July 10, 2023

FILED VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Subject: SES Americom, Inc. Phase II Certification of Accelerated Relocation; GN Docket Nos. 18-122 and 23-97

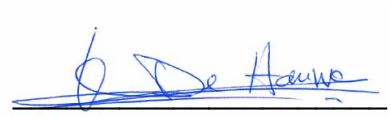
Dear Ms. Dortch,

Pursuant to Section 27.1412(g) of the Commission's rules,[1] the *C-band R&O*,[2] and the Wireless Telecommunications Bureau's Phase II Certification Procedures Public Notice,[3] SES Americom, Inc. ("SES") hereby certifies that it has completed all necessary actions to satisfy the Phase II Accelerated Relocation Deadline.[4] The attached Certification of Accelerated Relocation ("Certification") provides a detailed description of the clearing activities SES completed to satisfy the Phase II deadline in accordance with SES's Transition Plan, as amended.

By the signature of the authorized SES Officer below, SES attests to the truthfulness of the information contained in this letter and the attached Certification, and confirms that this Certification is submitted in good faith.

Please contact the undersigned with any questions regarding this Certification.

Yours Sincerely,



Christophe De Hauwer
Chief Development Officer
SES Americom, Inc.

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[1] 47 C.F.R. § 27.1412(g).

[2] *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343, 2457 at ¶ 298 (2020) ("*C-Band R&O*").

[3] *Wireless Telecommunications Bureau Announces Procedures for Filing of C-band Phase II Certifications of Accelerated Relocation and Implementation of the Commission's Incremental Reduction Plan for Phase II Accelerated Relocation Payments*, Public Notice, GN Docket Nos. 18-122 & 23-97, DA 23-408 (rel. May 15, 2023).

[4] 47 C.F.R. § 27.1412(b)(2).

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SES AMERICOM, INC. PHASE II CERTIFICATION OF ACCELERATED RELOCATION

As of July 10, 2023, SES has:

- Repacked all of its C-band downlink services in the contiguous United States ("CONUS") into the upper 200 MHz of the C-band (4000-4200 MHz)[1] and relocated all associated Incumbent Earth Stations[2] throughout CONUS into the upper 200 MHz of the C-band;

- Provided passband filters to block signals from the 3700-4000 MHz band to all associated Incumbent Earth Stations in CONUS;[3]

- Made all necessary equipment changes to associated Incumbent Earth Stations in CONUS to allow the operators of such Incumbent Earth Stations to receive substantially the same service during and after the transition as they were able to receive before the transition; and

- Completed all transition activities described in its updated Transition Plan.[4]

Accordingly, SES certifies it has completed all actions necessary to satisfy the Phase II Accelerated Relocation Deadline.[5] Consistent with the Commission's Phase II Certification Procedures Public Notice,[6] below is a detailed description of the services that were transitioned above 4000 MHz on SES's satellites and the actions taken to transition associated Incumbent Earth Stations receiving at least one service from an SES satellite.

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[1] A certain number of services, most notably from SES's international satellite fleet, will continue to be downlinked into CONUS below 4000 MHz at the Hawley, PA ("Hawley"), or Brewster, WA ("Brewster") teleports in accordance with the Commission's rules and the *C-Band R&O*. *See* 47 C.F.R. § 25.203(n); *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343, ¶¶ 379-81 (2020) ("*C-Band R&O*").

[2] An Incumbent Earth Station is defined as "an earth station that is entitled to interference protection pursuant to § 25.138(c)" of the Commission's rules. 47 C.F.R. § 27.1411(b)(3).

[3] SES shipped and installed passband filters on every feed identified in Appendix C (attached hereto) with the exception of Incumbent Earth Station operators who opted to purchase their own equipment, self-install, or presented special circumstances.

[4] Letter from Brian Weimer, Counsel, SES Americom, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 18-122 & 20-173, Attachment (filed July 10, 2023) ("Transition Plan").

[5] 47 C.F.R. § 27.1412(b)(2); *C-Band R&O* ¶ 171.

[6] *Wireless Telecommunications Bureau Announces Procedures for Filing of C-band Phase II Certifications of Accelerated Relocation and Implementation of the Commission's Incremental Reduction Plan for Phase II Accelerated Relocation Payments*, Public Notice, GN Docket Nos. 18-122 & 23-97, DA 23-408 (rel. May 15, 2023) ("Phase II Certification Procedures Public Notice").

1. ***The operations that were repacked to satisfy the Phase II deadline.***

SES developed an efficient transition process for all affected services to minimize as much as possible the impact to SES customers and their affiliated earth stations. Under its Transition Plan, SES repacked all of its C-band downlink services in CONUS into the upper 200 MHz of the C-band.[7] This includes services on domestic satellites (SES-1, SES-2, SES-3, SES-11, SES-15,[8] AMC-11, AMC-3) and services on international satellites (SES-4, SES-6, SES-14, NSS-9, NSS-10). A full list of the specific services that SES transitioned, including the pre- and post-transition frequencies and dates of completion, is provided in Appendix B[9] to this Certification.

2. ***The number of new satellites, if any, that the eligible space station operator launched, including the dates of launch, reaching final orbit, and start of operations.***

To meet the Phase II Accelerated Relocation Deadline, SES needed to launch five of the six satellites that SES procured under its Transition Plan. Specifically, SES launched SES-22 to 135° W.L. on June 29, 2022. SES-22 reached final orbit on August 1, 2022 and started operations on August 2, 2022. While SES-22 was originally designated a spare satellite in the SES Transition Plan, SES needed to launch SES-22 because of manufacturing and launch delays that made SES-18 and SES-19 unavailable for launch in 2022. Absent the launch of SES-22, SES would not have met its transition milestone of three new satellites operational in space by the end of 2022, and SES's timely completion of Phase II would have been jeopardized.

SES launched SES-20 and SES-21 on October 4, 2022. SES-21 reached final orbit at 131° W.L. on November 28, 2022 and began service on December 1, 2022. SES-20 arrived at 103° W.L. on December 16, 2022 where it operates as an in-orbit spare. As described in the Transition Plan, the in-orbit spare (SES-20) will not be actively broadcasting while it is co-located with an operational satellite at 103° W.L. SES-20 will only begin broadcasting in the

[7] Certain services, most notably from SES's international satellite fleet, will continue to be downlinked into CONUS below 4000 MHz at the Hawley or Brewster teleports in accordance with the Commission's rules and the *C-Band R&O*. *See* 47 C.F.R. § 25.203(n); *C-Band R&O* at ¶¶ 379-81.

[8] SES offers service through its SES Space & Defense (FKA SES Government Solutions) subsidiary to Raytheon Technologies, which operates an FAA / WAAS system on SES-15 at the SES South Mountain TT&C/Gateway location in Somis, CA. The service includes reception of the lower TT&C frequency which required a transition from C-band to Ka-band to allow for continued satellite tracking post-transition through the addition of a Ka-band sidecar antenna and feed assembly on the WAAS antenna at the Somis, CA location.

[9] To be clear, this Certification includes two appendices: Appendix B and Appendix C. These appendices are substantively identical to the Appendix B and Appendix C in SES's Transition Plan. SES has kept the name of these appendices the same for its Transition Plan and the instant Certification for purposes of clarity. SES's Transition Plan also includes Appendix A, which lists the SES satellites that carried services impacted by the transition. Appendix A, however, is not included in the instant filing.

event one of the C-band satellites in the center of the arc experiences a service outage that impacts a customer who has purchased full-service protection.[10]

SES launched SES-18 and SES-19 on March 17, 2023. SES 18 reached final orbit at 103° W.L. on June 8, 2023 and began service on June 14, 2023. SES-19 reached final orbit at 135° W.L. on May 19, 2023 where it operates as a non-active spare satellite.[11]

3. *A description of how services were migrated to the upper portion of the band, including the pre- and post-transition frequencies that each customer occupied and now occupies.*

Appendix B to this Certification provides (1) a detailed list of all services that were migrated; (2) the pre- and post-migration satellites, transponder, and frequencies for each service; (3) the start and end dates of the transition period for each service; and (4) whether migrating the service required a technology upgrade. Since the services shown in Appendix B are for actual SES customers, each service is identified by a "Service ID" to protect the confidentiality of SES's customers. In summary, SES migrated the affected services using one of the following approaches:

a) The services were moved to a different frequency on the same satellite and/or moved to a different satellite. These transitions are indicated by an "N" (None) in the Technology Upgrade / Type field in Appendix B;

b) The service downlinks and their associated uplinks were moved from an existing location to the SES Hawley TT&C/Gateway location. These transitions fall within one of the two categories described below and are indicated by a "G" (Gateway) in the Technology Upgrade / Type field in Appendix B. Customer service monitoring and interference geolocation services associated with these services were also established at the related TT&C/Gateway location as described in the Transition Plan.[12]

   (i) For platform services using signals below 4000 MHz on SES's international satellites that could not be transitioned above 4000 MHz due to the lack of available capacity on those international satellites, SES relocated the platform to the Hawley location. The services will continue to be downlinked below 4000 MHz at Hawley according to the *C-band R&O*.[13]

   (ii) In some cases, it was not possible to move services uplinked outside of the United States (e.g., services for international video feeds, data, etc.) and received at earth stations within CONUS above 4000 MHz due to limited capacity available on the

[10] Transition Plan at 7.

[11] As stated in SES's Transition Plan, SES is in discussions with the Relocation Payment Clearinghouse as to the proper disposition of SES-19 and SES-23. *See* Transition Plan at 10.

[12] Transition Plan at 18.

[13] *C-band R&O* at n.826 ("[The Commission] expect[s] that all incumbent space station operators will have the opportunity to co-locate their TT&C and international gateways at [consolidated TT&C/Gateway sites].").

associated satellites and the extensive costs and logistics to retune associated non-CONUS earth stations. These services are now downlinked at the Hawley TT&C/Gateway location and terrestrially redistributed to the CONUS-based earth stations.

c) The services were moved to a higher frequency on a different satellite and compressed into fewer transponders. These transitions are indicated by "C/M" (Compression & Modulation) in the Technology Upgrade / Type field in Appendix B and further explained in Section 4 below.

To maintain continuous service and quality while the service was migrated from one frequency to another, SES provided customers with a period of dual illumination during which customers commenced the new service in phases before giving up access to the prior service. These dual-illumination periods allowed SES (or the Incumbent Earth Station operator) to retune to the new frequency and/or repoint to the new satellite carrying the service after the transition.

TT&C operations previously conducted in the lower 200 MHz of C-band spectrum have either been transitioned above 4000 MHz on the satellites or the ground stations receiving the signals in the lower portion of the band have been transitioned to the Brewster or Hawley TT&C/Gateway locations.

4. ***Any necessary technology upgrades or other solutions, such as video compression or modulation, that the eligible space station operator implemented, described on a per antenna and/or feed basis, as appropriate.***

SES has completed all technology upgrades necessary for its transition. The technology upgrades SES implemented are described in the Technology Upgrade / Type field in Appendix B to this Certification.[14] Specifically, SES determined that one customer originally receiving services from 11 transponders on one SES satellite required compression/modulation technology upgrades for the service to continue to be provided at the same quality after the relocation.[15] These transitions are indicated by a "C/M" (Compression & Modulation) in the Technology Upgrade / Type field in Appendix B. Specifically, the pre-transition services encoded using MPEG-2 were upgraded to MPEG-4, which support substantially the same or better service using much less bandwidth. With technology upgrades, the customer's post-transition needs were reduced to only 6 transponders in Phase I and to 4 ½ transponders in Phase II,[16] which allowed those services to continue to be

[14] *See also* Transition Plan at 12-14.

[15] Transition Plan at 12-13; 47 C.F.R. § 27.1411(b)(4) ("Earth station migration includes . . . technology upgrades necessary to facilitate the repack, such as compression technology or modulation.").

[16] All of the pre-transition SES C-band satellites were designed to provide broadcast services over the United States using 24 transponders that cover 500 MHz of downlink C-band spectrum. After the transition, only 9 ½ transponders will be available on each of these satellites for CONUS services. The customer's business model required that all of its services be distributed from one satellite, so it was not possible to distribute the original 11 transponders of service to multiple SES satellites, necessitating compression. Furthermore, to

downlinked on a single satellite as required for this particular service. SES installed encoding, statistical multiplexing, modulator, and other supporting equipment at the customer's uplink locations. SES also installed integrated satellite receiver/decoders ("IRDs"), multiplexing, and other supporting equipment at the associated Incumbent Earth Station downlink locations and at four designated test and monitoring locations.

SES was responsible for the procurement, shipping and installation of the compression equipment and other associated equipment at the uplink location, as well as the associated equipment at the Incumbent Earth Station locations requiring compression technology. SES's contractors configured and tested all of the equipment and brought all uplink services into service following the dual illumination period. For Incumbent Earth Station locations subject to lump sum election, the aforementioned tasks were completed with the exception of installation.[17] All Incumbent Earth Stations subject to compression were transitioned by October 31, 2021.

5. ***The number and location of antennas and feeds that were transitioned to satisfy the Phase II deadline, including the actions taken (e.g., retuning and repointing, and self-installations by the Incumbent Earth Station operator) for each.***

Appendix C to this Certification identifies all associated Incumbent Earth Station antennas and feeds that SES transitioned to satisfy the Phase II Accelerated Relocation Deadline. This information is presented in the format adopted by the Wireless Telecommunications Bureau in its Phase II Certification Procedures Public Notice and corresponds with the Relocation Coordinator's final list of Incumbent Earth Station claims and assignments, submitted to the FCC on May 24, 2023.[18]

SES shipped and installed passband filters on every feed identified in Appendix C with the exception of Incumbent Earth Station operators who opted to purchase their own equipment, self-install,[19] or presented special circumstances (as noted in Appendix C). Where necessary for the transition, SES repointed Incumbent Earth Station operators' existing antenna(s) or installed a new antenna. SES's installers also conducted any additional work that was required to ensure the Incumbent Earth Station was receiving substantially the same service after the service was transitioned. This additional work included optimization of antenna systems by "peaking and poling" the antenna—i.e., making slight adjustments to the antenna pointing and rotation of the feed to optimize polarization coherency with the polarized satellite signal—installing additional waveguide, retrofitting feed assembly weather covers

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accommodate all of the SES services pre-transition, compression of some services would be required. For both of these reasons, the 11 transponders mentioned were considered ideal candidates for compression technology.

[17] *See C-band R&O* ¶¶ 202, 292.

[18] Phase II Certification Procedures Public Notice at 6; Letter from Sanga Chandel, RSM US LLP, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 18-122 & 23-97, Attachment (filed May 24, 2023).

[19] By electing to self-install, each operator agreed to install the passband filters within the installation windows defined by SES and according to industry best practices. SES informed such operators when dual illumination would occur and provided operators with remote assistance via SES's help desk. SES confirms it provided all necessary equipment and information to the Incumbent Earth Station operators who elected to self-install filters.

due to fit issues with filter lengths, pointing antennas not pointed at any satellite upon request of the earth station operator, installing new feed assemblies, including multi-feed assemblies, retrofitting antenna elements, installing spare antennas to support dual illumination, reinstalling reflector weather cover systems, replacing LNBs, general system troubleshooting activities, and others.

The "Notes" field in Appendix C identifies the associated antennas and feeds where the Incumbent Earth Station operator chose to install equipment needed for the transition on its own (i.e., a "Self Install"). This field also indicates whether the antenna or feed was retuned and/or repointed, and provides other information pertinent to the claim or assignment.

6. *The date of completion of the above items (with the exception of self-installations by Incumbent Earth Station operators).*

The completion dates for the above items are provided in Appendices B and C, respectively.

7. *A description of the steps that the eligible space station operator has taken to identify all associated earth stations, antennas, and feeds, and to ensure that they are all transitioned as of the date of Certification, including where the Incumbent Earth Station Operator has elected to perform a self-installation.*

Over the course of the C-band transition, SES made substantial contributions to the Relocation Coordinator's final list of Incumbent Earth Station claims and assignments, which is now frozen pursuant to the Phase II Certification Procedures Public Notice.[20] Given the incredible amount of work performed by SES, the Relocation Coordinator, the FCC, and the other satellite operators to identify all Incumbent Earth Stations and associate their antennas and feeds with the satellite operator responsible for completing its transition, SES has good grounds to believe that the Relocation Coordinator's final list of Incumbent Earth Station claims and assignments is accurate, and that no Incumbent Earth Station has been left behind.

Specifically, at the beginning of the C-band transition, SES threw a wide net to capture Incumbent Earth Stations that may be associated with SES's C-band services. SES started with this over-inclusive approach based on the assumption that it would identify Incumbent Earth Stations that were not in fact receiving SES services as SES's transition activities progressed. SES developed its initial list of Incumbent Earth Station sites from customers' affiliate lists, research, and from the FCC's IBFS database.

As the transition progressed, SES refined this list through targeted outreach to Incumbent Earth Station operators and information sharing among the other satellite operators and the Relocation Coordinator. In particular, SES used an outreach vendor to contact each Incumbent Earth Station operator included on its initial list of potential associated Incumbent Earth Stations. This vendor would confirm general information about the earth station, such as contact details, site location information, and number of antennas accessing SES satellites at the site (if any). If SES believed the Incumbent Earth Station was receiving SES C-band services, an installation vendor would then coordinate with the Incumbent Earth Station operator to determine the equipment required for the transition (antenna equipment, filters, etc.). Upon visiting the Incumbent Earth Station site, the installation vendor would confirm the number of antennas and feeds accessing SES satellites, and the quantity and type of

[20] Phase II Certification Procedures Public Notice at 5.

equipment that needed to be installed. The installation vendor also determined if additional or replacement antennas were needed for the Incumbent Earth Station to continue accessing SES's services. This information was shared with SES and subsequently provided to the Relocation Coordinator.

In cases where SES encountered Incumbent Earth Stations that were non-responsive to SES's outreach, SES or its designated third parties made numerous attempts via telephone and email to reach the non-responsive Incumbent Earth Station operator. If those attempts failed, SES also reached out to various industry stakeholders (e.g., ACA Connects in the case of a non-responsive MVPD operator) for assistance as well as the regulatory point-of-contact for the non-responsive Incumbent Earth Station operator set forth in the IBFS filing application for the Incumbent Earth Station Operator. If these outreach efforts failed, SES would then refer the non-responsive Incumbent Earth Station to the Relocation Coordinator for further action.

SES also worked with numerous radio, cable, and broadcasting associations to communicate the status of its C-band transition. Specifically, NCTC, ACA Connects, NAB, and National Religious Broadcasters agreed to post information on their websites and newsletters on SES's transition activities. Additionally, ACA Connects conducted monthly webinars at which SES representatives presented status and upcoming activities to ACA Connects members and addressed any questions and concerns they may have. SES and ACA Connects also had an ongoing dialog to address specific member questions and concerns related to SES's C-band transition outside of the regularly scheduled webinars. In all cases where SES presented material to groups of stakeholders, Incumbent Earth Station operators that elected to accept the lump sum relocation payment were invited and received all of the same information about SES's transition process and timing as all other SES-associated Incumbent Earth Station operators.

SES representatives also participated in industry meetings over the course of the transition, both virtually during the COVID-19 pandemic, and in person after restrictions were lifted. SES also participated in the Technical Working Group #2 monthly meetings, where SES provided updates on its transition activities. SES has maintained a helpdesk and email address to answer questions and concerns throughout the transition.

SES provided the Relocation Coordinator with the results of its outreach to Incumbent Earth Stations throughout the transition. SES and Intelsat (and eventually, all other electing eligible space station operators) also engaged with the Relocation Coordinator on a weekly basis to ensure that all Incumbent Earth Stations were either associated with a satellite operator's transition plan or referred to the FCC for further action. This close coordination between the Relocation Coordinator and the satellite operators throughout the transition facilitated information sharing among the parties, which provided an additional check on the number and location of Incumbent Earth Stations, antennas, and feeds.

Self-Installations

Appendix C identifies each SES-associated Incumbent Earth Station that chose to self-install its equipment. In each case, SES requested the Incumbent Earth Station operator confirm its self-install status to SES by sending notice to SES at Cbandhelp@ses.com. After shipping the approved equipment to the Incumbent Earth Station operator, SES provided the Incumbent Earth Station operator with support throughout the installation process via SES's virtual help desk.

8. ***Any variances from the eligible space station operator's Transition Plan, such as antennas and feeds involving circumstances beyond the control of the eligible space station operator and therefore subject to a transition delay notice, and antennas and feeds that are otherwise pending removal from the March 2023 Incumbent Earth Station List Public Notice list which must be identified as provisional claims, or antennas and feeds subject to a written agreement regarding the transition between the eligible space station operator and the incumbent earth station operator, other than self-installations by incumbent earth station operators.***

SES has identified no variances between its July 2023 Transition Plan and its completed transition activities. SES is providing the below explanations, however, for purposes of clarity and to aid the FCC's review of this Certification.

Antennas and Feeds that are Otherwise Pending Removal from the March 2023 Incumbent Earth Station List Public Notice

Appendix C to this Transition Plan identifies the associated Incumbent Earth Stations that SES has provisionally claimed pending removal from the March 2023 Incumbent Earth Station List Public Notice.[21] SES also acknowledges that it remains responsible for any remedial transition work and will take commercially reasonable efforts to promptly complete the work necessary to resolve any issues.

Other Special Circumstances

SES entered into formal transition agreements with two Incumbent Earth Station operators: Denali 20020, LLC ("Denali"), and PSSI Global Services, LLC ("PSSI").

SES entered into a binding agreement with Denali whereby Denali undertook the responsibilities to transition the seven earth station antennas associated with SES satellites at the Denali Brewster, WA location. These earth station antennas are identified in Appendix C.

As previously addressed in SES's Phase I Certification, SES and PSSI filed a joint letter with the FCC confirming they had executed a binding agreement whereby PSSI undertook all duties and responsibilities to timely transition the six PSSI earth station antennas that the Relocation Coordinator assigned to SES on May 6, 2021.[22] The six PSSI earth station antennas are identified in Appendix C.

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[21] *International Bureau Releases Updated List of Incumbent Earth Stations in the 3.7-4.2 GHz Band in the Contiguous United States*, Public Notice, IB Docket No. 20-205; GN Docket No. 20-305, DA 23-176, Attachment (rel. Mar. 3, 2023) ("March 2023 Incumbent Earth Station List Public Notice"); *International Bureau Identifies Earth Station Antennas on C-band Incumbent List that may be Inactive or Otherwise not Operational on the 3.7 GHz Band*, Public Notice, IB Docket No. 20-205, DA 23-237, Attachment (rel. Mar. 21, 2023).

[22] *See* Joint Letter from Brian Weimer, counsel to SES Americom, Inc., and Stephen Diaz Gavin, counsel to PSSI Global Services, LLC, filed in GN Docket Nos. 18-122 & 20-173 (filed June 18, 2021).