary of Sharing and Relocation Activities

By

Department, Agency, and/or Bureau

# Summary of Sharing and Relocation Activities

Department/Agency	Bureau	Estimated Completion of Transition Timeline (Max: Month/Year)	Transition Status	Total Original Estimated Transition Cost	Total Adjusted Estimated Transition Cost	Total Transferred from SRF	Cumulative Outlays	Spending Status
Department of Commerce (DOC)	National Oceanic and Atmospheric Administration (NOAA)	4/2018	Complete	\$263,303,000	\$263,303,000	\$263,303,000	\$111,425,600	Ongoing
Department of Defense (DOD)	Air Force (AF)	4/2018	Complete	\$88,976,400	\$35,184,300	\$12,143,300	\$1,907,800	Ongoing
DOD	Army (AR)	4/2018	Complete	\$64,121,000	\$64,121,000	\$24,499,900	\$23,890,700	Ongoing
DOD	Navy (N)	4/2018	Complete	\$76,344,500	\$53,148,000	\$9,659,300	\$4,723,900	Ongoing
DOD	Subtotal			\$229,441,900	\$152,453,300	\$46,302,500	\$30,522,400	
Department of Interior (DOI)	DOI Headquarters	4/2018	Complete	\$34,325,000	\$34,325,000	\$34,325,000	\$5,913,200	Ongoing
				\$527,069,900	\$450,081,300	\$343,930,500	\$147,861,200	

# Attachment C

1695 – 1710 MHz Band

Summary of Sharing and Relocation Activities

By System

# Department of Commerce

## National Oceanic and Atmospheric Administration (NOAA)

### STATUS OF SPECTRUM RELOCATION FUNDS

<u>System/Program Name</u>	<u>Original Estimated Transition Costs</u>	<u>Adjusted Estimated Transition Costs</u>	<u>SRF Transfers This Reporting Year</u>	<u>Total SRF Transfers</u>	<u>Adjusted System Total</u>	<u>Cost Incurred this Reporting Year (Outlays)</u>	<u>Cumulative Outlays</u>	<u>SRF Balance</u>	<u>System Spending Closeout Date</u>	<u>Spending Status</u>
Barrigada GU RCVR Site	\$15,047,000	\$15,047,000	\$0	\$15,047,000	\$2,896,000	\$0	\$0	\$2,896,000	3/30/2020	On Time
BARROW POES RCVR	\$7,194,000	\$7,194,000	\$0	\$7,194,000	\$2,923,000	\$0	\$0	\$2,923,000	3/30/2020	On Time
Boulder CO RCVR Site	\$6,566,000	\$6,566,000	\$0	\$6,566,000	\$5,403,000	\$0	\$0	\$5,403,000	3/30/2020	On Time
Coordination Portal	\$6,600,000	\$6,600,000	\$0	\$6,600,000	\$2,498,400	\$1,363,700	\$5,465,300	\$1,134,700	3/30/2023	On Time
Elmendorf AFB-Anchorage POES RCVRs	\$11,464,000	\$11,464,000	\$0	\$11,464,000	\$2,913,000	\$0	\$0	\$2,913,000	3/30/2020	On Time
FAIRBANKS POES RCVR	\$12,918,000	\$12,918,000	\$0	\$12,918,000	\$4,029,000	\$0	\$0	\$4,029,000	3/30/2020	On Time
Fairmont WV RCVR Site	\$6,296,000	\$6,296,000	\$0	\$6,296,000	\$2,822,000	\$0	\$0	\$2,822,000	3/30/2020	On Time
FORD ISLAND POES RCVR	\$7,683,000	\$7,683,000	\$0	\$7,683,000	\$2,866,000	\$0	\$0	\$2,866,000	3/30/2020	On Time
GILMORE CREEK POES RCVR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
GOES-R Redesign	\$3,690,000	\$3,690,000	\$0	\$3,690,000	\$0	\$0	\$3,690,000	\$0	7/30/2015	Complete
GREENBELT GOES RCVRs	\$3,423,000	\$3,423,000	\$0	\$3,423,000	\$2,845,000	\$0	\$0	\$2,845,000	3/30/2020	On Time
Guaynabo PR RCVR Site	\$5,202,000	\$5,202,000	\$0	\$5,202,000	\$2,851,000	\$0	\$0	\$2,851,000	3/30/2020	On Time
Hub (NSOF)	\$34,128,000	\$34,128,000	\$0	\$34,128,000	\$11,709,000	\$0	\$0	\$11,709,000	3/30/2020	On Time
KANSAS CITY POES RCVR	\$3,501,000	\$3,501,000	\$0	\$3,501,000	\$2,822,000	\$0	\$0	\$2,822,000	3/30/2020	On Time
MIAMI AOML POES RCVR	\$3,253,000	\$3,253,000	\$0	\$3,253,000	\$3,131,000	\$0	\$0	\$3,131,000	3/30/2020	On Time
MIAMI NHC POES RCVR	\$3,386,000	\$3,386,000	\$0	\$3,386,000	\$3,126,000	\$0	\$0	\$3,126,000	3/30/2020	On Time
MONTEREY POES RCVR	\$3,520,000	\$3,520,000	\$0	\$3,520,000	\$2,827,000	\$0	\$0	\$2,827,000	3/30/2020	On Time
Norman OK RCVR Site	\$3,482,000	\$3,482,000	\$0	\$3,482,000	\$2,821,000	\$0	\$0	\$2,821,000	3/30/2020	On Time
Pre-Acquisition/GCs & Fees	\$5,537,000	\$5,537,000	\$0	\$5,537,000	\$70,335,500	\$43,068,200	\$75,313,700	\$27,267,300	3/30/2020	On Time
Radiosonde Relocation	\$80,139,000	\$80,139,000	\$0	\$80,139,000	\$67,642,100	\$14,459,700	\$26,956,600	\$53,182,400	3/30/2023	On Time
STENNIS SPACE CENTER POES RCVR	\$4,867,000	\$4,867,000	\$0	\$4,867,000	\$2,822,000	\$0	\$0	\$2,822,000	3/30/2020	On Time
SUITLAND POES RCVRs	\$15,056,000	\$15,056,000	\$0	\$15,056,000	\$7,914,000	\$0	\$0	\$7,914,000	3/30/2020	On Time
WALLOPS ISLAND RCVRs (POES/GOES)	\$20,351,000	\$20,351,000	\$0	\$20,351,000	\$3,573,000	\$0	\$0	\$3,573,000	3/30/2020	On Time
	\$263,303,000	\$263,303,000	\$0	\$263,303,000	\$210,769,000	\$58,891,600	\$111,425,600	\$151,877,400		

## Department of Defense

United States Air Force (USAF)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
1695-1710 MHz Portal (ITS)	\$2,220,000	\$2,220,000	\$200,000	\$643,000	\$345,300	\$147,600	\$407,400	\$197,700	8/14/2025	On Time
AF Implementation and Oversight	\$1,500,000	\$1,500,000	\$250,000	\$583,700	\$539,300	\$0	\$0	\$539,300	8/14/2025	On Time
AF METSAT 1	\$5,434,000	\$5,434,000	\$464,900	\$524,900	\$519,500	\$471,800	\$471,800	\$47,700	8/14/2025	On Time
AF METSAT 2	\$13,691,400	\$6,700,000	\$2,035,700	\$3,346,100	\$3,148,000	\$257,100	\$257,100	\$2,890,900	8/14/2025	On Time
AF METSAT 3	\$18,423,000	\$6,700,000	\$2,035,700	\$3,346,100	\$3,148,000	\$257,100	\$257,100	\$2,890,900	8/14/2025	On Time
AF METSAT 4	\$27,900,700	\$6,917,800	\$660,700	\$1,971,100	\$1,773,000	\$257,200	\$257,200	\$1,515,800	8/14/2025	On Time
AF METSAT Pre-Auction	\$100,000	\$100,000	\$0	\$71,000	\$0	\$0	\$0	\$0	9/14/2015	Complete
Monitoring Hub	\$19,707,300	\$5,612,500	\$569,600	\$2,572,100	\$2,410,400	\$257,200	\$257,200	\$2,153,200	8/14/2025	On Time
Sequestration	\$0	\$0	(\$500)	(\$914,700)	\$0	\$0	\$0	\$0		N/A
	\$88,976,400	\$35,184,300	\$6,216,100	\$12,143,300	\$11,883,500	\$1,648,000	\$1,907,800	\$10,235,500		

# Department of Defense

## Department of the Army (Army)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
1695-1710 MHz Army deployment related costs	\$8,560,000	\$0	\$0	\$2,143,100	\$0	\$0	\$2,041,700	\$0		N/A
1695-1710 MHz Portal (ITS)	\$2,220,000	\$2,220,000	\$49,200	\$562,000	\$28,600	\$21,400	\$223,100	\$7,200	8/14/2025	On Time
AR-12 (Direct Readout Ground Station Hardening)		\$18,496,000	\$3,143,600	\$3,143,600	\$3,143,600	\$3,142,500	\$3,142,500	\$1,100	8/14/2025	On Time
AR-13 (Fixed/Transportable Monitoring Systems)		\$43,155,000	\$7,144,000	\$7,144,000	\$6,683,200	\$6,683,200	\$6,683,200	\$0	8/14/2025	On Time
Cincinnati, OH - GOES RCVR	\$5,434,000	\$0	\$0	\$1,206,800	\$0	\$0	\$1,105,300	\$0		N/A
Columbus Lake, MS - GOES RCVR	\$5,434,000	\$0	\$0	\$1,206,800	\$0	\$0	\$1,105,300	\$0		N/A
Management, Oversight, Engineering Support (Army Spectrum Mgt Office)	\$250,000	\$250,000	\$25,000	\$875,000	\$450,000	\$25,000	\$275,000	\$425,000	8/14/2025	On Time
Monitoring System - Hub	\$13,138,200	\$0	\$0	\$3,500,500	\$0	\$0	\$3,398,700	\$0		N/A
Omaha, NE - GOES RCVR	\$5,360,400	\$0	\$0	\$1,191,300	\$0	\$0	\$1,089,800	\$0		N/A
Rock Island, IL - GOES RCVR	\$7,201,400	\$0	\$0	\$1,566,500	\$0	\$0	\$1,465,000	\$0		N/A
Sacramento, CA - GOES RCVR	\$5,655,000	\$0	\$0	\$1,252,000	\$0	\$0	\$1,150,500	\$0		N/A
Sequestration	\$0	\$0	(\$764,700)	(\$1,705,300)	\$0	\$0	\$0	\$0		N/A
St Louis, MO - GOES RCVR	\$5,434,000	\$0	\$0	\$1,206,800	\$0	\$0	\$1,105,300	\$0		N/A
Vicksburg, MS - GOES RCVR	\$5,434,000	\$0	\$0	\$1,206,800	\$0	\$0	\$1,105,300	\$0		N/A
	\$64,121,000	\$64,121,000	\$9,597,100	\$24,499,900	\$10,305,400	\$9,872,100	\$23,890,700	\$433,300		

# Department of Defense

Department of the Navy (DON)

## STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
1695-1710 MHz Portal (ITS)	\$2,220,000	\$2,220,000	\$50,000	\$499,200	\$56,000	\$2,000	\$232,000	\$54,000	8/14/2025	On Time
1695-1710 MHz Portal (Navy)	\$3,167,000	\$16,456,000	\$2,867,700	\$4,947,300	\$3,856,700	\$1,051,000	\$2,633,600	\$2,805,700	8/14/2025	On Time
DON HQ Transition Process Management	\$3,136,000	\$3,136,000	\$253,600	\$2,348,800	\$315,300	\$305,000	\$1,780,300	\$10,300	8/14/2025	On Time
METMF MetSat RCVR (USMC METOC-3)		\$25,347,000	\$327,000	\$327,000	\$327,000	\$78,000	\$78,000	\$249,000	8/14/2025	On Time
Monitoring - Hub	\$19,707,300	\$0	\$0	\$841,000	\$500	\$0	\$0	\$500		N/A
Monterey MetSat RCVR (Navy METOC-3)	\$9,269,900	\$0	\$0	\$674,900	\$483,100	\$0	\$0	\$483,100		N/A
Norfolk MetSat RCVR (Navy METOC-4)		\$2,980,000	\$231,000	\$231,000	\$231,000	\$0	\$0	\$231,000	8/14/2025	On Time
Pearl Harbor MetSat RCVR (Navy METOC-1)	\$18,706,400	\$3,009,000	\$235,200	\$427,100	\$235,200	\$0	\$0	\$235,200	8/14/2025	On Time
Sequestration		\$0	(\$1,024,300)	(\$3,341,700)	\$0	\$0	\$0	\$0		N/A
Stennis Space Center MetSat RCVR (Navy METOC-2)	\$9,269,900	\$0	\$0	\$1,674,900	\$220,600	\$0	\$0	\$220,600		N/A
Test & Measurement System	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Twenty-Nine Palms MetSat RCVR (USMC METOC-2)	\$5,434,000	\$0	\$0	\$514,900	\$323,000	\$0	\$0	\$323,000		N/A
Yuma MetSat RCVR (USMC METOC-1)	\$5,434,000	\$0	\$0	\$514,900	\$323,000	\$0	\$0	\$323,000		N/A
	\$76,344,500	\$53,148,000	\$2,940,200	\$9,659,300	\$6,371,400	\$1,436,000	\$4,723,900	\$4,935,400		

# Department of the Interior (DOI)

## Department of the Interior

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
Boise, ID - GOES (RRC BORPNRHA)	\$5,380,000	\$5,380,000	\$0	\$5,380,000	\$5,831,000	\$0	\$1,332,100	\$5,831,000	3/23/2023	On Time
Boise, ID - GOES (RRC NFIC)	\$5,380,000	\$5,380,000	\$0	\$5,380,000	\$5,831,000	\$0	\$1,332,100	\$5,831,000	3/23/2023	On Time
Guaynabo, PR - GOES (RRC CWSC)	\$8,189,000	\$8,189,000	\$0	\$8,189,000	\$0	\$0	\$27,500	\$0	12/23/2021	On Time
Knoxville, TN - GOES (RRC TVARFC)	\$5,332,000	\$5,332,000	\$0	\$5,332,000	\$5,753,400	\$0	\$1,369,700	\$5,753,400	3/23/2023	On Time
Sioux Falls, SD - GOES (RRC EDDN-1)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Sioux Falls, SD - GOES (RRC EDDN-2)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Sioux Falls, SD - POES (RRC EROSLRPS)	\$10,044,000	\$10,044,000	\$0	\$10,044,000	\$10,996,400	\$0	\$1,851,800	\$10,996,400	3/23/2023	On Time
	\$34,325,000	\$34,325,000	\$0	\$34,325,000	\$28,411,800	\$0	\$5,913,200	\$28,411,800		

# Attachment D

1755 – 1780 MHz Band

Summary of Sharing and Relocation Activities

By

Department, Agency, and/or Bureau

## Summary of Sharing and Relocation Activities

Department/Agency	Bureau	Estimated Completion of Transition Timeline (Month/Year)	Transition Status	Total Original Estimated Transition Cost	Total Adjusted Estimated Transition Cost	Total Transferred from SRF	Cumulative Outlays	Spending Status
Department of Commerce (DOC)	National Oceanic and Atmospheric Administration (NOAA)	5/2016	Complete	\$350,000	\$350,000	\$0	\$0	Complete
Department of Defense (DOD)	Air Force (AF)	1/2025	Ongoing	\$565,776,400	\$568,381,400	\$268,629,100	\$163,044,400	Ongoing
DOD	Army (AR)	4/2020	Ongoing	\$709,821,000	\$709,821,000	\$386,019,400	\$307,859,400	Ongoing
DOD	Defense Spectrum Organization (DSO)		N/A	\$247,000,000	\$247,000,000	\$135,853,300	\$127,314,800	Ongoing
DOD	Navy (N)	10/2023	Ongoing	\$1,396,961,000	\$1,637,932,400	\$716,079,900	\$464,882,400	Ongoing
	Subtotal			\$2,919,558,400	\$3,163,134,800	\$1,506,581,700	\$1,063,101,000	
Department of Energy (DOE)	Bonneville Power Administration (BPA)	7/2017	Complete	\$6,800,000	\$6,800,000	\$6,800,000	\$2,933,000	Ongoing
Department of Homeland Security (DHS)		1/2018	Complete	\$490,145,000	\$490,145,000	\$489,287,000	\$65,496,300	Ongoing
Department of Interior (DOI)	National Park Service (NPS)	1/2017	Complete	\$8,946,000	\$8,946,000	\$8,946,000	\$7,961,400	Ongoing
	US Geological Survey (USGS)	1/2018	Complete	\$35,680,000	\$35,680,000	\$35,680,000	\$7,764,900	Ongoing
	Subtotal			\$44,626,000	\$44,626,000	\$44,626,000	\$15,726,300	
Department of Justice (DOJ)		7/2018	Complete	\$1,104,480,000	\$1,104,330,000	\$1,104,330,000	\$374,781,900	Ongoing
Department of Transportation (DOT)	Federal Aviation Administration (FAA)	1/2016	Complete	\$433,000	\$433,000	\$270,900	\$270,900	Complete
Department of Treasury (TREAS)		1/2016	Complete	\$7,802,000	\$7,802,000	\$7,801,000	\$2,875,700	Ongoing
Department of Veterans Affairs (VA)		4/2016	Complete	\$275,000	\$275,000	\$275,000	\$275,000	Complete
Housing and Urban Development (HUD)		2/2015	Complete	\$24,000	\$24,000	\$24,000	\$24,000	Complete
National Aeronautics and Space Administration (NASA)		10/2016	Complete	\$1,537,000	\$1,537,000	\$1,537,000	\$1,537,000	Complete
US Agency for International Development (USAID)		1/2015	Complete	\$150,000	\$150,000	\$150,000	\$104,100	Ongoing
United States Capitol Police (USCP)		1/2016	Complete	\$0	\$0	\$0	\$0	Complete
<b>Total</b>				<b>\$4,576,180,400</b>	<b>\$4,819,606,800</b>	<b>\$3,161,682,600</b>	<b>\$1,527,125,200</b>	

# Attachment E

1755 – 1780 MHz Band

Summary of Sharing and Relocation Activities

By System

# Department of Defense

United States Air Force (USAF)

## STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
AF ACTS	\$68,153,300	\$68,153,300	\$12,511,100	\$31,009,900	\$27,360,300	\$7,538,000	\$10,412,300	\$19,822,300	11/30/2020	On Time
AF AMT 1	\$236,276,000	\$236,276,000	\$15,521,000	\$73,116,800	\$33,290,500	\$11,914,800	\$52,616,700	\$21,375,700	11/30/2025	On Time
AF AMT 2	\$56,983,000	\$55,298,000	\$9,477,500	\$36,655,100	\$21,118,300	\$9,477,500	\$25,381,300	\$11,640,800	11/30/2025	On Time
AF AMT 3	\$56,983,000	\$55,299,000	\$9,477,500	\$36,655,100	\$21,289,100	\$9,477,500	\$25,210,500	\$11,811,600	11/30/2025	On Time
AF AMT 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Classified System	\$20,000,000	\$20,000,000	\$2,600,000	\$10,821,000	\$8,247,800	\$0	\$229,900	\$8,247,800	8/30/2025	On Time
AF Cost and Accounting (AFCAA)	\$424,000	\$424,000	\$0	\$562,000	\$0	\$0	\$0	\$0	11/30/2016	Complete
AF Other 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Other 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Other 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Overhead and Implementation (AFSMO)	\$32,986,000	\$32,986,000	\$395,000	\$2,058,700	\$477,200	\$0	\$1,304,300	\$477,200	11/30/2025	On Time
AF Robotics 1	\$2,804,000	\$2,804,000	\$0	\$2,494,000	\$0	\$0	\$2,473,800	\$0	8/30/2019	Complete
AF Robotics 2	\$614,000	\$614,000	\$273,000	\$593,200	\$486,700	\$273,000	\$379,500	\$213,700	5/30/2025	On Time
AF Robotics 3	\$614,000	\$614,000	\$273,000	\$593,200	\$486,700	\$273,000	\$379,500	\$213,700	5/30/2025	On Time
AF Robotics 4	\$614,000	\$614,000	\$273,000	\$593,200	\$486,700	\$273,000	\$379,500	\$213,700	5/30/2025	On Time
AF Robotics 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Robotics 6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Transition Support	\$19,827,100	\$19,827,100	\$2,640,000	\$9,273,300	\$3,992,400	\$1,612,100	\$6,477,900	\$2,380,300	11/30/2021	On Time
AF TT&C	\$24,007,200	\$24,007,200	\$2,210,000	\$19,587,000	\$5,808,500	\$2,152,100	\$13,172,700	\$3,656,400	8/30/2023	On Time
AF TT&C Transition Support	\$958,800	\$958,800	\$0	\$1,076,900	\$224,300	\$0	\$544,900	\$224,300	12/30/2020	On Time
AF UAS 1	\$27,404,000	\$33,378,000	\$3,881,300	\$31,525,600	\$24,692,900	\$12,978,900	\$17,642,700	\$11,714,000	7/30/2020	On Time
AF UAS 2	\$3,667,000	\$3,667,000	\$739,200	\$2,920,600	\$2,134,700	\$739,200	\$1,509,400	\$1,395,500	7/30/2020	On Time
AF UAS 3	\$2,330,000	\$2,330,000	\$490,000	\$1,359,000	\$997,200	\$29,200	\$76,700	\$968,000	7/30/2020	On Time
AF UAS 4	\$3,428,000	\$3,428,000	\$0	\$3,428,000	\$200,000	\$0	\$3,428,000	\$200,000	7/30/2020	On Time
AF UAS 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF UAS 6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A

## Department of Defense

United States Air Force (USAF) cont.

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
AF Video 1	\$874,000	\$874,000	\$273,000	\$688,500	\$486,500	\$273,000	\$475,000	\$213,500	5/30/2025	On Time
AF Video 2	\$874,000	\$874,000	\$273,000	\$688,500	\$486,600	\$273,000	\$474,900	\$213,600	5/30/2025	On Time
AF Video 3	\$874,000	\$874,000	\$273,000	\$688,500	\$486,600	\$273,000	\$474,900	\$213,600	5/30/2025	On Time
AF Video 4	\$5,081,000	\$5,081,000	\$6,300,000	\$11,381,000	\$10,389,000	\$0	\$0	\$10,389,000	8/30/2021	On Time
AF Video 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
AF Video 6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Sequestration	\$0	\$0	(\$3,141,600)	(\$9,140,000)	\$0	\$0	\$0	\$0		N/A
	\$565,776,400	\$568,381,400	\$64,739,000	\$268,629,100	\$163,142,000	\$57,557,300	\$163,044,400	\$105,584,700		

### STATUS OF SPECTRUM TRANSITION

System Use	Estimated Completion of Transition Timeline (Month/Year)	Status	Comments
Video Operations	07/2020	On Time	
Unmanned Aerial Systems Operations	07/2020	On Time	
Air Combat Training Operations	07/2020	On Time	
Satellite Operations	01/2016	Completed	
Telemetry Operations	01/2025	On Time	
Robotics Operations	07/2020	On Time	
Other Operations	01/2016	Completed	

## Department of Defense

### United States Army (Army)

#### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
Army Microwave	\$43,200,000	\$43,200,000	\$0	\$12,786,000	\$8,118,500	\$3,555,600	\$7,271,900	\$4,562,900	8/14/2025	On Time
Army Other 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Other 8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Army Telemetry	\$27,700,000	\$27,700,000	\$12,611,100	\$28,900,000	\$12,692,200	\$12,380,600	\$28,586,900	\$311,600	8/14/2022	On Time
Army Transition Support	\$17,792,000	\$17,792,000	\$2,083,000	\$5,976,000	\$2,405,800	\$1,765,100	\$3,264,000	\$640,700	8/14/2025	On Time
Army TRR	\$17,700,000	\$17,700,000	\$0	\$9,500,000	\$4,768,100	\$0	\$0	\$4,768,100	11/14/2020	On Time
Army UAS	\$532,879,000	\$532,879,000	\$171,632,000	\$298,767,000	\$186,220,800	\$130,463,000	\$245,414,300	\$55,757,800	7/14/2025	On Time
Army Video	\$30,650,000	\$30,650,000	\$10,356,000	\$27,161,000	\$24,016,100	\$14,529,900	\$16,609,400	\$9,486,200	8/14/2022	On Time
Implementation and Oversight (Army Spectrum Mgt Office)	\$39,900,000	\$39,900,000	\$2,667,000	\$12,689,900	\$5,033,700	\$2,401,300	\$6,712,900	\$2,632,400	8/14/2025	On Time
Sequestration	\$0	\$0	(\$1,471,800)	(\$9,760,500)	\$0	\$0	\$0	\$0		N/A
	\$709,821,000	\$709,821,000	\$197,877,300	\$386,019,400	\$243,255,200	\$165,095,500	\$307,859,400	\$78,159,700		

# Department of Defense

United States Army (Army) cont.

## STATUS OF SPECTRUM TRANSITION

System Use	Estimated Completion of Transition Timeline (Month/Year)	Status	Comments
Video Operations	01/2018	Completed	
Unmanned Aerial Systems Operations	04/2020	On Time	
Microwave Operations	04/2018	Completed	
Tactical Radio Relay Operations	01/2016	Completed	
Robotics Operations	01/2017	Completed	
Other Operations	01/2016	Completed	

# Department of Defense

## Department of the Navy (DON)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
DON ACTS	\$12,359,000	\$12,359,000	\$3,089,700	\$9,024,400	\$6,138,400	\$2,047,000	\$5,178,000	\$4,091,400	8/14/2020	On Time
DON HQ Transition Process Management	\$81,263,000	\$81,263,000	\$11,125,000	\$36,609,000	\$20,288,100	\$8,207,000	\$27,334,800	\$12,081,100	8/14/2025	On Time
DON Other 1	\$174,036,000	\$210,018,600	\$27,481,900	\$180,752,500	\$61,830,800	\$33,674,000	\$166,573,200	\$28,156,800	11/14/2022	On Time
DON Other 1-5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Other 2	\$53,003,200	\$55,507,300	\$18,988,900	\$51,904,900	\$22,110,900	\$10,864,000	\$39,260,000	\$11,246,900	11/14/2022	On Time
DON Other 3	\$161,366,600	\$161,907,900	\$13,051,200	\$58,378,900	\$40,118,900	\$22,269,000	\$40,529,000	\$17,849,900	8/14/2025	On Time
DON Other 4	\$151,585,400	\$151,585,400	\$37,149,800	\$74,830,100	\$58,294,200	\$7,719,000	\$19,760,500	\$50,575,200	8/14/2025	On Time
DON Other 5	\$79,940,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Other 6		\$133,618,300	\$13,000,000	\$15,147,000	\$15,147,000	\$2,098,000	\$2,098,000	\$13,049,000	9/14/2026	On Time
DON Other 7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Other 8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Other 9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Other Systems Transition Support	\$16,685,000	\$16,685,000	\$1,265,500	\$5,242,400	\$1,817,800	\$338,000	\$3,146,200	\$1,479,800	8/14/2025	On Time
DON PGM	\$24,492,000	\$24,492,000	\$0	\$21,799,600	\$270,100	\$0	\$1,450,700	\$270,100	8/14/2025	On Time
DON PGM Transition Support	\$16,685,000	\$16,685,000	\$0	\$4,075,000	\$2,049,600	\$131,000	\$1,467,000	\$1,918,600	8/14/2025	On Time
DON Robotics	\$111,058,200	\$111,058,200	\$2,000,000	\$39,070,000	\$10,535,000	\$6,431,000	\$38,296,000	\$4,104,000	4/14/2023	On Time
DON Robotics Transition Support	\$16,685,000	\$16,685,000	\$1,000,000	\$9,450,000	\$5,000,300	\$2,514,000	\$6,718,700	\$2,486,300	8/14/2025	On Time
DON Telemetry 1	\$30,857,400	\$50,685,200	\$1,032,000	\$49,869,000	\$19,057,000	\$5,905,000	\$36,717,000	\$13,152,000	8/14/2025	On Time
DON Telemetry 1-5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON Telemetry 2	\$27,297,900	\$32,428,200	\$4,340,000	\$23,340,000	\$15,365,000	\$6,988,000	\$15,207,000	\$8,377,000	8/14/2025	On Time
DON Telemetry 3	\$4,886,500	\$11,360,000	\$2,483,000	\$7,944,500	\$4,670,500	\$1,278,000	\$4,552,000	\$3,392,500	8/14/2025	On Time
DON Telemetry 4	\$41,300,600	\$44,672,900	\$6,491,000	\$26,286,000	\$13,517,600	\$7,537,000	\$20,861,400	\$5,980,600	8/14/2025	On Time
DON Telemetry 5	\$1,284,700	\$12,036,700	\$0	\$12,037,000	\$8,487,000	\$5,000	\$3,555,000	\$8,482,000	3/14/2020	On Time
DON TRR 1	\$126,800,000	\$126,800,000	\$13,450,400	\$24,784,900	\$15,090,500	\$2,173,000	\$10,097,000	\$12,917,500	8/14/2025	On Time
DON TRR 2	\$5,300,000	\$52,210,000	\$2,114,400	\$5,475,200	\$4,264,200	\$335,000	\$1,546,000	\$3,929,200	8/14/2025	On Time
DON TRR 3	\$25,468,500	\$25,468,500	\$100,000	\$4,067,000	\$283,000	\$55,000	\$607,000	\$228,000	8/14/2025	On Time
DON TT&C SatOps	\$982,100	\$982,100	\$180,600	\$584,800	\$321,700	\$80,000	\$320,900	\$241,700	8/14/2025	On Time
DON UAS 1	\$6,400,800	\$6,400,800	\$3,413,200	\$5,934,000	\$5,530,000	\$344,000	\$344,000	\$5,186,000	8/14/2025	On Time
DON UAS 1-4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON UAS 2	\$33,319,000	\$33,319,000	\$2,382,500	\$7,616,200	\$6,541,800	\$307,000	\$307,000	\$6,234,800	9/14/2022	On Time
DON UAS 3	\$31,402,400	\$31,402,400	\$1,841,800	\$2,421,400	\$7,953,000	\$0	\$22,000	\$7,953,000	8/14/2025	On Time
DON UAS 4	\$33,388,900	\$33,388,900	\$1,801,000	\$7,592,300	\$8,177,300	\$443,000	\$518,000	\$7,734,300	10/14/2021	On Time
DON UAS 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
DON UAS Transition Support	\$16,685,000	\$16,690,000	\$2,419,500	\$5,259,300	\$1,498,300	\$1,048,000	\$2,576,000	\$450,300	8/14/2025	On Time
DON UAS-Video 5	\$94,200,000	\$108,580,000	\$2,100,000	\$15,700,000	\$18,249,800	\$7,098,000	\$10,898,000	\$11,151,800	8/14/2025	On Time

## Department of Defense

Department of the Navy (DON) cont.

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
DON Video 1	\$1,543,000	\$1,543,000	\$0	\$1,438,400	\$638,400	\$0	\$905,000	\$638,400	3/14/2020	On Time
DON Video Scout Afloat		\$58,100,000	\$6,700,000	\$13,420,000	\$10,029,100	\$2,323,000	\$2,795,000	\$7,706,100	8/14/2025	On Time
DON Video Transition Support	\$16,685,000	\$0	\$0	\$2,292,000	\$276,900	\$144,000	\$1,242,000	\$132,900		N/A
FQM-151A	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
L-3VNTXL-1A	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Sequestration	\$0	\$0	(\$2,514,200)	(\$6,265,900)	\$0	\$0	\$0	\$0		N/A
	\$1,396,961,000	\$1,637,932,400	\$176,487,200	\$716,079,900	\$383,552,200	\$132,355,000	\$464,882,400	\$251,197,200		

### STATUS OF SPECTRUM TRANSITION

System Use	Estimated Completion of Transition Timeline (Month/Year)	Status	Comments
Video Operations	01/2016	Completed	
Unmanned Aerial Systems Operations	01/2019	Delayed	Delay in transition plan impeded ability to vacate
Tactical Radio Relay Operations	01/2020	On Time	
Air Combat Training Operations	04/2020	On Time	
Missile Operations	01/2019	Completed	
Satellite Operations	01/2016	Completed	
Telemetry Operations	10/2023	On Time	
Robotics Operations	01/2019	Completed	
Other Operations	04/2022	On Time	

## Department of Defense

### Defense Spectrum Office (DSO)

#### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
DISA-1: 1755-1780 MHz Band Portal (Early Entry Portal)	\$20,700,000	\$20,700,000	\$2,085,000	\$22,347,000	\$2,085,000	\$1,914,300	\$21,288,600	\$170,700	7/29/2022	On Time
DISA-2: 1755-1780 MHz Band Portal (FSMS Portal)	\$22,900,000	\$22,900,000	\$0	\$2,244,000	\$0	\$0	\$1,165,800	\$0	7/29/2022	On Time
DISA-3: 1780-1850 MHz Band Compression and Optimization Tool	\$26,700,000	\$26,700,000	\$1,660,000	\$5,696,000	\$1,660,000	\$872,200	\$4,434,000	\$787,800	7/29/2025	On Time
DISA-4: 2025-2110 MHz Band Spectrum Management System	\$42,800,000	\$42,800,000	\$3,185,000	\$10,906,000	\$3,185,000	\$1,512,000	\$5,643,100	\$1,673,000	7/29/2025	On Time
DISA-5: 1755-1780 MHz Band Spectrum Sharing Test & Demonstration (SST&D) Program	\$105,900,000	\$105,900,000	\$21,600,000	\$84,650,800	\$22,317,500	\$17,421,900	\$88,375,600	\$4,895,600	1/29/2021	On Time
DISA-6/DISA-7: DoD Spectrum Relocation Management Team (DSRMT)/Pre-auction studies	\$28,000,000	\$28,000,000	\$2,470,000	\$11,149,000	\$2,256,100	\$1,244,700	\$6,407,700	\$1,011,400	7/29/2025	On Time
Sequestration		\$0	(\$215,800)	(\$1,139,500)	\$0	\$0	\$0	\$0		N/A
	\$247,000,000	\$247,000,000	\$30,784,200	\$135,853,300	\$31,503,600	\$22,965,100	\$127,314,800	\$8,538,500		

## Department of Energy (DOE)

### Bonneville Power Administration (BPA)

#### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
13A	\$2,400,000	\$2,400,000	\$0	\$2,400,000	\$2,088,600	\$790,000	\$1,101,400	\$1,298,600	9/29/2020	On Time
3A	\$100,000	\$100,000	\$0	\$100,000	\$100,000	\$0	\$0	\$100,000	9/29/2020	On Time
3D	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		Complete
3K	\$2,400,000	\$2,400,000	\$0	\$2,400,000	\$1,451,300	\$0	\$948,700	\$1,451,300	9/29/2020	On Time
4K-1	\$100,000	\$100,000	\$0	\$100,000	\$82,700	\$0	\$17,300	\$82,700	9/29/2020	On Time
4K-2	\$100,000	\$100,000	\$0	\$100,000	\$60,900	\$0	\$39,100	\$60,900	9/29/2020	On Time
Headquarters Overhead	\$1,600,000	\$1,600,000	\$0	\$1,600,000	\$835,500	\$62,000	\$826,500	\$773,500	9/29/2020	On Time
T	\$100,000	\$100,000	\$0	\$100,000	\$100,000	\$0	\$0	\$100,000	9/29/2020	On Time
	\$6,800,000	\$6,800,000	\$0	\$6,800,000	\$4,719,000	\$852,000	\$2,933,000	\$3,867,000		

## Department of Homeland Security (DHS)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
Brownsville Station	\$5,410,000	\$5,410,000	\$0	\$5,410,000	\$4,146,100	\$137,300	\$1,401,200	\$4,008,800	3/24/2021	On Time
CBP Microwave	\$4,269,000	\$4,269,000	\$0	\$4,269,000	\$4,251,200	\$1,695,300	\$1,713,100	\$2,555,900	3/24/2021	On Time
HQ Project Management	\$26,275,000	\$26,275,000	\$0	\$25,417,000	\$6,824,700	\$2,319,900	\$20,912,200	\$4,504,800	7/24/2021	On Time
Video 1	\$266,243,000	\$266,243,000	\$0	\$266,243,000	\$252,223,400	\$12,069,200	\$26,088,800	\$240,154,200	7/24/2020	On Time
Video 2	\$178,152,000	\$178,152,000	\$0	\$178,152,000	\$170,563,400	\$5,520,000	\$13,108,600	\$165,043,400	7/24/2020	On Time
Video 3	\$3,576,000	\$3,576,000	\$0	\$3,576,000	\$2,988,200	\$596,600	\$1,184,400	\$2,391,600	3/24/2020	On Time
Video 4 OIG	\$6,220,000	\$6,220,000	\$0	\$6,220,000	\$5,585,900	\$453,900	\$1,088,000	\$5,132,000	3/24/2020	On Time
	\$490,145,000	\$490,145,000	\$0	\$489,287,000	\$446,582,900	\$22,792,200	\$65,496,300	\$423,790,700		

## Department of Justice (DOJ)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
Baltimore1	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Baltimore2	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Birmingham	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Buffalo	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Dallas	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Detroit	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
DOJ HQ		\$0	\$0	\$0	\$4,831,400	\$948,300	\$3,126,500	\$3,883,100		N/A
DOJ R&D		\$0	\$0	\$0	\$25,217,700	\$7,256,300	\$26,583,100	\$17,961,400		N/A
Houston	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Jacksonville	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Knoxville	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Miami	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Minneapolis	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Mobile	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
New Orleans	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Oklahoma City1	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Oklahoma City2	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Operational1	\$3,960,000	\$3,960,000	\$0	\$3,960,000	\$0	\$0	\$3,113,000	\$0	2/25/2018	Complete
Operational2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Operational3	\$8,086,000	\$8,086,000	\$0	\$8,086,000	\$6,792,600	\$3,174,100	\$4,467,500	\$3,618,500	9/25/2020	On Time
Operational4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Operational5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Operational6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Operational7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Phoenix	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Portland1	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Portland2	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
San Diego	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
Surveillance1	\$570,897,000	\$570,897,000	\$0	\$570,897,000	\$400,367,800	\$76,326,100	\$215,112,600	\$324,041,700	8/25/2023	On Time
Surveillance2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Surveillance3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Surveillance4	\$232,337,000	\$232,337,000	\$0	\$232,337,000	\$182,218,800	\$2,345,200	\$10,747,700	\$179,873,600	9/22/2023	On Time
Surveillance5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		N/A
Surveillance6	\$286,050,000	\$286,050,000	\$0	\$286,050,000	\$204,682,000	\$20,690,800	\$95,514,200	\$183,991,200	8/25/2023	On Time
Surveillance7		\$0	\$0	\$0	\$15,913,700	\$2,105,300	\$15,487,300	\$13,808,400		N/A
Washington DC	\$150,000	\$150,000	\$0	\$150,000	\$118,500	\$0	\$31,500	\$118,500	9/25/2020	On Time
	\$1,104,330,000	\$1,104,330,000	\$0	\$1,104,330,000	\$842,394,000	\$112,846,100	\$374,781,900	\$729,547,900		

## Department of the Treasury

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	Beginning Balance	SRF Transfers This Reporting Year	Total SRF Transfers	Inter-system Adjustments	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
CI Techops	\$7,561,000	\$7,561,000	\$5,533,300	\$0	\$7,561,000	\$0	\$5,533,300	\$738,600	\$2,766,200	\$4,794,700	7/29/2020	On Time
TIGTA Techops	\$241,000	\$241,000	\$137,700	\$0	\$240,000	\$0	\$137,700	\$7,300	\$109,500	\$130,400	7/29/2020	On Time
	\$7,802,000	\$7,802,000	\$5,671,000	\$0	\$7,801,000	\$0.00	\$5,671,000	\$745,900	\$2,875,700	\$4,925,100		

## National Aeronautics and Space Administration

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	SRF Transfers This Reporting Year	Total SRF Transfers	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
HQ Alternate Band Engineering Studies	\$547,000	\$547,000	\$0	\$547,000	\$0	\$0	\$547,000	\$0	8/30/2015	Complete
LaRC Research Aircraft	\$990,000	\$990,000	\$0	\$990,000	\$22,000	\$22,000	\$990,000	\$0	9/30/2019	Complete
	\$1,537,000	\$1,537,000	\$0	\$1,537,000	\$22,000	\$22,000	\$1,537,000	\$0		

## Department of the Interior (DOI)

### National Park Service (NPS)

#### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	Beginning Balance	SRF Transfers This Reporting Year	Total SRF Transfers	Inter-system Adjustments	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
USPP/NPS	\$8,946,000	\$8,946,000	\$984,600	\$0	\$8,946,000	\$0	\$984,600	\$0	\$7,961,400	\$984,600	9/23/2020	On Time
	\$8,946,000	\$8,946,000	\$984,600	\$0	\$8,946,000	\$0.00	\$984,600	\$0	\$7,961,400	\$984,600		

### United States Geological Survey (USGS)

#### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	Beginning Balance	SRF Transfers This Reporting Year	Total SRF Transfers	Inter - system Adjustments	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
EHZ SEIS	\$28,668,000	\$28,668,000	\$24,058,600	\$0	\$28,668,000	\$0	\$24,058,600	\$1,732,000	\$6,341,400	\$22,326,600	9/23/2022	On Time
USGS Spectrum Relocation Program Office	\$7,012,000	\$7,012,000	\$5,783,500	\$0	\$7,012,000	\$0	\$5,783,500	\$195,000	\$1,423,500	\$5,588,500	9/23/2021	On Time
	\$35,680,000	\$35,680,000	\$29,842,100	\$0	\$35,680,000	\$0.00	\$29,842,100	\$1,927,000	\$7,764,900	\$27,915,100		

## United States Agency for International Development (USAID)

### STATUS OF SPECTRUM RELOCATION FUNDS

System/Program Name	Original Estimated Transition Costs	Adjusted Estimated Transition Costs	Beginning Balance	SRF Transfers This Reporting Year	Total SRF Transfers	Inter-system Adjustments	Adjusted System Total	Cost Incurred this Reporting Year (Outlays)	Cumulative Outlays	SRF Balance	System Spending Closeout Date	Spending Status
WESTX-1860	\$150,000	\$150,000	\$45,900	\$0	\$150,000	\$0	\$45,900	\$0	\$104,100	\$45,900	12/29/2019	On Time
	\$150,000	\$150,000	\$45,900	\$0	\$150,000	\$0.00	\$45,900	\$0	\$104,100	\$45,900		