UNOFFICIAL GUIDE FOR THE UPPER C-BAND TRANSITION PROGRAM

A Practical Guide for Satellite and Earth Station Operators, Airlines and Aircraft Owners Facing Radio Altimeter Retrofits, and Spectrum License Auction Winners

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IMPORTANT DISCLOSURES

- **The rules described in this paper are not yet in effect.** The Federal Communications Commission (the "FCC" or the "Commission") adopted FCC 26-46 (the "Order") on July 22, 2026, released it on July 24, 2026, and published it in the Federal Register on July 31, 2026, at 91 FR 48700. Most rules in the Order take effect on September 29, 2026, but several provisions await approval from the Office of Management and Budget ("OMB") under the Paperwork Reduction Act. Affected licensees may protest the Order's proposed license modifications by August 31, 2026, and petitions for reconsideration or judicial review remain possible. Details described here may change.
- **Key implementation decisions remain open.** The Upper C-band Clearinghouse (the "Clearinghouse") has not been selected. The Upper C-band cost catalog (the "Cost Catalog"), lump sum payment amounts, radio altimeter rebate categories and dollar amounts, and procedures for the Upper C-band auction (the "Auction") will all be set through future public notices. Readers should treat every figure and date in this paper as a general framework for the Upper C-band transition program (the "Upper C-band Transition," the "Transition," the "Transition Program," or the "Program"), not as the Program's final rules and procedures. Each of the Program's rules and procedures will be set, and in some cases changed, by public notices issued after this writing.
- **Summit Ridge participated in this proceeding and provides related services.** Summit Ridge Group, LLC ("Summit Ridge" or "SRG") filed comments and ex parte letters in GN Docket No. 25-59 and provides transition and reimbursement advisory services to parties affected by FCC spectrum programs. Summit Ridge previously served as the Commission-confirmed 3.45 GHz Relocation Payment Clearinghouse, and it may seek to serve as the Clearinghouse or in another administrative role in the Transition Program. Summit Ridge also advises claimants in FCC reimbursement programs. Those two positions do not carry identical interests in every respect, and readers should weigh our perspective accordingly. Where this paper recommends a Clearinghouse practice or a Clearinghouse selection criterion, the recommendation is identified as Summit Ridge's recommendation rather than as a requirement of the Order. The recommendations in this paper are offered to improve program outcomes for all parties, and each is framed as a measurable criterion that readers can test against any candidate or administrator, including Summit Ridge. This paper takes no position on the level of the lump sum amounts, the rebate categories or amounts, or the timing of incentive payments.
- **This paper is not legal, accounting, or investment advice.** Summit Ridge's comments may not apply to all operators or all aircraft fleets. SRG believes the information in this report is accurate, but cannot guarantee the accuracy of any specific data point in this report. Conduct your own diligence and consult with your professional advisors before acting on anything described here.
- **Citations.** Unless otherwise noted, all paragraph citations are to FCC 26-46. Summit Ridge has verified each citation against the released text of the Order. Arithmetic performed by Summit Ridge is labeled as Summit Ridge arithmetic, and observations drawn from SRG's program experience are identified as such. Appendix F lists the primary sources, with links.

1. EXECUTIVE SUMMARY

The FCC considers the Auction to be very important. Chairman Brendan Carr has described the decision to auction 160 MHz in the Upper C-band (the "Spectrum") as "a really good win for the country" that restores America's wireless leadership after years of falling behind other nations. By combining the Spectrum with the existing Lower C-band, the Auction creates a contiguous 440 MHz "Super Band" of prime mid-band spectrum that Carr says will be "the envy of the world." Chairman Carr emphasizes that freeing the Spectrum will drive down prices, raise speeds, enhance competition, and position the United States to lead in next-generation connectivity, while exceeding the congressionally mandated minimum (100 MHz) and delivering the auction on time and on budget.[1]

In the Order, the FCC repurposed 160 megahertz at 3.98–4.14 GHz for terrestrial wireless use, set a 20-megahertz guard band at 4.14–4.16 GHz, and directed incumbent Fixed Satellite Service ("FSS") operations out of 4.0–4.16 GHz, either into the remaining 40 megahertz at 4.16–4.2 GHz or to another band.[2] Due to the aggressive spectrum pipeline in the One Big Beautiful Bill Act (the "OBBB Act"), the Order gives Upper C-band incumbents the shortest decision calendar of any major mid-band spectrum transition. The compliance deadlines are four years out, but nearly every election, price schedule, and eligibility list that determines who pays and what they pay will be set between October 2026 and mid-2027. Under the Order, wireless service may begin on December 31, 2030, in markets covering roughly 70% of the U.S. population, and on July 1, 2031, in the rest of the contiguous United States.[3] Bidding is expected to close by July 2027 under the OBBB Act.[4] In the end, the C-band band plan in the U.S. will change as shown in Figure 1-1 below.

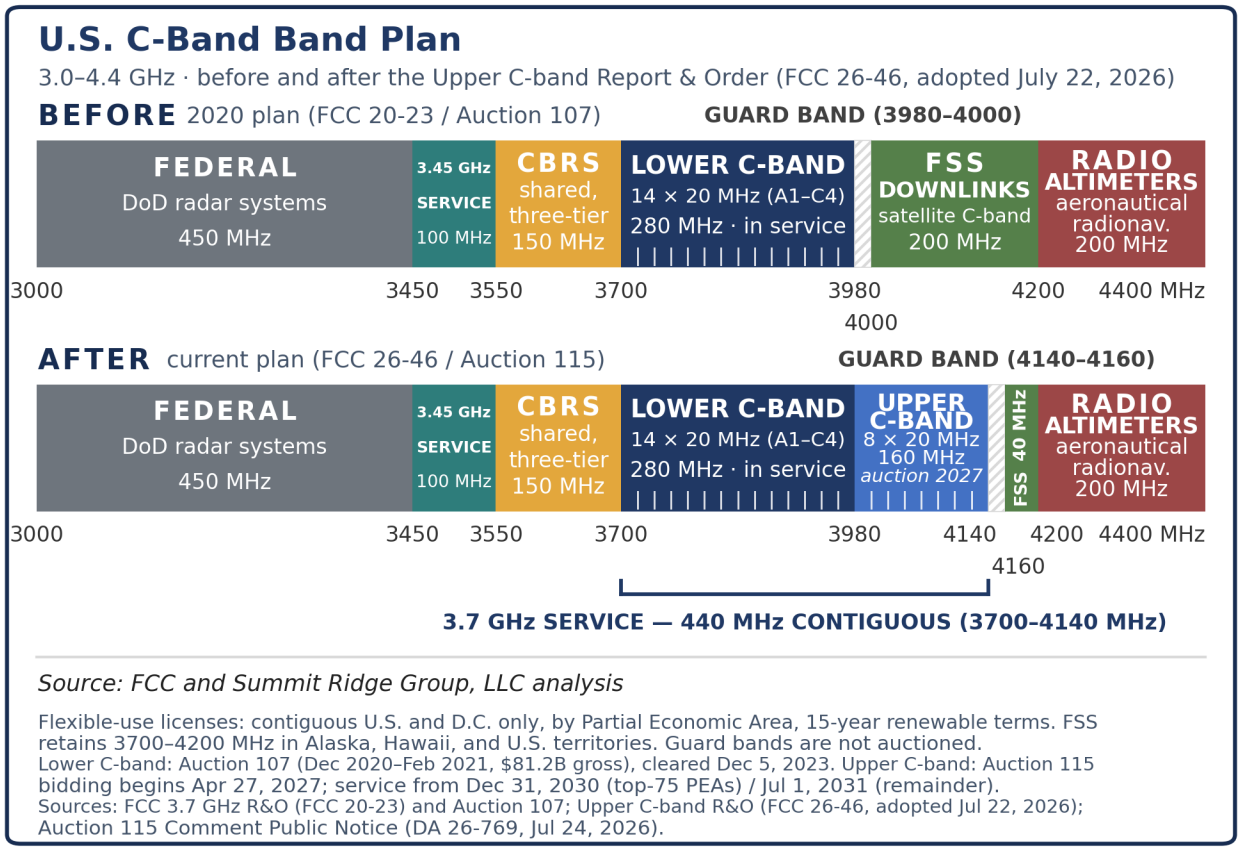
[1] Statement of Chairman Brendan Carr, Upper C-band (3.98–4.2 GHz); Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket Nos. 25-59 and 18-122, Report and Order, Order of Proposed Modification, and Order on Reconsideration, FCC 26-46 (rel. July 24, 2026), https://docs.fcc.gov/public/attachments/FCC-26-46A2.txt.

[2] Upper C-band (3.98–4.2 GHz); Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket Nos. 25-59 and 18-122, Report and Order, Order of Proposed Modification, and Order on Reconsideration, FCC 26-46 (rel. July 24, 2026) ("Upper C-band Order" or the "Order") ¶¶ 4, 24, 27.

[3] Upper C-band Order ¶ 111 & nn.400–03. The Primary Transition Deadline of December 30, 2030, applies to Partial Economic Areas 1–41 and 43–76; the Final Transition Deadline of June 30, 2031, applies to the remaining contiguous-U.S. PEAs.

[4] Upper C-band Order ¶ 184; Pub. L. No. 119-21, § 40002(b)(2), 139 Stat. 72 (2025) (directing completion of competitive bidding for not less than 100 megahertz of the Upper C-band by July 4, 2027).

Figure 1-1: C-band Band Plan



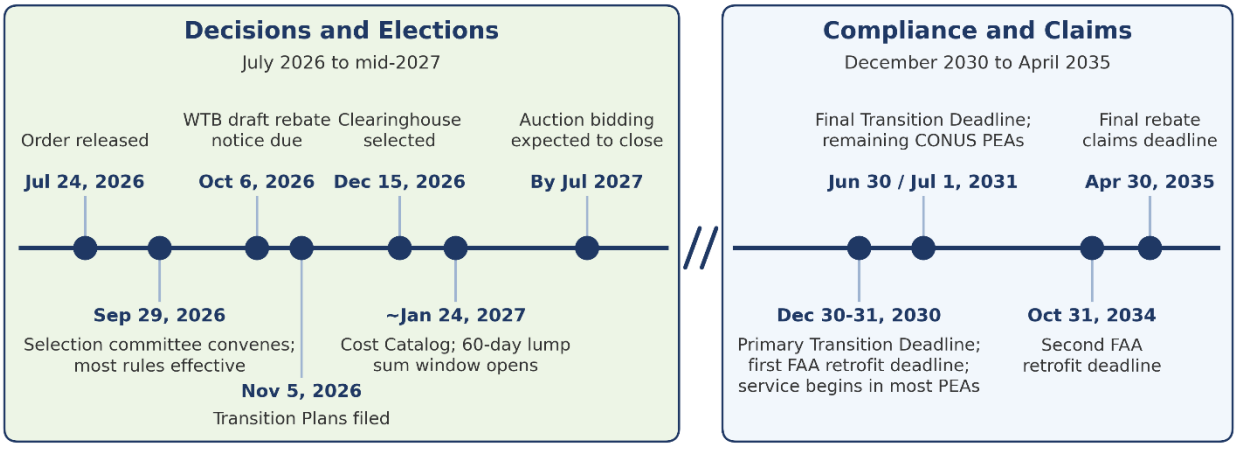
Source: Summit Ridge Group, LLC analysis

The Transition's central challenge is not only clearing spectrum in the Upper C-band, but doing so on a timetable that leaves little room for delayed elections, pricing decisions, or claims administration. Readers of this document are likely to have differing levels of background with FCC reimbursements. Our intention is to summarize the critical details in a single document to support cooperative discussions among stakeholders.

Clearinghouse

As with the Lower C-band transition, the Clearinghouse, acting independently, will facilitate reimbursement of clearing costs. A separate Relocation Coordinator will coordinate the clearing schedule among the satellite operators and incumbent earth stations. Section 3.5 describes the division of labor between the Clearinghouse and the Relocation Coordinator. This paper concentrates on the reimbursement side of the Transition Program. Except for timing, the Transition's framework will look familiar to anyone who lived through the Lower C-band transition. Four dates in the Transition are critical. The Clearinghouse selection committee (the "Selection Committee") must name a Clearinghouse administrator ("Clearinghouse") by December 15, 2026.[5] The Wireless Telecommunications Bureau ("WTB" or the "Bureau") must finalize the Cost Catalog within six months of release, roughly January 24, 2027, followed by a single, irrevocable 60-day window (beginning when the Cost Catalog is finalized) for incumbent earth stations to elect lump sum payments.[6] WTB must publish its draft radio altimeter rebate proposals no later than October 6, 2026.[7] The three eligible satellite operators will file Transition Plans on November 5, 2026.[8] This compressed calendar places unusual weight on the Clearinghouse selection and the procedures the Clearinghouse adopts at the Transition's commencement. Waiting for the Clearinghouse to open and publish a claims processing handbook may be the natural instinct, but the decision calendar runs ahead of it: several irrevocable elections and comment windows will close before the handbook is due. Figure 1-2 below places those four dates on the program's full calendar that includes a large gap between January 24, 2027, the end of the first cluster of dates (Decisions and Elections), and December 30-31, 2030, the beginning of the second cluster (Compliance and Claims).

Figure 1-2: The Decision Calendar and the Compliance Calendar



Source: Summit Ridge Group, LLC analysis of FCC 26-46. The full milestone list, with paragraph citations, appears in Figure A-1.

[5] Upper C-band Order ¶¶ 156–58.

[6] Upper C-band Order ¶¶ 126, 154, 186 & n.460 (no extensions of the 60-day election window are envisioned).

[7] Upper C-band Order ¶ 182.

[8] Upper C-band Order ¶ 163.

Much of the Clearinghouse process will be similar to the process established for the Lower C-band transition. However, the aviation rebates alone will add roughly 38,000 claims compared to the few thousand generated during the entire Lower C-band transition (see Section 3.4). How well this program runs will depend heavily on the Clearinghouse's ability to handle reimbursements and rebates efficiently. The nine-member Selection Committee must notify the Commission of its criteria for selecting the Clearinghouse administrator within 30 days of its first meeting. The WTB then publishes the selection criteria, together with the submission requirements and closing dates for candidates, without a comment cycle. WTB will also seek comment on the Selection Committee's choice before confirming it, but by that point, the Selection Committee's decision will have been made. Section 3.4 describes the calendar for selecting the Clearinghouse administrator, and Section 9.8 sets out measures we believe the selection criteria should include.

The largest unresolved economic risks are not headline transition costs but the costs of proving claims and waiting to be paid.

The Clearinghouse's design and operation will determine two costs that the Order does not price.

- One cost is the cost of making a claim. The full costs of submitting a claim can be expensive. The FCC's Office of Inspector General ("OIG") reported in March 2026 that third-party project management fees alone accounted for 13% of the amounts actually reimbursed under the Secure and Trusted Communications Networks Reimbursement Program ("SCRP" or "Rip & Replace").[9] Measured against hard costs only, the figure is 15%. The Order's 2% presumptive maximum for a claimant's soft costs as a percent of hard costs may be challenging depending on the claimant's situation. Soft costs equal to 2% of a satellite procurement may be sufficient, so a program whose hard costs are mostly spacecraft may meet the presumption in aggregate, excluding financing costs. The 2% presumption is least safe for claimants with nothing large to average against, such as small filter claims where the cost of filing dominates the value claimed. Radio altimeter rebate claimants sit outside the presumption entirely: the rebate is a fixed amount with no soft cost allowance, so the cost of claiming comes out of the rebate itself (Section 9.6).

- The second cost is the cost of delay. SES reported an average of 323 days to be reimbursed for claims submitted to the Lower C-band Clearinghouse, with fewer than 8% of claims processed at all. The Order sets binding deadlines at nearly every step, but meeting each one depends on processes the Clearinghouse controls, and no deadline governs its review. Rip & Replace shows the same pattern under a different cause: at one point, participants put the processing pace at roughly $40 to $50 million per month against a nearly $5 billion program (Section 9.4).

The Order already answers part of that record: quarterly public reports, annual independent audits, a handbook that must state target timelines, and objection rights that reach the Clearinghouse's own costs are now written into the rules. The variables the Order leaves open

[9] Federal Communications Commission, Office of Inspector General, FCC OIG Advisory Regarding Fraud Risks in FCC's "Rip & Replace" Program, Project No. 24-AUD-06-02, at 5 fig.2, 8 fig.3 (Mar. 2026) ("FCC OIG Advisory"). The ratio to hard costs is Summit Ridge arithmetic on the OIG's figures; Section 9.6 sets out the calculation.

are cycle-time discipline and documentation proportionality, which the selection criteria can measure (Section 9.8). Section 9 sets out both costs, and that record, in more detail.

Against that process backdrop, the practical issues break down by stakeholder group.

Major Issues by Stakeholder Group

- Earth station operators: The differences from the Lower C-band transition are significant. Eligibility is frozen to the incumbent list of November 19, 2025, and no registration window is coming. Earth station operators can now elect lump sum reimbursements on a per site basis rather than per operator. Lump sum elections cannot be reversed and are priced to include a Ku-band migration, which the Commission expects to cost more than an in-band repack. Most consequentially, wireless operations launch on a fixed date, whether or not operators have finished, and interference protection ends when the deadline passes.

- Incumbent satellite operators: FSS keeps 40 megahertz under the Order, whereas the earlier Lower C-band transition left FSS operators with 200 megahertz. There is a $6.3 billion incentive pool payable upon certified, timely clearing. The pool is allocated as follows: 89% to SES, 8% to Eutelsat, and 3% to Telesat. The total incentive is reduced by 7.5% for every 30-day period the Primary Transition Deadline slips, and is forfeited entirely at 181 days. Bidders should note that the incentive pool is calibrated to the estimated additional value bidders would likely derive from earlier access, rather than to the cost of clearing.[10] The payment mechanics are spelled out in unusual detail, from an initial deposit after license grant to quarterly replenishment across two funds and incentive calls due within 60 days of each validated completion certification.[11]

- Airlines and aircraft owners: The Order creates a rebate rather than a reimbursement, and the distinction decides how much of the bill an operator absorbs. Rebates are fixed amounts by aircraft category, paid only after the retrofit is complete, and forfeited entirely for any aircraft that misses its retrofit deadline. The Order also expressly excludes spare altimeters: rebates attach only to installed units, so an operator that holds rotable[12] spares to protect dispatch reliability buys them entirely at the operator's cost. We believe the lack of any allowance for spares is among the largest unaddressed cost exposures the program leaves with airlines, and one of the issues most worth engaging in the October 6, 2026 comment cycle (Section 7.4). The Federal Aviation Administration's ("FAA") companion rule covers 43,562 aircraft carrying 62,810 radio altimeters, with Part 121 and larger Part 129 fleets due to be replaced by December 30, 2030, and most other U.S.-registered aircraft due by October 31, 2034.[13] The Commission estimates total rebate

[10] Upper C-band Order ¶¶ 135, 138–39, 163.

[11] Upper C-band Order ¶¶ 141, 149; 47 C.F.R. § 27.1417 (as adopted).

[12] A rotable is a high-value part or component that can be fixed, rebuilt, and used again. Instead of being thrown away when worn, it "rotates" out of service, goes to a workshop for repair, and returns to inventory for future use.

[13] Upper C-band Order ¶ 181 & nn.635–36 (citing FAA Final Rule at Table 5); 47 C.F.R. § 27.1411(b)(5) (as adopted).

costs of $3.83–$5.71 billion.[14] The FAA estimates $80,000 to $120,000 per installed unit.[15] However, the amount that an operator absorbs will be settled in the October 6, 2026 comment cycle, years before most operators retrofit an airframe.[16] In any scenario, the timelines for completion seem tight.

- Winning bidders: On the FCC's estimates, winning bidders will underwrite $4 to $5 billion in FSS clearing costs, $6.3 billion in incentives, and $3.83 to $5.71 billion in altimeter rebates, or roughly $14 to $17 billion, before the Clearinghouse's own costs. Licensees bear the entire allowed cost, including any amounts above the estimate.[17]

Because each group controls different decisions, the nearest immovable deadline is often more important than the final compliance date.

For readers tracking a single issue, the index in Appendix H locates each topic by page, and the glossary in Appendix D defines the program's terms. Figure 1-3 below maps each group to the decisions it controls, the relevant sections of this white paper, the nearest date that cannot be moved, and the comment opportunity with the most leverage for that group.

Figure 1-3: Reader's Guide by Stakeholder Group

Audience	Decisions You Control	Sections	Nearest Fixed Date	Highest-Leverage Comment Opportunity
Incumbent earth station operators	Per-site lump sum election; claim documentation and filing cadence	3.3, 5, 9, 11.1	Cost Catalog notice plus 60 days, expected Q1 2027	The draft Cost Catalog cycle, which also sets the lump sum categories and amounts
Eligible space station operators	Transition Plan scope and cost detail; financing the gap to auction close	3.4, 6, 9, 11.2	November 5, 2026	The Cost Catalog cycle: the treatment of financing and internal labor
Airlines subject to the first FAA deadline	Rebate category design; retrofit scheduling; equipment queue position	7, 9, 11.3	October 6, 2026	WTB's draft rebate proposals, due October 6, 2026

[14] Upper C-band Order ¶ 183 & n.648. The estimate includes approximately $2.21 billion attributable to aircraft subject to the first FAA retrofit deadline and a cap of $3.5 billion for aircraft subject to the second.

[15] Requirements for Interference-Tolerant Radio Altimeter Systems, Final Rule, Docket No. FAA-2025-5666, 91 Fed. Reg. 48656 (July 31, 2026) ("FAA Final Rule"), Tables 6 and 8.

[16] Upper C-band Order ¶ 182.

[17] Summit Ridge arithmetic based on Upper C-band Order ¶¶ 127 ($4–$5 billion estimated FSS clearing costs), 135 ($6.3 billion in incentive payments), and 183 ($3.83–$5.71 billion in estimated rebate costs).

Audience	Decisions You Control	Sections	Nearest Fixed Date	Highest-Leverage Comment Opportunity
Aircraft owners subject to the second FAA deadline	The same as above, plus spares exposure and lease or management allocation	7.5–7.7, 9, 11.3	October 6, 2026	The same October 6, 2026, cycle: spares, categories, and counting conventions
Prospective bidders and Upper C-band licensees	Cost exposure, Partial Economic Area ("PEA") concentration, objection, and dispute rights	4, 8, 9, 10, 11.4	Auction bidding is expected to close by July 2027	The Cost Catalog and rebate cycles, which set the costs licensees underwrite
All parties	What the Clearinghouse selection criteria measure	3.4, 9.8, 10	Selection Committee convenes by September 29, 2026	Views to the Selection Committee before it writes its criteria

Source: Summit Ridge Group, LLC analysis

Unfinished Items, Risks, and Opportunities

Even after the Order, several implementation details remain open, and those details will determine much of the Transition Program's economic outcome. Most of these details will be addressed in the coming months, on the calendar set out in Figure 1-4, and in full in Section 10. Until those open items are resolved, the main uncertainty is how much of the transition burden will arise from process rather than physical work.

Major issues revolve around the scope of reimbursable items, particularly soft costs, timing of reimbursement, and level of documentation required. In past FCC clearing and other reimbursement processes, some of these issues have been problematic, and the Upper C-band Transition will be more complex than prior efforts. We encourage stakeholders to participate in the relevant comment cycles. Additionally, Summit Ridge welcomes the opportunity to discuss the Upper C-band Transition Program, especially regarding clearing and reimbursement, with stakeholders as appropriate.

This document is intended to consolidate various information sources and thereby help all stakeholders begin thinking through the clearing and reimbursement process now and to consider how the parties can work together most efficiently to maximize the quality of the outcome. The tight calendar makes that all the more important: with this little slack, the process has to come together correctly from the start. Summit Ridge may update this guide as more information becomes available and welcomes the opportunity to discuss the situation with stakeholders as appropriate.

1.1 Quick-Start Decision Guide

Every group affected by the Upper C-band Transition controls at least one decision that cannot be undone, and in each case, the deadline arrives years before the compliance date it serves. Figure 1-4 below sets out those decisions by group, the nearest date that cannot be moved, what waiting costs, and where to start reading. Figures 1-5 and 1-6 put the same routing in decision-tree form.

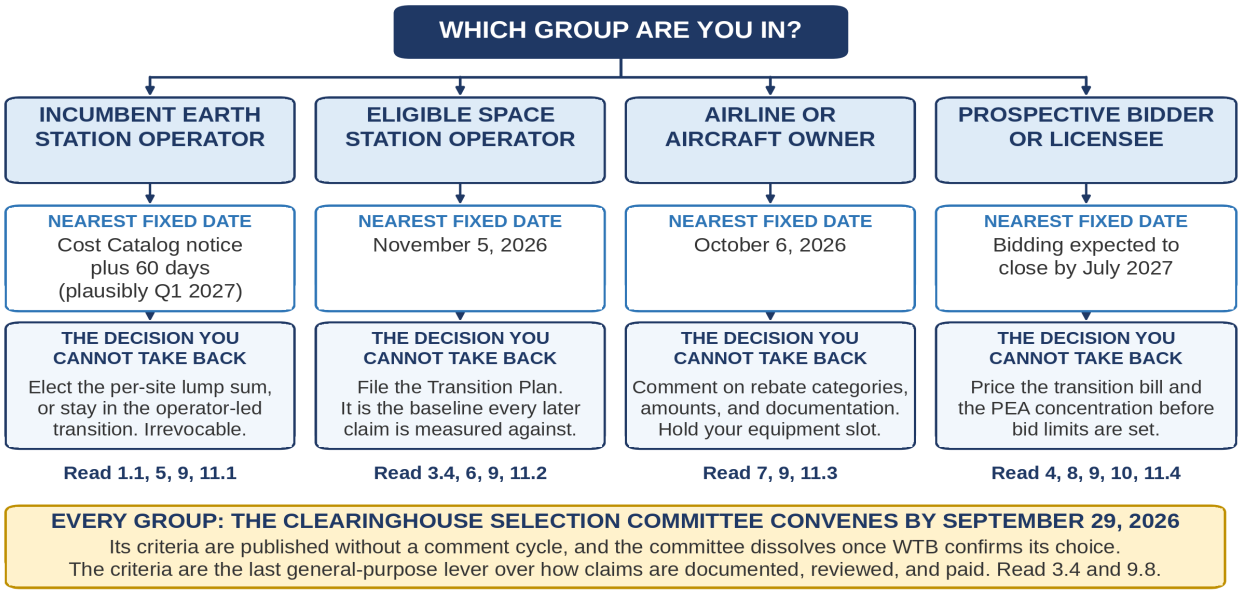
Figure 1-4: Quick-Start Decision Guide

Stakeholder	Decisions You Control	Nearest Fixed Date	What Waiting Costs	Read First
Incumbent earth station operators	1) Elect the per-site lump sum or stay in the operator-led transition. 2) Reconcile registrations against physical inventory. 3) Comment on the draft Cost Catalog. 4) Decide whether to protest a license or registration modification. 5) Set claim documentation and filing cadence.	August 31, 2026, to protest a modification. Cost Catalog notice plus 60 days, expected Q1 2027.	The election window runs 60 days, admits no extensions, and cannot be reversed. An operator that begins its site-by-site analysis when the notice appears is compressing six months of work into 60 days.	1.1, 5.4, 11.1
Airlines subject to the first FAA deadline	1) Comment on rebate categories, amounts, and documentation. 2) Secure a position in the equipment queue. 3) Map the fleet to the eligibility cutoffs. 4) Integrate retrofits into the maintenance schedule. 5) Confirm which entity holds the claim.	October 6, 2026.	Categories, amounts, and documentation requirements are settled in this cycle, and the proceeding is not expected to be reopened. Five companies make certified altimeters, and the FAA declined to police how they allocate production.	7.1, 7.9, 11.3
Aircraft owners subject to the second FAA deadline	The same as airlines subject to the first FAA deadline above, and in addition: 1) Price the spares position and decide based on operational need. 2) Settle lease, ownership trust, or management allocation by contract before money moves.	October 6, 2026.	Spares are excluded from rebates and are not required by the FAA, so an operator holding rotables bears that cost outright. Second-deadline rebates flow to the registered owner rather than the operator.	7.4, 7.5, 11.3

Stakeholder	Decisions You Control	Nearest Fixed Date	What Waiting Costs	Read First
Eligible space station operators	1) Fix Transition Plan scope, technology choices, and itemized cost detail. 2) Justify any new satellite in the plan itself. 3) Reconcile customer and antenna records. 4) Sequence clearing against the sliding scale. 5) Finance the gap to auction close.	November 5, 2026.	The plan is the baseline against which every later claim is measured, and technology choices carry no presumption of reasonableness. After the initial amendment window closes, the plan is final as to critical elements.	6.1, 6.2, 11.2
Prospective bidders and Upper C-band licensees	1) Model the PEA concentration of earth station costs. 2) Price the incentive pool against your own assumptions. 3) File in the Cost Catalog and rebate proceedings. 4) Plan incentive calls separately from quarterly replenishment. 5) Diligence the unpaid obligation on any license acquired later.	Bidding is expected to close by July 2027.	Licensees fund every payment described in this paper, and the proceedings that set those payments run before the auction. Payment obligations follow the license rather than the licensee.	8, 9.8, 11.4
All parties	Engage on what the Clearinghouse selection criteria measure, and on how the Clearinghouse will work with the Relocation Coordinator.	The Selection Committee convenes by September 29, 2026. Criteria due 30 days after its first meeting.	The criteria are published without a comment cycle, and the Selection Committee dissolves once WTB confirms its choice. No deadline in the rules governs the Clearinghouse's review of a claim.	3.4, 9.8

Source: Summit Ridge Group, LLC analysis of FCC 26-46. Dates described as expected depend on public notices that have not been issued as of this writing.

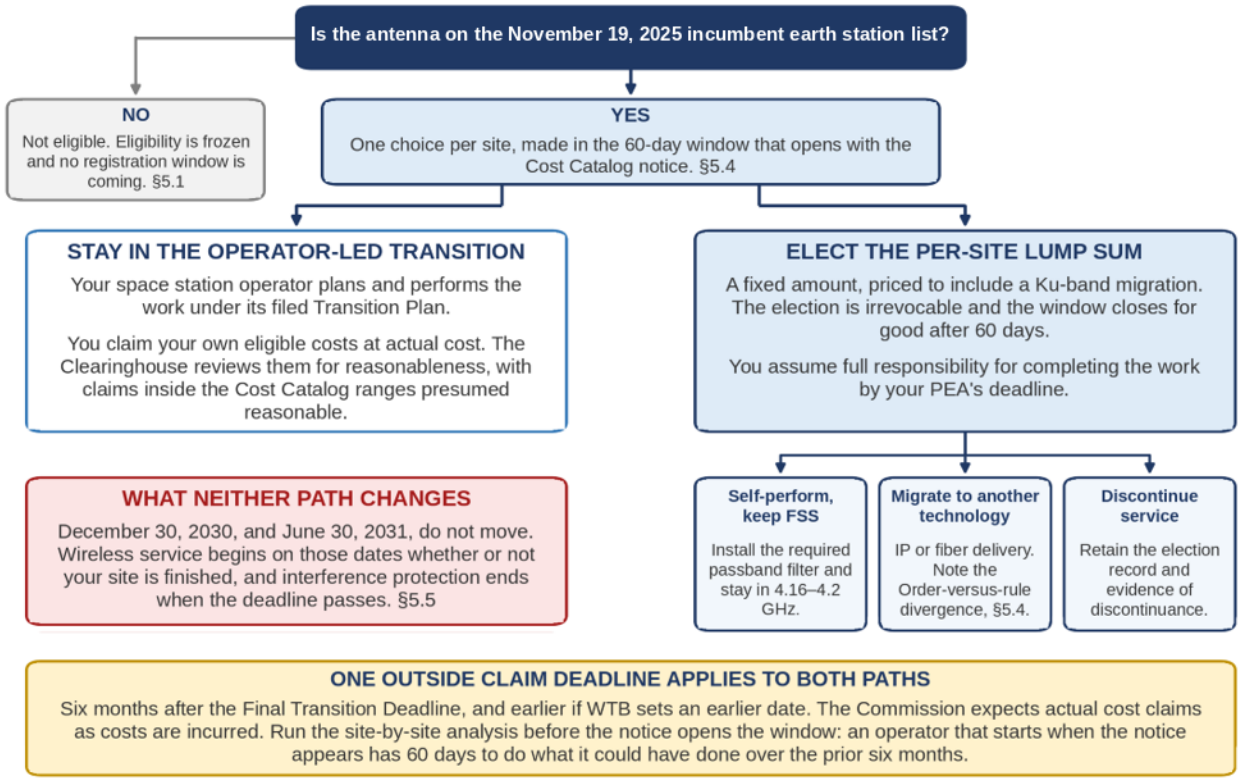
Figure 1-5: Decision Router by Stakeholder Group



Source: Summit Ridge Group, LLC analysis of FCC 26-46.

For incumbent earth station operators, the election has enough moving parts to warrant its own diagram. Figure 1-6 below sets out the choice, the three paths available to an electee, and the one constraint that applies whichever path a site takes. Section 5.4 discusses the election in full.

Figure 1-6: Earth Station Path Selection



Source: Summit Ridge Group, LLC analysis of FCC 26-46.

1.2 How to Read This Paper

This paper is structured so that no reader has to read all of it. Part I describes the Transition Program's adopted framework, including the Clearinghouse, the Relocation Coordinator, the Cost Catalog, and what remains unfinished. Part II takes each stakeholder group in turn, and a reader in one group can skip sections applicable to other groups. Part III covers what cuts across groups: payment timing, the documentation burden, and the 2% soft cost presumption measured against the record of comparable programs. Part IV is reference material.

Appendix A consolidates every program date, first as a table with paragraph citations and then as a single program timeline. Appendix B compares the Lower and Upper C-band transition processes. Appendix C holds claim-readiness checklists in a form that can be assigned and tracked. Appendix D is the glossary. Appendix E ranks the open issues by our assessment of likelihood and impact. Appendix F lists the primary sources, Appendix G offers sample comment language and questions, and Appendix H is the index.

Four call-out boxes recur to keep things distinct.

KEY DIFFERENCE FROM THE LOWER C-BAND
Marks a place where this framework departs from the Lower C-band. A reader whose experience comes from the last transition should read these paragraphs twice.

OPEN ITEM AND COMMENT OPPORTUNITY
Marks an item that is not yet settled, together with the proceeding in which it will be. These are the points at which comments can still change the outcome.

PRACTICAL RISK
Marks an exposure that the Order does not price. These are drawn from the Lower C-band and Rip & Replace records rather than from prediction.

SRG OBSERVATION
Marks Summit Ridge's own analysis, observation, or recommendation, as distinct from a requirement of the Order. Requirements carry paragraph or rule citations. Where we are reading between the lines, the box says so.

Primary sources. The Order is FCC 26-46, adopted July 22, 2026, and released July 24, 2026, in GN Docket Nos. 25-59 and 18-122. The Federal Register version, which carries the codified rules, appears at 91 FR 48700 (July 31, 2026). The FAA companion rule appears at 91 Fed. Reg. 48656 (July 31, 2026). Unless otherwise noted, paragraph citations are to FCC 26-46, and section citations are to 47 C.F.R. as amended by FCC 26-46. Where the Order's text and the codified rule diverge, this paper says so and states whether the Order’s text or the codified rule is predominant. Appendix F gives the full list, with links.

PART I: BACKGROUND

This section contains background information Summit Ridge believes will be helpful for Upper C-band stakeholders as they navigate the Upper C-band Transition.

2. ABOUT SUMMIT RIDGE GROUP, LLC

Summit Ridge is a valuation and advisory firm serving the telecom, media, and satellite sectors. As a leading provider of FCC reimbursement support services, we have a particular viewpoint on how these programs work in practice, informed by experience on both sides of the table. Summit Ridge served as the Commission-confirmed 3.45 GHz Relocation Payment Clearinghouse, which closed on budget against the net cost initially projected to license winners and filed its audited final report in March 2025.[18] Net administrative costs ran to 10% of the reimbursements processed, a percentage Section 9.6 places in the context of that program's scale. Summit Ridge currently advises approximately 35% of Priority 1 recipients, measured by dollar value, in the Rip & Replace program, and has supported clients through the Advanced Wireless Services ("AWS"), broadcast repack, and Lower C-band programs, including facilitating reimbursements for a major cable operator in the Lower C-band transition.[19] Having worked on both sides, representing claimants in other FCC reimbursement programs and serving as a clearinghouse itself, Summit Ridge believes it is well-positioned to provide background analysis on the Upper C-band Transition Program. Our perspective is informed by experience on the claims side and the administrator side, not by any special access to the Commission's deliberations.

Summit Ridge has filed comments and ex parte letters in the Upper C-band proceeding, and the Order adopts positions consistent with several of them, including the lump sum reimbursement path for incumbent earth stations and a requirement that the Clearinghouse brief key stakeholders at regular intervals.[20] We note our participation so readers can weigh our perspective, not to claim credit. The Commission drew upon a broad record.

3. THE UPPER C-BAND FRAMEWORK IN BRIEF

3.1 What the Commission Adopted

The Order reconfigures the 3.98–4.2 GHz band in the contiguous United States. Licenses for 160 megahertz at 3.98–4.14 GHz will be auctioned for flexible terrestrial wireless use, well above the 100-megahertz statutory floor. A 20-megahertz guard band at 4.14–4.16 GHz separates new wireless operations from FSS earth stations, which will be repacked into the 4.16–4.2 GHz band. Combined with the 4.2–4.4 GHz aeronautical band, the plan preserves 60 megahertz of separation between wireless operations and radio altimeters.[21] In the Lower C-band transition, by comparison, the FCC cleared 3.7–3.98 GHz for wireless use and left FSS with 200 megahertz at

[18] 3.45 GHz Relocation Payment Clearinghouse, Final Report and Audited Statement of Funds Expended, WT Docket No. 19-348 (filed Mar. 10, 2025) ("3.45 GHz Final Report").

[19] Letter from J. Armand Musey, President, Summit Ridge Group, LLC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 25-59, at 1 (filed June 2, 2026) ("Summit Ridge June 2, 2026, Ex Parte").

[20] Comments of Summit Ridge Group, LLC, GN Docket No. 25-59 (filed Jan. 12, 2026) ("Summit Ridge Comments"); Upper C-band Order ¶ 125 & n.453 (lump sum) ¶ 159 & n.562 (stakeholder briefings). The Commission declined other Summit Ridge proposals, including nationwide aggregation of earth station relocation costs. Id. ¶ 129 & n.464.

[21] Upper C-band Order ¶¶ 4, 24, 27; see also id., Section III.B.3 (technical rules).

4.0–4.2 GHz.[22] FSS in the contiguous United States will hold one-fifth of that following the Upper C-band Transition.

Three eligible space station operators will remain in the band at completion of the Transition: SES, Eutelsat, and Telesat. There were five in 2020 at completion of the Lower C-band transition. The other two were Intelsat, which SES has since acquired, and Star One, Embratel's satellite unit, which has exited the C-band market in the U.S.[23] As in the Lower C-band transition, the eligible operators will lead the transition of their own fleets and of the incumbent earth stations that receive their signals under formal Transition Plans due November 5, 2026.[24] SES and Eutelsat have each confirmed they can clear on the adopted schedule.[25]

3.2 The Transition Schedule

The FCC set two deadlines. The first deadline, the Primary Transition Deadline of December 30, 2030, covers the top 75 Partial Economic Areas ("PEA")[26] (PEAs 1–41 and 43–76; the gap is PEA 42, Honolulu, which sits outside the program's contiguous-U.S. footprint), with terrestrial wireless operations authorized to commence the following day in markets serving approximately 70% of the U.S. population. The Primary Transition Deadline deliberately corresponds to the FAA's first radio altimeter retrofit deadline on December 30, 2030, so that a bidder knows, on the day it bids, when its spectrum acquired in the Auction will become usable. The second deadline, the Final Transition Deadline of June 30, 2031, applies to all remaining contiguous-U.S. PEAs, with operations authorized as of July 1, 2031, or earlier if all Certifications of Completion are validated and incentive payments are made.[27] Figure 3-1 below sets out the sequence.[28]

Figure 3-1: Upper C-band Transition Deadlines

Milestone	Date	Scope
Primary Transition Deadline	December 30, 2030	FSS cleared from 4.0–4.16 GHz in PEAs 1–41 and 43–76
Wireless operations begin (primary markets)	December 31, 2030	Approximately 70% of U.S. population
Final Transition Deadline	June 30, 2031	All remaining contiguous U.S. PEAs
Wireless operations begin (remaining markets)	July 1, 2031	Or earlier upon validated completion and incentive payment

Source: Summit Ridge Group, LLC analysis of FCC 26-46 ¶ 111.

[22] Upper C-band Order ¶ 9; Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343 (2020) ("2020 C-band R&O").

[23] Upper C-band Order ¶ 93 & n.333.

[24] Upper C-band Order ¶¶ 161–64.

[25] Upper C-band Order ¶ 112 & nn.406–07.

[26] The Upper C-band spectrum will be auctioned using the FCC's PEA boundaries, which divide the United States into 416 PEAs covering the 50 states, the District of Columbia, the U.S. territories, and the Gulf of Mexico. See 47 C.F.R. § 27.1411(b)(7) (as adopted).

[27] Upper C-band Order ¶ 111 & nn.400–04.

[28] Upper C-band Order ¶¶ 111, 175 & n.400.

3.3 The 2% Soft Cost Presumption Assumes a Very Efficient Process

The Order presumes that a claimant's soft costs will not exceed 2% of its hard costs. The presumption is rebuttable and shared: engineering, consulting, legal, and financing costs all draw on the same allowance, as Section 5.8 describes. The Order governs only claimants' costs. The Clearinghouse's costs are incurred outside the reimbursement budget and billed to the licensees separately.

The Order's allowance for soft costs is thin against the record of comparable programs. According to figures reported by the FCC's OIG, third-party project management alone accounted for 15% of the hard costs actually reimbursed under the Rip & Replace program, several times the room the presumption leaves for all soft costs combined. Whether 2% holds will depend on the claims process the Clearinghouse runs. Section 9.6 tests the presumption against that record and sets out what it implies for each claimant group, and Section 9.8 describes how the Selection Committee could weigh it.

PRACTICAL RISK

Two percent of hard costs is the total allowance for engineering, consulting, legal, and financing. Rebuttable means a claimant may exceed it, but carries the burden of justifying the excess claim by claim. According to the OIG's figures, third-party project management alone accounted for 15% of the hard costs actually reimbursed under Rip & Replace. The presumption is riskiest for claimants with nothing large to average against: small, inexpensive filter claims, for example, where the cost of filing can dominate the value claimed.

3.4 The Clearinghouse: Chosen by December 15, 2026, Not Yet Chosen

Similar to the Lower C-band transition, an independent, third-party Clearinghouse will handle claims processing, cost apportionment among winning bidders, dispute resolution, and public reporting for the Upper C-band Transition. However, three things are new in the Upper C-band Transition. First, the Clearinghouse will also administer the adjacent-band radio altimeter retrofit rebates, a workload category that did not exist in the Lower C-band transition.[29] The scale of that addition is easy to understate. Verizon counted more than 900 lump sum claims as of the end of 2021, and more than 2,000 space station operator claims two years later, across the entire Lower C-band transition.[30] The rebate program alone brings roughly 38,000 claims covering some 50,000 altimeters, before the FSS claims of a new transition are added. Second, the Commission wrote several new controls directly into the rules: affirmative duties covering internal controls, Government Accountability Office ("GAO") Green Book procedures, fraud and improper-payment safeguards, annual independent audits, quarterly public reports, and briefings of key stakeholders at six-month intervals.[31] Third, the right to object to the Clearinghouse's own costs is now explicitly written into the rules themselves. [32]

[29] Upper C-band Order ¶¶ 141–43.

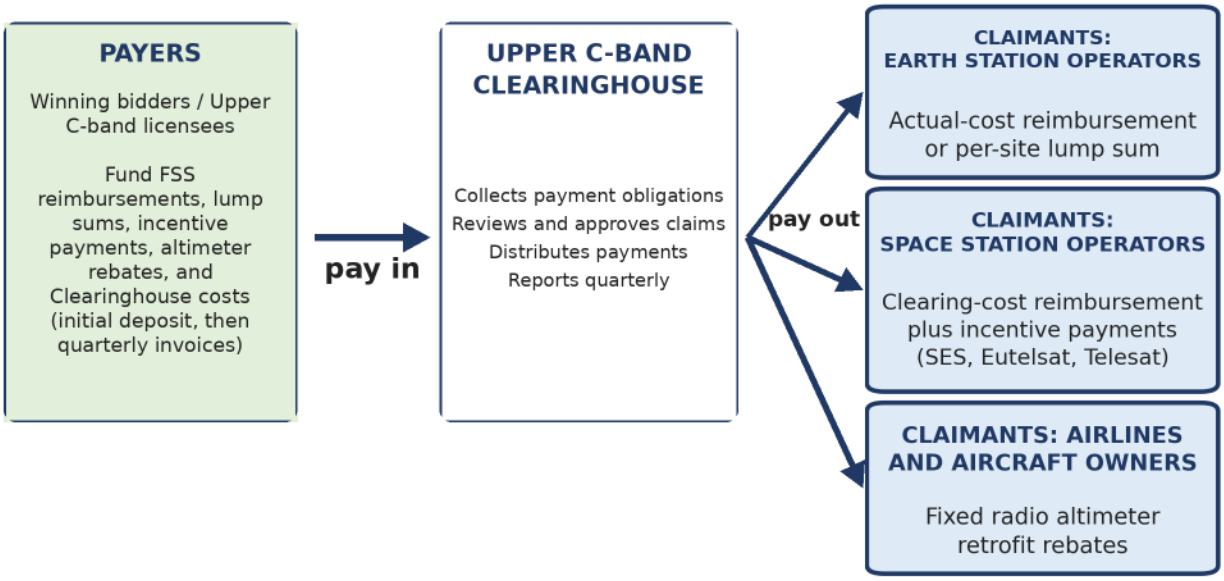
[30] Comments of Verizon, GN Docket No. 25-59, at 17 (filed Jan. 20, 2026) ("Verizon Comments").

[31] Upper C-band Order ¶¶ 144 & n.498, 153, 159.

[32] Upper C-band Order ¶¶ 151–52; 47 C.F.R. § 27.1421(a) (as adopted).

Why the added discipline? Although the Lower C-band's transition clearinghouse managed the first-of-its-kind program and oversaw an orderly closeout in August 2025, there was extensive criticism of the program's overall cost. Verizon's comments in this docket allege that the initial $62.2 million operating budget for the Lower C-band transition's clearinghouse grew to more than $114 million, an overrun of approximately 84%.[33] The budget was projected to carry the program through June 2026. It was exhausted by the first quarter of 2023, and the Lower C-band transition clearinghouse did not wind down until mid-2025, nearly two years after the physical transition ended.[34] Moreover, the licensees paying those bills had no recourse to challenge this overage, aside from the clearinghouse's dispute resolution process and a public notice from the WTB.[35] The budget and operational issues for such a nascent program on such a scale were no doubt difficult to estimate. Now that the data from the Lower C-band transition is available, the FCC has decided to clarify the responsibilities and controls for this next one. Figure 3-2 below maps the parties on each side of that ledger.

Figure 3-2: Payers, the Clearinghouse, and Claimant Groups



Source: Summit Ridge Group, LLC analysis of FCC 26-46.

One operational feature deserves separate mention: the banking layer. The rules make the Clearinghouse responsible for collecting payment obligations from licensees, holding the reimbursement and rebate funds, and distributing payments to claimants, with affirmative duties to protect against improper payments in its handling of funds.[36] The Order does not prescribe how

[33] Verizon Comments at 16–17; Comments of CTIA, GN Docket No. 25-59, at 25–26 (filed Jan. 20, 2026) ("CTIA Comments") (computing the overrun at more than 80%, with labor costs roughly 75% over budget and expenses exceeding the budget by well over 200%).

[34] Verizon Comments at 16–17; CTIA Comments at 25–26 ("The RPC did not shut down until close to two years after the completion of the clearing transition.").

[35] Verizon Comments at 17 (licensees "had no mechanism to challenge the expenses of the Clearinghouse itself"); Upper C-band Order, n.526 (noting that Lower C-band licensees did hold the right to dispute any Clearinghouse invoice, including for its own expenses).

[36] 47 C.F.R. § 27.1414(c)(2)–(3); see also 47 C.F.R. §§ 27.1417–18 (reimbursement and rebate funds; payment obligations).

those funds are to be held. In practice, a clearinghouse does not warehouse stakeholder money in its own operating accounts. In the 3.45 GHz relocation program, which Summit Ridge Group administered as the Commission-confirmed 3.45 GHz Relocation Payment Clearinghouse, incumbent payments were routed through a regulated financial institution serving as custodian and paying agent: program funds sat in dedicated accounts separate from the Clearinghouse's own account, and the bank released payments only against the clearinghouse's approved determinations.

We expect the Upper C-band Clearinghouse to adopt, and stakeholders should want, the same structure used for the 3.45 GHz relocation program. The arrangement separates the entity that decides a claim from the entity that holds and moves the money, which protects payers and claimants alike, and it produces the transaction records that the quarterly fund-status reports and the annual audited statement of funds will require.[37] It also means claim timing has two components rather than one: the Clearinghouse's review clock and the bank's disbursement cycle. Both should be visible in the reporting.

The nine-member Selection Committee must convene by September 29, 2026 (60 days after July 31, 2026, Federal Register publication), notify the FCC of its selection criteria within 30 days of its first meeting (WTB will publish them by public notice), and inform the Commission of its selection no later than December 15, 2026. Selection is not the final word: WTB will put the choice out for public comment and confirm it by order. The Relocation Coordinator's selection will face the same process.[38] The Selection Committee's members are designated by SES, Eutelsat, CTIA (two seats), the Competitive Carriers Association ("CCA"), the National Association of Broadcasters ("NAB"), NCTA, and, for the first time, two aviation organizations, Airlines for America ("A4A") and the Aircraft Owners and Pilots Association ("AOPA"). The two CTIA seats answer a payer-side request for balance: CTIA described a selection committee for the Lower C-band transition that seated six incumbent-side representatives against three for new licensees, and the FCC reasoned that CTIA's members, having funded a majority of the last program's reimbursements and accelerated relocation payments, should bring that experience to this one.[39] ACA Connects and the National Business Aviation Association ("NBAA") also requested seats but were denied, with the Commission instead directing them to the Clearinghouse's six-month stakeholder briefings.[40] Telesat has no seat on the Selection Committee, though it does have one on the Relocation Coordinator committee (the "Relocation Committee") described in Section 3.5. If the Selection Committee deadlocks, it drops two members, chosen by majority vote of the original nine, and must decide by January 15, 2027. Failing that, the FCC's Office of the Managing Director ("OMD") initiates a procurement.[41] As of this writing, no Clearinghouse has been selected, and nothing in this paper should be read as describing the Clearinghouse's eventual procedures.

[37] 47 C.F.R. § 27.1414(e)(1)–(2).

[38] Upper C-band Order ¶¶ 156 & 157; see id. ¶ 170 (the parallel confirmation process for the Relocation Coordinator).

[39] CTIA Comments at 28; Upper C-band Order ¶ 156 & n.546.

[40] Upper C-band Order ¶ 156 n.549.

[41] Upper C-band Order ¶¶ 156–58. The codified rule at 47 C.F.R. § 27.1414(a)(3) (as adopted) sets the failsafe date at January 17, 2027, a Sunday, where ¶ 158 sets it at January 15, 2027. We take the codified date to be an error rather than a comment on the selection committee's likely working hours.

OPEN ITEM AND COMMENT OPPORTUNITY
The selection criteria are the one lever available before the choice is made. The committee must notify the FCC of its criteria within 30 days of its first meeting, and WTB then publishes them, without a comment cycle. Section 9.8 sets out six measures we believe those criteria should include, and Appendix G puts them as questions a committee could ask a candidate.

3.5 The Relocation Coordinator: The Other Unfilled Seat

The Clearinghouse handles the money; the Relocation Coordinator handles the schedule. The FCC will again use a Relocation Coordinator to coordinate transition activities among the eligible space station operators and incumbent earth stations, and the listed duties are broad: coordinating the band-clearing schedule; performing engineering analysis to determine necessary earth station migration actions; assigning migration obligations where an earth station is not accounted for in a Transition Plan; coordinating with the wireless licensees; assessing PEA-by-PEA completion and determining when licensees may commence operations; and mediating scheduling disputes.[42] The Relocation Coordinator may recommend changes to the Transition Plans, will receive notices of disputes regarding the comparability of facilities, quality, or the preservation of service, and must file its own public quarterly status reports.[43] It need not be a neutral third party, and it will not track lump sum electees, who are responsible for their own transitions once they file their elections.[44]

In the Lower C-band, this role was performed by RSM US LLP, the accounting and consulting firm, whose selection WTB confirmed after public comment in 2020.[45] The Relocation Coordinator for the Upper C-band Transition has not been announced. The Relocation Committee, composed of one representative from each eligible space station operator, must convene by October 1, 2026, choose a candidate by consensus or majority vote, and submit the candidate for public comment and a WTB order confirming that the selection criteria are met. If no qualifying Relocation Coordinator is identified by January 1, 2027, OMD is authorized to initiate a procurement.[46] The Relocation Coordinator's costs follow the selection path. If the Relocation Committee identifies a candidate and WTB confirms it, the Relocation Coordinator is paid by the satellite operators, pro rata to their incentive shares. If the failsafe procurement is used instead, the Relocation Coordinator is paid by the wireless licensees via the Clearinghouse, in the same manner as the Clearinghouse's own costs.[47]

The balance of this paper concerns the reimbursement process rather than the coordination function. Records for the Lower C-band transition show that the risk for the Upper C-band Transition exists on the money side, and it is on the money side that readers of this paper have

[42] Upper C-band Order ¶¶ 168–69.

[43] Upper C-band Order ¶¶ 171–72.

[44] Upper C-band Order ¶ 168 & n.586.

[45] Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122, Order, 35 FCC Rcd 10469 (WTB 2020); see Upper C-band Order, n.590.

[46] Upper C-band Order ¶ 170.

[47] Upper C-band Order ¶ 170 & nn.591, 593–94.

elections to make and claims to prepare. The Relocation Coordinator still affects the money at three points: its schedule decisions determine when clearing costs are incurred, its PEA-by-PEA completion assessments determine when wireless licensees may commence operations, and the Order directs it to serve as a liaison with the FCC and the Clearinghouse.[48]

Each of those three touchpoints moves both information and money. Schedule data determines when claims arrive, and completion assessments release incentive calls, so the two entities will need clean data hand-offs in both directions. Section 9.8 suggests asking Clearinghouse candidates how they would implement that interface without sending duplicate information requests to operators.

3.6 The Cost Catalog: A Benchmark, Not a Cap or a Floor

After the Clearinghouse and Relocation Coordinator, the third core piece of the Upper C-band Transition is the Cost Catalog: a schedule of transition cost categories, each with an estimated dollar range. WTB will prepare the Cost Catalog under the authority delegated by the Order, publish it in draft for public comment, and finalize it within six months of the Order's release, roughly January 24, 2027, and in any event before bidding opens.[49] The Cost Catalog follows the Cost Category Schedule from the Lower C-band transition. WTB may carry those categories forward, adjust them, or create new ones.[50] The FCC expects the Cost Catalog to expand, not shrink; the Commission declined suggestions to trim the list, including suggestions from SRG, and instead anticipates additional categories for Ku-band migrations and moves to alternative distribution technologies.[51]

The Cost Catalog serves three audiences. For operators claiming actual costs, it is the benchmark: a claim that falls within the applicable catalog range is presumed reasonable, the presumption appears in both the codified rule and the Order, and the Clearinghouse is instructed to take notice of the catalog in its review.[52] For incumbent earth station operators considering the opt-out, it is the price sheet. WTB will set the lump-sum categories, dollar amounts, and election procedures through the catalog process, and the election public notice that follows finalization starts the 60-day clock for the irrevocable election described in Section 5.4.[53] For prospective bidders, who underwrite whatever the categories produce, it is the closest thing to pre-auction price disclosure the program offers. The Commission described the Cost Catalog as guidance for auction bidding strategy and transition planning and directed WTB to finalize it before the auction.[54]

The Cost Catalog's role in providing guidance for auction bidding strategy and transition planning has two important limits. First, the Cost Catalog is not a cap or a floor. An incumbent may recover

[48] Upper C-band Order ¶ 168 (liaison); see also ¶ 169 (completion assessments).

[49] Upper C-band Order ¶¶ 121, 154, 186.

[50] Upper C-band Order ¶ 154.

[51] Upper C-band Order ¶ 121; id. ¶ 154 & n.542.

[52] Upper C-band Order ¶¶ 147, 154; 47 C.F.R. § 27.1416(a) (as adopted).

[53] Upper C-band Order ¶¶ 126, 186.

[54] Upper C-band Order ¶¶ 143, 186.

actual costs above a catalog range if the costs are reasonably necessary to the transition, but the claim loses the presumption and must be justified to the Clearinghouse.[55] Second, the Cost Catalog is not yet a settled list. The FCC declined to decide several contested cost items, including spare satellites, dual illumination, and integrated receiver/decoders, and deferred those questions to the public Transition Plan and Cost Catalog processes.[56] Costs debated in this docket were therefore parked in next year's schedule, not resolved in this year's Order.

The sequence is the practical point. The presumption ranges, lump sum figures, and treatment of costs left open by the Order will all be set in a single comment cycle that closes before the first claim is filed. WTB retains authority to make further reimbursable-cost determinations throughout the transition, but nothing in the Order requires the WTB to ask twice.[57] Operators and payers who wait for the Clearinghouse to open will have missed the proceeding that sets the program's price. Sections 5.4, 5.8, and 9.6 identify specific questions we believe belong in those comments, and Section 11 puts the comment cycle on the preparation calendar.

3.7 What Is Not Yet Final

The Order is a framework awaiting operating details. Readers should keep five open items in view. First, the rules are not yet effective. Most take effect on September 29, 2026, 60 days after the July 31, 2026, publication in the Federal Register, and a list of provisions requiring new information collections, including the claims-review, funds, lump sum election, and objection rules, will not take effect until OMB approval is announced.[58] Second, the license and registration modifications are proposed modifications under section 316. Affected licensees may protest by August 31, 2026, and a contested modification is not final as to that party until the FCC orders otherwise.[59] Third, neither the Clearinghouse nor the Relocation Coordinator has been selected. Fourth, the numbers that matter most to the readers of this paper, the Cost Catalog ranges, the lump sum amounts, and the rebate categories and dollar figures, will all be set through WTB public notices with comment cycles.[60] Fifth, petitions for reconsideration and judicial review remain possible. The Order itself resolves six reconsideration petitions left over from the 2020 decision.[61] Accordingly, we present the adopted framework and flag where details remain open. Section 10 breaks these five categories into the sixteen discrete decisions that must be resolved and specifies when each is expected to be resolved. Preparation, however, should not wait for finality, because the comment windows that shape those details are already scheduled.

4. WHAT CHANGED FROM THE LOWER C-BAND

The Upper C-band Transition framework reuses the architecture from the Lower C-band transition and modifies certain components based on that experience. The single largest structural change

[55] Upper C-band Order ¶ 121 & n.434.

[56] Upper C-band Order, n.435.

[57] 47 C.F.R. § 27.1416(a) (as adopted).

[58] Upper C-band Order ¶ 198.

[59] Upper C-band Order ¶¶ 194, 199.

[60] Upper C-band Order ¶¶ 126, 154, 182, 185–86.

[61] Upper C-band Order ¶ 188.

in the Upper C-band Transition is the substitution of mandatory, date-certain deadlines for voluntary acceleration. In 2020, the eligible space station operators could elect an accelerated two-phase clearing schedule and be paid for it. All five did, met the Phase I and Phase II deadlines of December 5, 2021, and December 5, 2023, and collected $9.7 billion in accelerated relocation payments, $2.4 billion for Phase I and $7.3 billion for Phase II.[62] Here, the deadlines are fixed by rule and aligned with the FAA's first altimeter retrofit deadline. The $6.3 billion incentive pool attaches to meeting them, with sliding-scale reductions for slipping.[63]

Figure 4-1 below summarizes the principal differences at the program level. Section 5 examines the earth station process in detail, and Sections 6 through 8 cover satellite operators, aviation rebates, and payment mechanics for winning bidders. Appendix B presents the full side-by-side comparison of program structure and payment mechanics in a single reference table.

Figure 4-1: Program Structure, Lower C-band Versus Upper C-band

Feature	Lower C-band (2020)	Upper C-band (2026)
Spectrum repurposed	280 MHz (3.7–3.98 GHz).	160 MHz (3.98–4.14 GHz).
FSS after transition	200 MHz retained (4.0–4.2 GHz).	40 MHz retained (4.16–4.2 GHz) plus Ku-band migration.
Eligible space station operators	Five (SES, Intelsat, Eutelsat, Telesat, and Star One/Embratel).	Three (SES, Eutelsat, Telesat).
Clearing schedule	Ultimate deadline Dec. 5, 2025; voluntary accelerated Phase I/II (Dec. 5, 2021, and Dec. 5, 2023).	Mandatory deadlines: Dec. 30, 2030, and June 30, 2031, aligned with FAA retrofit deadline.
Wireless launch condition	Gated on certifications and payments.	Date-certain; no payment gating.
Satellite operator incentives	$9.7B accelerated relocation payments, elective.	$6.3B tied to the mandatory deadlines; 7.5% reduction per 30 days late.
Licensee fund replenishment	Semi-annual.	Quarterly, with 30 days' notice.
Aviation	No rebates; coexistence addressed outside the program.	$3.83–$5.71B altimeter retrofit rebates via the Clearinghouse.
Clearinghouse oversight	Duties are largely based on contracts with license winners; objections to Clearinghouse costs are only through its own dispute plan and a Bureau public notice.	Duties in rule text; annual audits; quarterly reports; objections permitted, including to its own costs. No Clearinghouse contracts with license winners.
Selection committee	No aviation seats.	Nine members, including A4A and AOPA.

Source: Summit Ridge Group, LLC analysis of FCC 26-46 and the 2020 C-band R&O.

[62] Upper C-band Order ¶¶ 12–13, 133. Realized relocation cost payments in the Lower C-band were approximately $3.4 billion, against $81.2 billion in Auction 107 gross proceeds. Id., Appendix D (Regulatory Impact Analysis), n.25.

[63] Upper C-band Order ¶¶ 111, 134–35, 139.

The changes are generally consistent with what one would expect from an agency that ran a first-of-its-kind program at scale and wrote down what it learned. Not every proposal for change was adopted, including our own: earth station costs remain allocated to Partial Economic Area ("PEA") by PEA, as in 2020, rather than under Summit Ridge's proposal for nationwide aggregation.[64] The payers' process fared little better. CTIA and Verizon sought a hard 2% cap on soft costs, a shot clock for claims review, and continuing committee oversight of the Clearinghouse, and the Commission declined all three in favor of transparency duties. Sections 5.8, 9.2, and 9.8 analyze the options this leaves open.[65]

[64] Upper C-band Order ¶ 129 & n.464.

[65] CTIA Comments at 26–28; Verizon Comments at 13, 15–17; Upper C-band Order ¶¶ 122, 145, 159.

PART II: PERSPECTIVES BY STAKEHOLDER

This section examines the transition from the perspective of each stakeholder group: earth station operators, satellite operators, airlines and aircraft owners, and winning bidders.

5. EARTH STATION OPERATORS: HOW THIS DIFFERS FROM THE LOWER C-BAND

At first glance, the earth station process reads as a repeat: satellite operators plan and execute the migration, a Cost Catalog defines presumptively reasonable costs, a Clearinghouse pays claims, and operators who prefer to run their own transition may take a lump sum instead. On closer inspection, however, several structural differences change how operators should prepare.

KEY DIFFERENCE FROM THE LOWER C-BAND

Three changes matter more than the rest. Eligibility is frozen to the November 19, 2025, incumbent list, and no registration window is coming. The lump sum is elected per site rather than per operator, and priced to include a Ku-band migration. Wireless operations begin on a fixed date, whether or not clearing is finished, which reassigns the risk of a late transition to the incumbent.

5.1 Eligibility Is Frozen

The Commission carried forward the definition of an incumbent earth station from the Lower C-band transition and will use the most recently released incumbent earth station list, issued November 19, 2025, as the baseline for the entire Upper C-band Transition.[66] Operators asked the Commission to reopen the list for antennas that are unregistered, were previously found ineligible, or have been expanded or relocated since the Lower C-band transition. The Commission declined, and the 2018 filing freeze remains in place, so no registration window is coming. An antenna that is not on the list is outside the program entirely: no reimbursement, no lump sum, and no interference protection once the deadline for its PEA passes. The practical consequence is that the first preparation task is reconciling your registrations in the International Communications Filing System ("ICFS"), the database formerly known as the International Bureau Filing System ("IBFS"),[67] with your physical inventory. The Transition Plans, the lump sum categories, and every reimbursement claim will be built on that list.

5.2 A Smaller Repack Target, and a New Destination Band

In the Lower C-band transition, services were compressed into a 200-megahertz band. For the Upper C-band Transition, the in-band destination is only 40 megahertz between 4.16–4.2 GHz. The eligible space station operators have proposed moving some services and links out of the C-band altogether, to hybrid architectures using Ku-band downlink at 11.7–12.2 GHz. SES has described cross-strapped satellites, retrofitted antennas with Ku-band feeds, new antennas where retrofit is not feasible, and a terrestrial recovery network in high-rain-fade regions. Eutelsat has proposed new Ku-band satellites.[68] The Commission noted that these are proposals, not pre-approved transition steps, and that the Clearinghouse retains full authority to assess the

[66] Upper C-band Order ¶ 94 & nn.335–39. Qualifying stations were operational as of April 19, 2018, licensed or registered in IBFS (now ICFS) by November 7, 2018, and timely certified by May 28, 2019.

[67] Upper C-band Order ¶ 94 & n.336.

[68] Upper C-band Order ¶¶ 117–19.

reasonableness of the resulting costs.[69] For an earth station operator, the operational takeaway is that your post-Transition configuration may involve a different band, a different dish or feed, and different link budgets than anything the Lower C-band transition would suggest. The rules require that an incumbent earth station "will be able to continue receiving uninterrupted service both during and after the transition." Still, the Order is equally clear that the standard is "substantially the same service," not identical service, and that no specific quality-of-service level is guaranteed.[70]

5.3 Mandatory Filtering

Every incumbent earth station remaining in the 4.16–4.2 GHz band must be fitted with a passband filter and, in some cases, a new low-noise block downconverter or low-noise amplifier during or after migration and before the relevant transition deadline for its PEA.[71] Filtering was a standard element of the Lower C-band transition. In the Upper C-band Transition, the rule text makes the requirement explicit and universal for stations that remain in the band. Operators should expect a second round of site visits, tower or rooftop access arrangements, and equipment lead-time planning, this time against a fixed end date.

5.4 A More Flexible, Higher-Stakes Lump Sum

The lump sum opt-out returns with two changes that cut in opposite directions. Regarding flexibility, elections may now be made on a site-by-site basis, whereas the Lower C-band required a single election covering the operator's incumbent earth stations.[72] An operator with a mix of urban sites ripe for fiber or IP delivery and rural sites that should stay on satellite can now sort them accordingly. On pricing, lump sum amounts will be based on the average estimated cost of transitioning service out of the 4.0–4.16 GHz band, and that average must include the cost of a potential Ku-band migration, which the Commission expects to exceed in-band repack costs.[73] Because the amount is fixed and, as described below, irreversible, a larger payment cuts both ways: it is more attractive to take, but more painful to have misjudged if actual costs run over. The election is available only for stations in the contiguous United States,[74] and electees choose among three paths for each site: perform their own transition work and keep FSS service; migrate to an alternative distribution technology such as an IP-delivered service; or discontinue service altogether.

This is where the Order and the codified rule diverge. The Order describes three paths, but the election notice captures only two. 47 C.F.R. § 27.1419 asks an electee to indicate only whether each station "will retain fixed satellite services or will discontinue such services," even though 47 C.F.R. § 27.1412(f) elsewhere contemplates the third path, an electee performing all relocation

[69] Upper C-band Order ¶ 120.

[70] 47 C.F.R. § 27.1411(b)(3) (as adopted); Upper C-band Order ¶ 124.

[71] Upper C-band Order ¶ 117 & n.420; 47 C.F.R. § 27.1411(b)(4) (as adopted).

[72] Upper C-band Order ¶ 125 & n.455 (contrasting the Lower C-band's "one-for-all" approach); 2020 C-band R&O, 35 FCC Rcd at 2427 ¶ 202.

[73] Upper C-band Order ¶ 126.

[74] Upper C-band Order, n.454.

actions itself, "including switching to a new distribution technology." Read narrowly, "discontinue such services" suggests ceasing to serve customers rather than merely ceasing to use satellite, and an operator moving a site to IP or fiber delivery fits neither option: it is not retaining FSS, and it has not discontinued service. It will be filed under a heading that does not describe its function. Where the Order's text and the rule differ, the rule governs, and the Cost Catalog comment cycle is the place to reconcile them.

One point sits outside the Order and should be settled with your own advisors before electing. A lump sum is a fixed receipt with a different character from a cost reimbursement, and the tax treatment can vary from site to site.[75] SRG does not believe the FCC intends lump sum payments to be taxable, but the question is worth raising with tax counsel.

The flexibility an operator gains with lump sum elections is given back in responsibility for completing the work. The election window opens with public notice after the Cost Catalog and lump sum amounts are finalized, runs for 60 days, and closes for good. The Order envisions no extensions, and NCTA's request for 90 days was denied.[76] The election is irrevocable, and an electee assumes full responsibility for completing its own transition by the deadline for its PEA.[77] An electee that misses that deadline loses interference protection in the 3.98–4.14 GHz band and must accept any harmful interference from new wireless operations.[78] Because WTB must finalize the Cost Catalog within six months of the Order's release, the 60-day clock could start in the first quarter of 2027. An operator that begins its site-by-site analysis when the public notice appears will be doing in 60 days what it could have done over the prior six months. Figure 1-6 sets out the choice and the three paths available to an electee.

5.5 A Date-Certain Launch Replaces a Payment-Gated Launch

This change reassigns the risk of a late transition. In the Lower C-band transition, absent incumbent consent, new wireless operations could not begin until certifications were validated and accelerated relocation payments made, or until the relocation deadline lapsed. SES and Eutelsat asked for the same gating here. The Commission declined and instead authorized wireless operations to begin on a date certain, citing the need to align with the FAA retrofit deadline and to provide bidders with certainty.[79] Incumbents retain real protections, including quarterly progress visibility, license conditions that make payment obligations enforceable against wireless licensees, and penalties for satellite operators that miss deadlines. But the burden now sits with the incumbent. If the transition at a given site runs late, the deployment proceeds regardless. Operators should plan their own dependencies, site access, landlord approvals, and equipment orders as if December 30, 2030, and June 30, 2031, will not move, because the Order is built so that they do not.

[75] Summit Ridge does not provide tax or legal advice. The character of a lump sum receipt for tax purposes depends on facts specific to each operator and site; consult your tax advisors before electing.

[76] Upper C-band Order, n.460 (declining NCTA's request for a 90-day election window).

[77] Upper C-band Order ¶¶ 125–26 & nn.455–56, 460; ¶ 186.

[78] Upper C-band Order ¶ 125 & n.456.

[79] Upper C-band Order ¶¶ 111–12 & n.401.

PRACTICAL RISK

A payment-gated launch withholds the start of wireless service until certifications are validated and payments are made. A date-certain launch does not. If the transition at a site runs late, the deployment proceeds on schedule, and the station loses interference protection in the 3.98–4.14 GHz band. Plan site access, landlord approvals, permits, and equipment orders as if December 30, 2030, and June 30, 2031, will not move, because the Order is built so that they do not.

5.6 Money Mechanics: What Is Reimbursable, and What Is Not

The Commission's initial estimate of total FSS clearing costs is $4–$5 billion, funded by winning bidders in proportion to their gross winning bids, with earth station costs allocated on a PEA-by-PEA basis.[80] Compensable costs cover reasonable engineering, equipment, site, and FCC fees, plus other reasonable and necessary costs of clearing 4.0–4.16 GHz in the upper C-band, whether the path is a repack or a Ku-band migration.[81] Only stations on the incumbent list that remain operational in the contiguous United States are eligible, with a narrow carve-out for U.S. stations outside the contiguous U.S. that can show their modifications were a direct result of the contiguous-U.S. transition.[82]

The exclusions generated most of the friction in the Lower C-band transition process. Lost revenues and the speculative value of foregone business opportunities are not compensable. Expenses of appealing Clearinghouse determinations are not compensable. Redundant distribution paths that an operator builds itself, such as a new fiber or Internet connection layered on top of the satellite operator's solution, are an optional upgrade, not a transition cost. The Commission also carried forward its guidance that incumbents receive what is needed to deliver substantially the same service, and nothing beyond that threshold.[83]

5.7 Claims Processing: Familiar Structure, New Discipline

The Clearinghouse will publish a claims processing handbook and launch a public-facing website within six months of its confirmation. Claimants must justify and document every claim, produce records on request, and may be audited at the Clearinghouse's discretion.[84] Two points from the Order should now shape record-keeping. First, decisions of the Lower C-band Clearinghouse carry no precedential force. A claimant may attach relevant final decisional memoranda from that program, and the Upper C-band Clearinghouse has discretion to consider them, but nothing transfers automatically.[85] Second, there is a final and binding claims submission deadline for all FSS reimbursement claims, whether actual cost or lump sum, no later than six months after the Final Transition Deadline. The Commission expects actual cost claims to be filed as soon as

[80] Upper C-band Order ¶¶ 127–29. Summit Ridge advocated a nationwide aggregation model for earth station costs based on the 3.45 GHz precedent; the Commission retained the PEA-specific approach. Id. ¶ 129 & n.464.

[81] Upper C-band Order ¶¶ 115–16.

[82] Upper C-band Order ¶ 123 & nn.443–45.

[83] Upper C-band Order ¶ 124 & n.439.

[84] Upper C-band Order ¶ 144.

[85] Upper C-band Order ¶ 147.

practicable after costs are incurred. Note one qualification the codified rule adds and the Order's text does not: 47 C.F.R. § 27.1416(a) and (b) both make that date the deadline "unless otherwise established by" WTB, so the Bureau can move it earlier.[86] Disputes go first to the Clearinghouse, which must decide within 30 days of full briefing, with appeals to the Commission.[87]

One change appears only in the rule text and directly affects the lump-sum decision. A rule from the Lower C-band transition established a single review standard for the Clearinghouse. It reviewed reimbursement requests to determine whether they were reasonable and to ensure they complied with the subpart, with claims falling inside the Cost Catalog range presumed reasonable.[88] The Upper C-band Transition splits the rule from the Lower C-band transition into three components. Actual cost claims keep the reasonableness standard and the Cost Catalog presumption. Lump sum claims are reviewed only for compliance with the subpart and the Cost Catalog schedule. Radio altimeter rebate claims are reviewed only for compliance with the subpart and the rebate public notice.[89] It appears there is no reasonableness review. The amount is published in advance, so the open question is eligibility, not price.

Paragraph 144 of the Order describes the Clearinghouse as responsible for the receipt, review, and disposition of all reimbursement claims, actual cost or lump sum, based on their reasonableness.[90] SRG expects the codified rule to take precedence because it is the more specific instruction. The point will likely be tested early, and the timing is the challenge. SRG suggests asking the Clearinghouse early what the compliance review will require. The question to ask is which site records establish eligibility for which lump sum category. The handbook that should answer this question is not due until six months after the Clearinghouse is confirmed, which may be after the election window has closed. Figure 5-1 below summarizes how the earth station process for the Upper C-band Transition differs from the transition for the Lower C-band.

Figure 5-1: Earth Station Transition, Lower C-band Versus Upper C-band

Feature	Lower C-band (2020)	Upper C-band (2026)
Spectrum retained by FSS in the contiguous United States ("CONUS")	200 MHz (4.0–4.2 GHz)	40 MHz (4.16–4.2 GHz), plus Ku-band migration paths
Wireless launch trigger	Certification and payment are gated, absent consent	Date certain: Dec. 31, 2030 / Jul. 1, 2031

[86] Upper C-band Order ¶ 145.

[87] Upper C-band Order ¶¶ 151–52; 47 C.F.R. § 27.1421 (as adopted).

[88] 47 C.F.R. § 27.1416(a), the version in effect before the revision adopted in FCC 26-46; see also 2020 C-band R&O, 35 FCC Rcd at 2448 ¶ 262. That rule was addressed to reimbursement requests and did not separately provide for the review of lump sum claims.

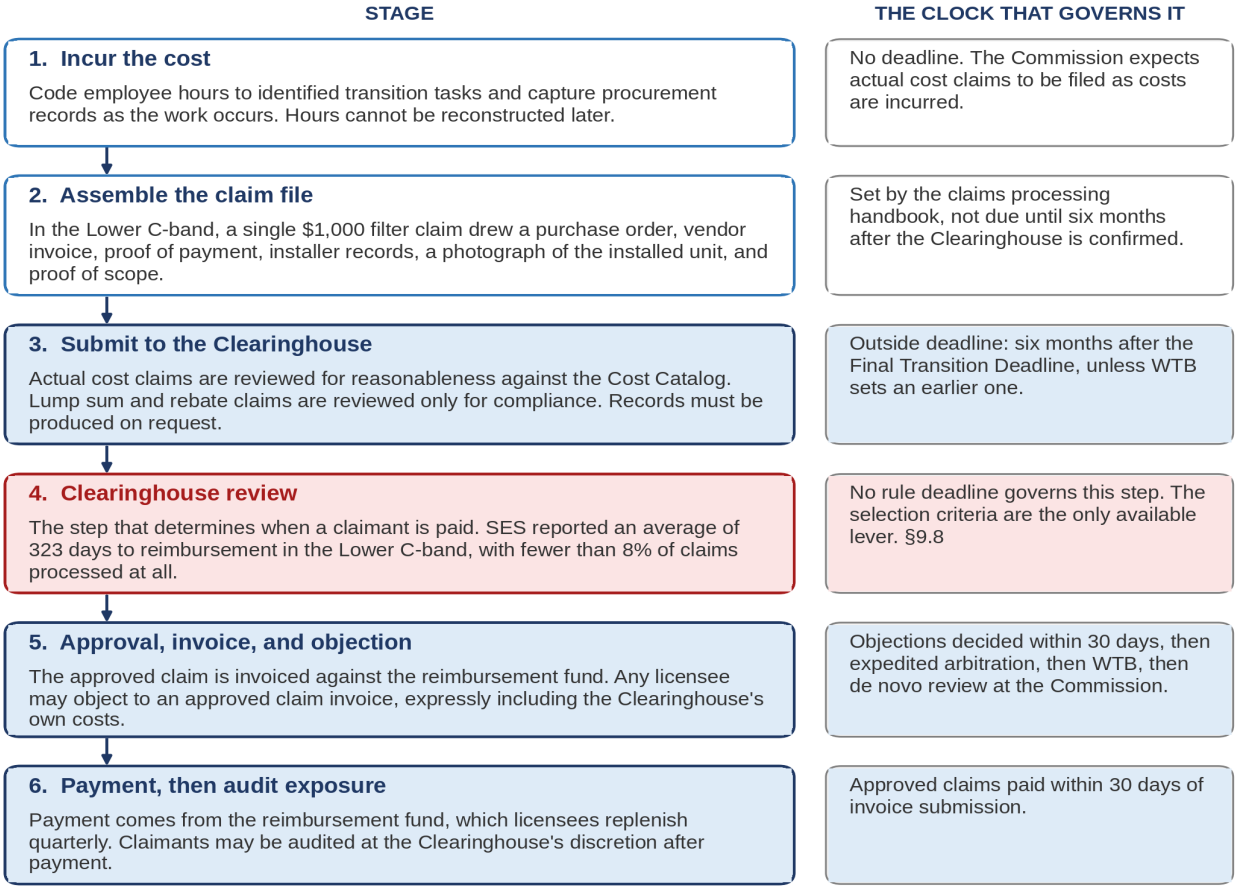
[89] 47 C.F.R. § 27.1416(a)–(c) (as adopted). Paragraph (a) directs the Clearinghouse to review actual cost claims to determine whether they are reasonable and comply with subpart O. Paragraphs (b) and (c) direct review of lump sum and rebate claims to determine whether they comply with subpart O and, respectively, the Cost Catalog schedule and the rebate public notice.

[90] Upper C-band Order ¶ 144.

Feature	Lower C-band (2020)	Upper C-band (2026)
Lump sum election	One election covering all sites	Per-site election; amounts include Ku migration costs. 60-day irrevocable window
Lump sum pricing basis	Average estimated relocation costs	Average estimated costs, including Ku-band migration
Review standard for fixed payments	Single rule standard addressed to reimbursement requests	Separate rule paragraphs; lump sum and rebate claims reviewed for compliance, not reasonableness
Filtering	Performed as part of the transition	Expressly required for every station remaining in 4.16–4.2 GHz
Eligibility	Registration and certification process (2018–2019)	Frozen to the Nov. 19, 2025, incumbent list; no reopening
Earth station cost allocation	PEA-specific pro rata	PEA-specific pro rata (unchanged)
Clearinghouse duties	FSS claims only	FSS claims plus radio altimeter retrofit rebates
Oversight of Clearinghouse costs	Objection process sat in the Clearinghouse's dispute resolution plan and a Bureau public notice, not in the rules	Objections permitted, incl. Clearinghouse's own costs

Source: Summit Ridge Group, LLC analysis of FCC 26-46 and the 2020 C-band R&O.

Figure 5-2: Lifecycle of an Actual Cost Claim, and the Clock at Each Stage



Source: Summit Ridge Group, LLC analysis of FCC 26-46 and 47 C.F.R. Part 27.

SRG OBSERVATION

Ask the Clearinghouse early what the compliance review of a lump sum claim will actually require, and which site records establish eligibility for which category. The handbook that answers the question is not due until six months after the Clearinghouse is confirmed, which may fall after the election window has closed.

5.8 Financing Costs and Internal Time

Two cost categories will generate more claim disputes than their size would suggest, and the Order treats them very differently. Financing costs are addressed directly and are reimbursable within limits. Internal labor is not addressed at all.

Financing costs are limited because they are classified as soft costs. The Order defines soft costs as legitimate and prudent transaction expenses directly attributable to the transition, and its own

enumeration of that category includes engineering, consulting, and attorney fees, as well as financing for clearing costs.[91] Soft costs carry a rebuttable presumption cap of 2% of hard costs.[92] The operative word is "rebuttable." The Commission acknowledged stakeholder concerns about the scope of soft costs during the Lower C-band transition, specifically naming financing charges and interest expense. Still, it declined to impose a firm cap on the ground that it would not afford sufficient flexibility during claims review and true-up.[93] CTIA and Verizon had urged the opposite conversion, from rebuttable presumption to hard cap, and did not get it either.[94] SES, opposing a hard cap from the claimant side, told the Commission that the 2% figure was "used as a benchmark" in the Lower C-band transition and that soft costs "ultimately far exceeded the 2% mark."[95] Instead, the Commission directed that the Clearinghouse consider whether financing an acquisition is part of the ordinary course of business when assessing soft costs above the 2% presumption.[96]

A claimant that funds Transition-related work by drawing on a standing revolving credit facility is doing what it does every quarter, and we expect the Clearinghouse to treat the associated interest as ordinary course. A claimant that raised identifiable transition-specific financing on documented terms for documented transition purposes is making a different showing. Operators that expect to claim financing costs above the presumption should structure and paper the borrowing accordingly, before the money is drawn.

The 2% ceiling also has to be read as a shared ceiling. Engineering fees, consulting fees, legal fees, and financing all compete for the same presumptive room. On the Commission's own estimate of $4 to $5 billion in FSS clearing costs, 2% is roughly $80 to $100 million across every claimant and every soft cost category combined.[97] Any claimant planning to spend meaningfully on outside advisors should not assume there is additional headroom for interest.

The Order's actual answer to financing costs is to reduce the need for financing. Eligible space station operators are expected to bear their own transition costs until the auction winners are announced, and bidding is not expected to close until July 2027.[98] Long-lead procurement, including satellite milestone payments and launch-related items, necessarily starts before that. The Commission's response is not about larger-interest claims but about earlier cash. It encourages the Clearinghouse to explore advance funding or partial approval of significant capital costs specifically to help minimize financing costs, subject to four conditions: protection of the reimbursement program against contingencies such as a claimant's bankruptcy, balancing against the equities of the wireless licensees who separately bear their own auction financing costs, documentation supporting the reasonableness and necessity of the underlying claim, and

[91] Upper C-band Order ¶ 122 & n.439.

[92] Upper C-band Order ¶ 122 & n.440.

[93] Upper C-band Order ¶ 122 & n.441.

[94] CTIA Comments at 27; Verizon Comments at 13; Reply Comments of CTIA, GN Docket No. 25-59, at 36 (filed Feb. 18, 2026) ("CTIA Reply").

[95] Reply Comments of SES Americom, Inc., GN Docket No. 25-59, at 27 (filed Feb. 18, 2026) ("SES Reply").

[96] Upper C-band Order ¶ 122 & n.442.

[97] Summit Ridge arithmetic based on Upper C-band Order ¶ 127. The 2% figure is a rebuttable presumption applied to hard costs, not a hard limit on aggregate soft cost recovery.

[98] 47 C.F.R. § 27.1418(a) (as adopted); Upper C-band Order ¶ 184.

a later true-up.[99] Eutelsat framed the true-up as a claw-back, with overpayments returned at final reconciliation.[100]

For claimants, that leaves two things to plan around. Advance funding is discretionary, unscheduled, and negotiated with a Clearinghouse that does not yet exist, so no operator should build a financing plan that assumes it. Additionally, any advance received is provisional. A claw-back obligation against cash already spent is a different balance sheet item from a reimbursement received, and it should be modeled as such.

One related exclusion deserves a line of its own. Expenses incurred in appealing a Clearinghouse determination are not compensable.[101] The cost of contesting a denied claim is borne entirely by the claimant, win or lose. That asymmetry is worth pricing into any decision about whether to fight a marginal disallowance.

Internal time is an open question, and the record does not answer it. The Order does not address whether a claimant's own employee labor is reimbursable. The reimbursable core is actual relocation costs, provided they are not unreasonable, and actual transition costs associated with the necessary migration of incumbent earth stations, provided they are not unreasonable.[102] Nothing in that language excludes internal labor. Nothing confirms it either, and the soft-cost enumeration the Commission does provide lists only third-party categories. The exclusions the Order states expressly are the speculative value of lost business opportunities, lost revenues, and appeals expenses.[103]

We expect this to be resolved in the Cost Catalog and the Clearinghouse's claims processing handbook rather than through further Commission action. We also expect the distinction that matters to be between documentation and principle. Employee hours coded contemporaneously to identified transition tasks, at documented rates, are a claim a reviewer can test. Allocated overhead, general and administrative loadings, and executive attention are not, and we would not expect them to survive review.

The practical consequence is immediate. An operator who starts time-coding transition work now preserves the option. An operator that waits for the answer may forfeit it, because it will be difficult to reconstruct internal hours from 2027 in 2029 in any form a reviewer can accept. Accordingly, the Cost Catalog comment cycle is the place to raise the treatment of internal labor, and operators who do this work with their own engineers have the most at stake in that answer.

[99] Upper C-band Order ¶ 146 & n.512.

[100] Upper C-band Order, n.512 (citing Comments of Eutelsat Communications S.A., GN Docket No. 25-59, at 16–19 (filed Jan. 20, 2026) ("Eutelsat Comments")).

[101] Upper C-band Order, n.439.

[102] 47 C.F.R. § 27.1418(b)(2) (as adopted).

[103] Upper C-band Order ¶ 124 & n.447; id., n.439.

6. SATELLITE OPERATORS: THE PLAN, THE CASH, AND THE INCENTIVES

6.1 The Transition Plan Is the Controlling Document

For SES, Eutelsat, and Telesat, preparation reduces to a single filing: the initial Transition Plan due on November 5, 2026.[104] Each operator must plan, coordinate, and perform, or contract for the performance of, every task needed to migrate any incumbent earth station that receives or sends signals to its space stations, whether or not the operator has a direct contract with that earth station's owner.[105] The required contents are extensive: which services are repacked into 4.16–4.2 GHz and which migrate to the Ku-band; the space stations to be repacked; the number of new satellites, if any, with a detailed description of why they are necessary; a customer-level grooming plan listing pre- and post-transition frequencies; planned technology upgrades; the number and location of incumbent earth station antennas to be transitioned; the count of antennas requiring retuning, repointing, or other modification; and a specific implementation timeline. Estimated costs must be itemized in sufficient detail for prospective bidders, the Clearinghouse, and the Commission to review.[106]

The procedure for filing an initial Transition Plan matters as much as its contents. First, the initial Transition Plan is public. Each will sit in the FCC's dedicated Electronic Comment Filing System ("ECFS") docket,[107] accept formal comments, and pass through an initial amendment window that closes before auction bidding starts. After that window, the initial Transition Plan for critical elements is final, and any later amendments must be targeted and clearly explained.[108] Second, the Commission will not approve an initial Transition Plan, and it expressly declined to treat the operators' technology choices as presumptively reasonable. The Clearinghouse retains independent authority to test the reasonableness and necessity of every cost, including the necessity of any new satellite.[109] Third, the workload is a moving target until the earth station elections close: stations whose owners take the lump sum drop out of the plans during the amendment window, and the operator is thereafter relieved of responsibility for them. Figure 6-3, at the end of this section, sets out the sequence from that filing through to the incentive payment.[110]

[104] Upper C-band Order ¶ 163. The Commission declined CTIA's request to move this deadline forward but encouraged the operators to engage customers and impacted stakeholders as soon as practicable. Id., n.574.

[105] Upper C-band Order ¶ 162. Operators may file a joint Transition Plan, provided it includes all required elements for each operator. Id. ¶ 162 & n.573.

[106] Upper C-band Order ¶¶ 163–64.

[107] WTB will establish a dedicated ECFS docket for the Transition Plans; the docket number has not been announced as of this writing. The proceeding record to date appears in GN Docket No. 25-59, https://www.fcc.gov/ecfs.

[108] Upper C-band Order ¶¶ 163, 165.

[109] Upper C-band Order ¶ 166.

[110] Upper C-band Order ¶ 165 & n.578.

6.2 Operators Front Their Own Costs Until the Auction Closes

Each eligible space station operator is responsible for paying its own satellite transition costs until the auction winners have been announced.[111] Similarly, the Clearinghouse's administrative costs are borne by the operators until licenses are awarded, and the operators are reimbursed once the licensees begin paying in.[112] With bidding expected to close by July 2027 and long-lead items, such as replacement satellites, necessarily ordered before then, the operators will finance the opening phase of the transition from their own balance sheets and recover the costs afterward, provided they are actual and reasonable, through the Clearinghouse.[113] The Order also indicates that starting satellite and launch procurement before its release is not, by itself, a basis for denial.[114] The Commission's initial estimate of total FSS clearing costs is $4–$5 billion, with more granular figures expected to emerge through the Transition Plan process.[115]

Quarterly status reports begin on March 31, 2027, and continue through the Transition, and are filed in the same docket as the initial Transition Plan. Joint reports are permitted.[116] Moreover, the launch is date-certain. The Commission rejected requests from SES and Eutelsat to condition the start of wireless operations on receipt of payments, so a payment dispute does not stop the clock.[117] One date outside the payment process belongs on the same calendar: the telemetry, tracking, and command ("TT&C") protections adopted in 2020 remain in place at the consolidated sites and expire on December 5, 2030, 25 days before the Primary Transition Deadline. TT&C operations may continue in the C-band on an unprotected basis after that date until the satellites they support cease operation, so the expiry is a loss of protection rather than a shutdown. The Order declined to extend protections to gateways and teleports as well.[118]

PRACTICAL RISK

The operators fund the opening phase of the transition from their own balance sheets. Costs are self-funded until the auction winners are announced. Bidding is expected to close by July 2027, and long-lead items, such as replacement satellites, must be ordered before then. Reimbursement afterward is conditioned on the costs being actual and reasonable, tested against the Transition Plan by a Clearinghouse that will not have been selected when the first orders are placed.

6.3 The Incentives: 89% to SES, and a Steeper Sliding Scale

The Order sets aside $6.3 billion in incentive payments for timely clearing, of which $4.914 billion is tied to the Primary Transition Deadline and $1.386 billion is tied to the Final Deadline.[119]

[111] 47 C.F.R. § 27.1418(a) (as adopted).

[112] Upper C-band Order ¶ 148.

[113] Upper C-band Order ¶ 184; 47 C.F.R. § 27.1418(b)(2) (as adopted).

[114] Upper C-band Order ¶ 146 & n.512.

[115] Upper C-band Order ¶ 127.

[116] Upper C-band Order ¶ 167; 47 C.F.R. § 27.1412(g) (as adopted).

[117] Upper C-band Order ¶ 112 & n.401.

[118] Upper C-band Order ¶¶ 84–85.

[119] Upper C-band Order ¶ 135.

Allocation among the three operators was contested. The Commission rejected the utilization-based methodologies advanced by both SES and Eutelsat and instead measured each operator's share by the value of spectrum it would encumber if it alone failed to clear, computed from earth station antenna locations, an assumed 8 km exclusion radius, and Lower C-band dollar-per-MHz-pop prices.[120] The result is shown in Figure 6-1 below and concentrates the pool almost exactly as the Lower C-band did, for the reasons discussed in Section 4.

The parties funding the pool should study the derivation of the incentive payments. The Commission calibrated a price of $0.70 per MHz-pop from the Lower C-band auction results, applied an 8.5% discount rate, and asked what earlier access to the full 160 megahertz is worth to bidders, measured against a counterfactual in which the spectrum does not become available until December 30, 2032. The answer was $6.3 billion, of which 78% is attributable to the PEAs subject to the Primary Transition Deadline. A bidder funds the pool based on the acceleration value to license winners, based on the Commission's model,[121] not on the clearing costs operators pay. A bidder whose own view of dollar-per-MHz-pop or cost of capital differs materially from the Commission's is being asked to fund an incentive calculated on assumptions it does not share, and the auction is the last point at which that difference can be priced.

Figure 6-1: Incentive Payment Allocation ($ Millions)

Operator	Share	Total	Primary Deadline	Final Deadline
SES	89%	$5,607.00	$4,373.46	$1,233.54
Eutelsat	8%	504.00	393.12	110.88
Telesat	3%	189.00	147.42	41.58
Total	**100%**	**$6,300.00**	**$4,914.00**	**$1,386.00**

Source: FCC 26-46 ¶ 138 (table).

Each operator must file a Certification of Completion no later than each Transition Deadline. Absent a deficiency notice from WTB within 30 days, the certification is deemed validated, and challenged certifications are decided within 60 days of filing.[122] Miss the Primary Transition Deadline, and the associated incentive shrinks by 7.5% for every 30 days of delay through day 180, leaving an operator that far behind with only 55% of the payment. At day 181, the remainder goes to zero. The scale for the Lower C-band transition was only 5%.[123] Moreover, if a satellite operator misses the Final Transition Deadline, it forfeits the final-deadline incentive entirely, loses

[120] Upper C-band Order ¶¶ 136–38.

[121] It used Lower C-band auction results plus an 8.5% discount rate to derive a $0.70/MHz-pop price assuming the full 160 MHz would otherwise be unavailable until December 30, 2032, yielding a $6.3 billion acceleration benefit; 78% of this ($4.914 billion) was allocated to the Primary Transition Deadline PEAs and the rest to the Final Deadline. Operator shares (89% SES / $5.607B, 8% Eutelsat / $504M, 3% Telesat / $189M) were set according to each operator's relative contribution, measured by the hypothetical value of spectrum each would encumber (via earth-station locations, an 8 km interference buffer, 2020 Census population data, and Lower C-band $/MHz-pop prices). See Upper C-band Order ¶¶ 134–38 & nn.487–89.

[122] Upper C-band Order ¶ 140. Satisfaction is determined operator by operator, and an operator is not held responsible for delays due to circumstances beyond its control. Id.

[123] Upper C-band Order ¶ 139 & n.490.

any further transition cost reimbursement, and faces potential penalties for unauthorized transmissions after that date.[124] There is one upside scenario for the license winners: if all three operators clear the full 160 megahertz early and their certifications are validated, wireless operations may begin before the Final Transition Deadline, once the required incentives are paid.[125] The potential to begin using the spectrum early may encourage license winners to separately subsidize satellite operators to accelerate clearing.

6.4 The Lower C-band Cost Structure as a Benchmark

The Commission's $4 to $5 billion estimate for FSS clearing in the Upper C-band Transition is an aggregate with no composition attached to it. The best guide to what that money buys is what the last transition cost, and one operator published its budget in full. SES put its cost from the Lower C-band transition at approximately $1.617 billion, itemized in Figure 6-2 below.[126]

Figure 6-2: SES's Budgeted Lower C-band Transition Cost, by Category

Cost Category	Amount ($ Millions)	Share of Total
Satellite replacement program	$1,329.0	82.2%
Satellites (six)	869.0	53.8%
Launches	340.0	21.0%
Ground control, TT&C, program management, insurance	120.0	7.4%
Technology upgrades	133.0	8.2%
Filters and LNBs	57.1	3.5%
TT&C and gateway consolidation	56.0	3.5%
Other	16.0	1.0%
Antennas	13.0	0.8%
Dual illumination	7.0	0.4%
Other services	5.7	0.3%
Total	**$1,616.7**	**100%**

Source: Summit Ridge Group, LLC analysis of SES Americom, Inc., Accelerated C-band Transition Implementation Plan, App. D (filed July 10, 2023). Indented lines are components of the satellite replacement program. Shares are Summit Ridge arithmetic and may not sum because of rounding. SES stated that its actual cost would come in below this budget.

The satellite replacement program was 82% of the budget: $869 million for spacecraft, $340 million for launches, and $120 million for ground control, program management, and insurance. Everything visible at an earth station, meaning filters, LNBs, antennas, and dual illumination,

[124] Upper C-band Order ¶ 139 & n.490; 47 U.S.C. § 301.

[125] Upper C-band Order ¶ 141.

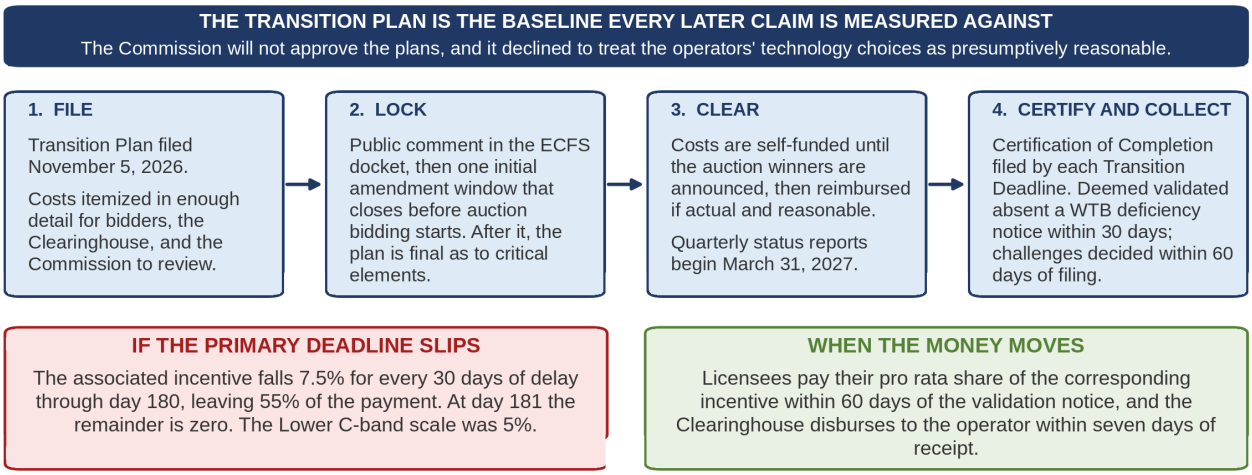
[126] SES Americom, Inc., Accelerated C-band Transition Implementation Plan, GN Docket Nos. 18-122 and 20-173, App. D (filed July 10, 2023) ("SES Transition Plan").

came to roughly $77 million, under 5% of the total. In cost terms, this is primarily satellite procurement, not filter installation.

That concentration in the space segment is why the Order requires a detailed description of why each new satellite is necessary and grants no presumption regarding the operators' technology choices. The Commission placed the burden of explanation in the Transition Plan, where it can be reviewed in public, rather than leaving it to claims review afterward. The cost profile is also front-loaded into the very period during which operators must self-fund, because procurement and launch will precede the auction. The mix of costs will likely be different this time as well. The Lower C-band left FSS 200 megahertz. The Upper C-band leaves 40 and outright moves some services to the Ku-band. Ground-segment cost as a share of the total should rise, and the Transition Plans due November 5, 2026, will reveal the extent.

One scale check belongs in a prospective bidder's model. Realized relocation cost payments across the entire Lower C-band transition came to approximately $3.4 billion, against which SES's own budget was roughly half, though SES expected to finish below budget.[127] The Commission now estimates $4 to $5 billion for the Transition that clears less spectrum but leaves FSS far less of the band. Whether that range holds is the largest single uncertainty in a winning bidder's cost exposure, and the Order is explicit that licensees bear the entire allowed cost, including amounts above the estimate.

Figure 6-3: From Transition Plan to Incentive Payment



Source: Summit Ridge Group, LLC analysis of FCC 26-46.

7. AIRLINES AND AIRCRAFT OWNERS: RADIO ALTIMETER RETROFIT REBATES

This section moves from the rebate structure to the practical constraints that will determine whether aircraft operators and owners recover the full value of those rebates: eligibility,

[127] Upper C-band Order ¶¶ 12–13; Appendix D, n.25; SES Transition Plan.

scheduling, equipment availability, funding mechanics, claim timing, and the October 2026 comment window.

7.1 A Rebate, Not a Reimbursement

Radio altimeters occupy 4.2–4.4 GHz, adjacent to the repurposed band, and the FAA's companion rule requires operators to upgrade them to a new interference tolerance standard. Because altimeters are not being relocated and their authorizations are not being modified, the aviation sector falls outside the Commission's usual relocation framework. The Commission nonetheless conditioned the new wireless licenses on funding rebates to defined classes of aircraft owners and operators, relying on its Title III authority.[128] Several aviation commenters sought reimbursement for actual costs. The Commission rejected that model as impracticable at this scale and instead adopted set rebate amounts by aircraft category, based on the number of altimeters involved, the level of effort per retrofit type, and timing considerations. No other conditions related to altimeter retrofits will be imposed on winning bidders.[129]

The FAA Final Rule forecasts 43,562 aircraft with 62,810 radio altimeters across both retrofit deadlines. The first deadline alone covers 8,662 Part 121 aircraft carrying 18,423 altimeters.[130] The Commission estimates total rebate costs of $3.83–$5.71 billion, with approximately $2.21 billion attributable to the first-deadline group and a $3.5 billion cap on the second.[131] Dividing the Commission's own figures, the first-deadline estimate works out to approximately $120,000 per altimeter.[132] Whether the final category amounts approach that average is exactly what the forthcoming comment cycle will likely contest.

The Commission's estimated total rebate cost of $3.83-$5.71 billion is based on several factors. The FAA prices the installed replacement of an airplane radio altimeter at $80,000 to $120,000 per unit, inclusive of labor, and a rotorcraft unit at $40,000.[133] The Commission's $2.21 billion for the first deadline is 18,423 units priced at the top of that range, and its $3.83 billion floor is the eligible fleet priced at the bottom.[134] The rebate pool is essentially the FAA's cost estimate carried across, though its two endpoints are not built the same way. The floor is the FAA's low-end estimate for the whole eligible fleet. The ceiling is the first deadline point estimate of $2.21 billion, plus an administratively capped $3.5 billion for the second group, which itself exceeds the FAA's own high-end estimate of $3.44 billion. One end is an engineering estimate, and the other is a policy cap.[135] The width of the range matters more here than its level. A 50% spread between

[128] Upper C-band Order ¶¶ 178–80.

[129] Upper C-band Order ¶ 181.

[130] Upper C-band Order ¶ 181 & nn.635–36 (citing FAA Final Rule at Table 5).

[131] Upper C-band Order ¶ 183 & n.648.

[132] Summit Ridge arithmetic: $2.21 billion divided by 18,423 altimeters equals approximately $120,000 per altimeter. The actual rebate schedule will be set by WTB by aircraft category and may differ materially from this average.

[133] FAA Final Rule, Tables 6 and 8.

[134] Summit Ridge arithmetic: 18,423 altimeters at $120,000 equals $2.211 billion, matching the figure at Upper C-band Order ¶ 183 & n.648. FAA Final Rule, Table 8 (domestic transfers of $3.833 billion to $5.648 billion).

[135] Upper C-band Order ¶¶ 176, 181 & n.620; id. ¶ 181 (declining to adopt an actual cost framework for the rebates as neither appropriate nor practicable at this scale).

$80,000 and $120,000 is the difference between a fully funded retrofit and one that leaves a quarter of the bill with the operator. Nothing in the Order says where within that spread WTB will set each category. That is what the October 6, 2026, comment cycle decides. The rebate carries no separate allowance for the cost of claiming it. Consequently, claim preparation and the carrying costs between paying the vendor(s) and collecting from the Clearinghouse are drawn from the same fixed amount. Section 9.6 sets out the calculations.

KEY DIFFERENCE FROM THE LOWER C-BAND

A reimbursement covers the costs of a transition, subject to reasonableness testing. A rebate pays a fixed amount by aircraft category, only after the work is finished, and nothing at all for an aircraft that misses its deadline. Because the amount is published in advance, the open question on review is eligibility rather than price. The spread between the FAA's $80,000 and $120,000 endpoints decides whether a retrofit is fully funded or leaves roughly a quarter of the bill with the operator.

7.2 Who Is Eligible, and Who Is Not

Eligibility tracks the FAA's two deadlines. For the first deadline (December 30, 2030), eligible claimants are aircraft operators holding a U.S. air carrier or operating certificate under 14 CFR Part 119, for aircraft operating in the contiguous United States under Part 121 with one or more altimeters installed and an original certificate of airworthiness issued before April 1, 2030. For the second deadline (October 31, 2034), eligible claimants are aircraft owners as shown in the FAA Aircraft Registry, for U.S.-registered aircraft operating under Part 91 (including parts 125, 133, 135, 136, 137, and 194) with an original certificate of airworthiness issued before July 1, 2031.[136]

The Order and the rule diverge on the required documentation for the cutoffs. The Order's text extends both cutoffs to aircraft holding an original export certificate of airworthiness. The codified rule, however, mentions only the original certificate.[137] For imported airframes, the difference matters, and the October 6 comment cycle is the obvious place to fix it. The airworthiness-certificate cutoffs reflect the aviation industry's own projections that upgraded altimeters will be built into new aircraft from those dates, making retrofits and, therefore, rebates unnecessary for newer airframes.

The same comparison yields a second, larger divergence for the second-deadline group. Paragraph 182 extends eligibility to aircraft operating "pursuant to 14 CFR Part 91 (including aircraft operating under parts 125, 133, 135, 136, 137, and 194)." The codified rule carries no such parenthetical. 47 C.F.R. § 27.1411(b)(5)(ii) reaches aircraft that operate in the contiguous United States pursuant to 14 CFR Part 91, and it adds a condition the Order's text does not state, namely registration in the United States under 14 CFR Part 47. We are not experts in aviation law, so it is unclear if the additional condition excludes any operators. The Part 47 registration

[136] Upper C-band Order ¶ 182 & nn.643–44; 47 C.F.R. § 27.1411(b)(5)–(6) (as adopted).

[137] Compare Upper C-band Order ¶ 182 (extending both cutoffs to an aircraft with "an original certificate of airworthiness or original export certificate of airworthiness"), with 47 C.F.R. § 27.1411(b)(5) (as adopted) (referring only to "an original certificate of airworthiness").

condition should be checked against WTB's framing of its draft proposals. The October 6 comment cycle is the place to raise any concerns.

Rebates apply only to altimeters actually installed in eligible aircraft once retrofit work is complete. Spare inventory does not qualify. Foreign-registered aircraft are excluded, as are altimeter manufacturers and other aviation-sector entities. Federal aircraft face statutory constraints under the Antideficiency Act and the Miscellaneous Receipts Act, and the eligibility rules were structured with those limits in mind. Figure 7-1 below sets the two groups side by side and against the FAA's own estimate of the work's cost.[138]

Figure 7-1: Radio Altimeter Retrofit Rebates, First Deadline Versus Second Deadline

Feature	First FAA Deadline Group	Second FAA Deadline Group
FAA retrofit deadline	December 30, 2030	October 31, 2034
Operating rules covered	Part 121, contiguous United States	Part 91, including parts 125, 133, 135, 136, 137, and 194
Claiming entity	Part 119 certificate holder operating the aircraft	Registered owner per the FAA Aircraft Registry
Airworthiness certificate cutoff	Issued before April 1, 2030	Issued before July 1, 2031
Rebate-eligible aircraft	8,662	Approximately 29,300
Rebate-eligible altimeters	18,423	32,028, of which about 5,100 on rotorcraft
Altimeters per airframe	Approximately 2.1	Approximately 1.1
FCC rebate estimate	Approximately $2.21 billion	$2.4 billion point estimate; $3.5 billion ceiling
Implied rebate per altimeter	Approximately $120,000	$75,000 at the point estimate; $109,000 at the ceiling
FAA estimated retrofit cost	$1.47 billion to $2.21 billion	$2.36 billion to $3.44 billion
FAA cost per installed unit	$80,000 to $120,000 per airplane unit	$80,000 to $120,000 per airplane unit; $40,000 per rotorcraft unit
Projected equipment availability	Most in-service mainline by Q4 2029; regional new-design aircraft by Q3 2030	Part 91 certification by Q2 2031
Claims submission deadline	June 30, 2031	April 30, 2035

Source: Summit Ridge Group, LLC analysis of FCC 26-46 ¶¶ 176, 181–83 and Appendix D ¶ 20, and of the FAA Final Rule, Tables 5, 6, and 8. Counts are rebate-eligible aircraft and units and exclude foreign-registered aircraft. Implied rebate figures are Summit Ridge arithmetic and will differ from the category amounts WTB ultimately sets.

With eligibility and estimated rebate levels defined, the next question is whether the affected fleets can complete the work within the available maintenance and equipment time windows.

[138] Upper C-band Order ¶ 182 & nn.645–46.

7.3 The Retrofit Is a Fleet Scheduling Problem Before It Is a Claims Problem

The rebate rules are short. The scheduling problem behind them is not. The Commission's estimate covers 43,562 aircraft carrying 62,810 radio altimeters across both deadlines, but only part of that fleet can claim. Rebate eligibility applies to 8,662 Part 121 aircraft carrying 18,423 altimeters under the first deadline, and to 32,028 altimeters on roughly 29,300 domestic Part 91 and Part 135 aircraft, about 5,100 of those units on rotorcraft, under the second.[139] The remaining 12,359 units sit on foreign-registered aircraft, which the Order excludes.[140] The first group averages about 2.1 altimeters per airframe, the second about 1.1.[141] The rebate categories WTB sets will almost certainly turn on altimeter count and level of effort, so an operator with triple-installed widebody aircraft has a different claim profile than one with single-altimeter turboprops.

The aviation industry's own filings describe how the work gets done. For the vast majority of first-deadline aircraft, retrofits are performed as part of routine overnight maintenance, and the industry projects that most in-service mainline aircraft will be retrofitted by the fourth quarter of 2029.[142] A smaller subset of regional aircraft requires a new design transceiver and is projected to run into the third quarter of 2030.[143] An overnight-eligible retrofit consumes a maintenance window that an operator has already committed to. A new-design installation does not, and it may carry certification, wiring, or panel work that no overnight can absorb.

The scheduling viability for the first group depends on when the queue opens. Retrofitting 8,662 aircraft over the forty months to the end of 2029 would require roughly 217 aircraft per month across the industry, which fits inside existing maintenance cycles. However, that forty-month figure assumes the work could begin now, even though the certified equipment does not yet exist. As Section 7.6 explains, the record puts its arrival somewhere between 2029 and 2031, against a first deadline of December 30, 2030. With a 2029 start, the same fleet must be retrofitted in roughly 24 months, at about 360 aircraft per month. We note that the record carries two different completion projections for this group. The aviation sector projects that most mainline retrofits can be done by the fourth quarter of 2029. The FAA's own estimate is that the first group could be completed between 2029 and 2032. Operators control one variable here, which is whether they schedule before the rebate amounts are published.[144]

Operators are not starting from zero, because this retrofit closely follows an earlier, more targeted retrofit process conducted under the FAA's 2023 airworthiness directive.[145] Most Part 121 operators, therefore, have internal records showing what that round actually cost per airframe, how much labor it consumed, and where it slipped. Those records are the best available basis for

[139] FAA Final Rule, Table 5; Upper C-band Order, Appendix D ¶ 20; eligibility set by id. ¶ 182 & nn.643–44.

[140] Upper C-band Order ¶ 181 & nn.635–36 (citing FAA Final Rule at Table 5).

[141] Summit Ridge arithmetic based on FAA Final Rule, Table 5: 18,423 altimeters across 8,662 aircraft, and 32,028 across approximately 29,300 aircraft.

[142] Upper C-band Order ¶ 176 & nn.619–20 (citing Aviation Coalition March 26, 2026, Ex Parte at 4–5); id., n.643.

[143] Upper C-band Order ¶ 176 & n.620.

[144] Summit Ridge arithmetic: 8,662 aircraft over the forty months from September 2026 through December 2029. The FAA's 2029 to 2032 estimate for this group appears at FAA NPRM at 472.

[145] Upper C-band Order ¶ 178 & n.627 (citing Airworthiness Directives; Transport and Commuter Category Airplanes, 88 Fed. Reg. 34065 (May 26, 2023)).

both an internal budget and a comment filing, and they are better evidence than anything an operator will be able to reconstruct in 2029.

That scheduling analysis depends first on when certified equipment is available and whether operators can secure enough units, including spares, to keep aircraft in service.

7.4 Equipment Availability and Spares

Operators cannot retrofit aircraft until certified equipment is available. For that reason, the eligibility cutoffs are based on expected equipment availability, not just the retrofit deadlines. For the first group, the April 1, 2030, cutoff reflects the aviation sector's estimate of when upgraded radio altimeters will be available. The Commission kept that date because using the industry's availability estimate could reduce supply-chain problems.[146] For the second group, upgraded altimeters for Part 91 aircraft are expected to be certified by the second quarter of 2031, so the cutoff is July 1, 2031.[147]

The availability date, not the compliance date, determines when an operator's queue can open. Moreover, the projections in the record are industry forecasts rather than commitments. If certification slips, the FAA deadlines and the rebate claim deadlines do not automatically slip with them, and the Order does not provide any mechanism for tying one to the other. An operator whose plan assumes on-time availability of a specific transceiver for a specific airframe should know which supplier that assumption depends on and should be tracking that program directly, rather than through the trade press.

Spares are a separate problem, because the Order forecloses a common assumption: spare inventory does not qualify, because rebates attach only to installed units (Section 7.2). The Commission characterized spares holding as an elective practice, noting the FAA's finding that its regulations do not mandate the procurement or maintenance of spare units.[148] The exclusion itself is settled. What remains open in the October 6, 2026 comment cycle is the design of the rebate categories and amounts, including whether they allow for the cost of holding units to protect dispatch reliability. An operator that intends to hold rotable spares during the retrofit window will therefore purchase those units at its own cost, in addition to a fixed per-installation rebate. Summit Ridge views the absence of any allowance for spares as one of the larger unpriced costs the program leaves with airlines; the October 6, 2026, cycle is the one scheduled opportunity to argue for rebate amounts that recognize it. Summit Ridge suggests that participants in the Transition establish a budget as soon as practical.

Those supply assumptions matter even more for the second-deadline population, which is larger, more fragmented, and less likely to move through coordinated airline maintenance programs.

[146] Upper C-band Order ¶ 182 & n.643.

[147] Upper C-band Order ¶ 182 & n.644.

[148] Upper C-band Order ¶ 182 & n.645 (citing FAA Final Rule at section V.A.1).

OPEN ITEM AND COMMENT OPPORTUNITY

The exclusion of spare altimeters is settled: rebates attach only to installed units, and the FAA found that its regulations do not mandate the procurement or maintenance of spares. However, the design of the categories and amounts, including whether they recognize the cost of holding units to protect dispatch reliability, remain open in the October 6, 2026, comment cycle. An operator that intends to hold rotable spares during the retrofit window should establish that budget now and argue for amounts that reflect it.

7.5 The Second Deadline Is Tighter Than It Looks

If upgraded altimeters are certified for Part 91 aircraft in the second quarter of 2031, as the industry projects, the second group has roughly forty months to retrofit approximately 29,300 rebate-eligible aircraft, or about 730 aircraft per month.[149] That is more than three times the monthly pace required of the first group, spread across a far more fragmented population: charter operators, air ambulance and utility fleets under parts 133, 135, 136, and 137, corporate flight departments, and individual owners, where fleet planning is handled at a wide range of scales.

The calendar holds another challenge for the second group of aviation operators. The technical rules protecting radio altimeters, the out-of-band emission limits, the 450-foot antenna height limit, and the base station power limits take effect at the Primary Transition Deadline of December 30, 2030.[150] The voluntary coexistence commitments made by licensees during the Lower C-band transition, currently set to expire in 2028, have been offered as an extension only through that same date, after which the Commission expects them to expire in their entirety.[151] An aircraft still flying an unretrofitted altimeter after December 30, 2030, is therefore operating in a changed adjacent-band environment for nearly four more years, whatever its rebate status. The record bears that concern out, in both the aviation filings and the FAA's own equipage history.

7.6 The Historical Record Suggests the Capacity Constraint Is Real

Supply, rather than money, is the binding constraint on this retrofit. Five companies make certified radio altimeters, and each must design, certify, and produce a new transceiver against a standard that RTCA does not plan to publish until March 2027. The FAA estimates the typical development cycle for flight-critical avionics at two to four years.[152] Laid end to end, certified equipment arrives somewhere between 2029 and 2031, against a first deadline of December 30, 2030. The FAA reached a similar conclusion regarding equipment arrivals using a second, different route. Its own notice of proposed rulemaking ("NPRM") estimated that the first group of upgrades, covering Part 121 and larger Part 129 aircraft, could be completed between 2029 and 2032, which is up to two years past the deadline the agency ultimately adopted.[153] Avionics suppliers are set up for more

[149] Summit Ridge arithmetic: approximately 29,300 rebate-eligible aircraft over the forty months from July 2031 through October 2034. See FAA Final Rule, Table 5.

[150] Upper C-band Order ¶ 175.

[151] Upper C-band Order, n.615 (citing CTIA June 18, 2026, Ex Parte at 2–3).

[152] Requirements for Interference-Tolerant Radio Altimeter Systems, Notice of Proposed Rulemaking, 91 Fed. Reg. 459 (Jan. 7, 2026) ("FAA NPRM") at 464, 466–67, 470–71; FAA Final Rule.

[153] FAA NPRM at 472.

regular sales and delivery cycles. To meet the required deadlines, they will need to increase production rapidly to meet a demand spike that will collapse once the program ends. The cost of ramping up and then downsizing may result in higher prices.[154]

Lockheed Martin told the agency that a 2029 initial deadline was not realistic given production and installation rates for the volume of units involved, and proposed 2030 or later. The Cargo Airline Association indicated mid-2032 would be a "genuine achievement of compressed design, certification, manufacture, and installation." Embraer projected certification in 2031 and argued for 2032. ATR proposed the end of 2036. Boeing was more optimistic, estimating certification for most of its fleet within 12 to 18 months of a Technical Standard Order ("TSO") authorization and receipt of testable units.[155] The agency settled on December 30, 2030, inside the range it had proposed but ahead of what most airframers and several operators said was achievable.

The FAA declined two requests that have had less attention than they warrant. The Regional Airline Association asked the agency to ensure regional operators are not deprioritized when manufacturing resources are constrained, noting that smaller operators have less leverage with equipment makers. Lufthansa requested a non-discrimination requirement for vendor allocation. The FAA declined both, holding that allocating parts among private companies falls outside its authority.[156] The Commission's Order does not fill that gap. Allocation of scarce transceivers will be settled commercially, by contract and by queue position, and the operators best placed are those who commit early.

Beyond the rebate-eligible fleet, demand runs further still and may drive additional supply challenges. The Department of War gave the FAA a preliminary estimate of $3 billion to $4 billion to replace military radio altimeters and said it would need eight years after appropriations to complete the work. Military aircraft are not rebate-eligible.[157] Foreign carriers need roughly 11,135 further units under the first deadline and are likewise ineligible.[158] And because the standard is a joint RTCA and European Organisation for Civil Aviation Equipment ("EUROCAE") product, the FAA expects other civil aviation authorities to adopt it, which it acknowledges is likely to raise worldwide demand and create competition for the same resources.[159] The rebate pays for a share of the units, without ensuring supply.

There are two precedents to measure capacity risk against. Under the airworthiness directives issued between late 2021 and 2023, the industry modified radio altimeters on more than 7,500 aircraft by adding filters or replacing transceivers. Our arithmetic shows that it is roughly 200 aircraft per month over three years, or closer to 290 over the two years in which most of the work ran. The faster reading clears the 217 per month that the first group needs; the slower one does not. Either way, the pace was achieved with a cheaper, faster modification than this program

[154] FAA NPRM at 471 (noting that planning for a production surge followed by a significant drop in production may increase costs).
[155] FAA Final Rule (comment summaries on the compliance schedule).
[156] FAA Final Rule (responses to Regional Airline Association and Lufthansa comments on production allocation).
[157] FAA Final Rule, Table 7.
[158] FAA Final Rule, Table 5; Upper C-band Order ¶ 182 (declining rebates for foreign-registered aircraft).
[159] FAA NPRM at 471.

requires, and both readings sit well below the 730 per month the second group needs. But roughly 26,500 aircraft were subject to operational restrictions rather than upgrades, so most of the second-deadline population has no institutional experience with this work.[160] The second precedent is the FAA's own record of equipage mandates, set out in Figure 7-2 below.

Figure 7-2: Selected FAA Equipage Mandates and Compliance Periods

Equipage Mandate	Compliance Period	Note
Ground Proximity Warning System (1974)	1 year	Later superseded by TAWS
Traffic Alert and Collision Avoidance System (1989)	3 years, extended to 7	Extended because the equipment was not available on schedule
Terrain Awareness and Warning System ("TAWS") (2000)	5 years	
Helicopter TAWS, air ambulance (2014)	3 years	
Automatic Dependent Surveillance-Broadcast ("ADS-B") Out (2010)	10 years	Some aircraft accommodated without equipage
Interference-tolerant radio altimeters, first deadline	Approximately 4.4 years	Governing industry standard not published until 2027
Interference-tolerant radio altimeters, second deadline	Approximately 8.3 years	Covers over two-thirds of the affected aircraft

Source: Summit Ridge Group, LLC analysis of FAA NPRM, 91 Fed. Reg. 459, 471–72 (Jan. 7, 2026), Table 5, and the FAA Final Rule. Radio altimeter compliance periods are measured from the July 2026 rules to the December 30, 2030, and October 31, 2034, deadlines.

None of the earlier mandates carried a funded rebate, and none was tied to a statutory auction date, so the comparison is not decisive. But the one mandate on that list that slipped, the Traffic Alert and Collision Avoidance System ("TCAS"), slipped for precisely the reason at issue here: the equipment was not there on schedule. Operators should treat the FAA's assumption that production can scale to match installation within months of approval as what the agency itself called it, an assumption on which it requested comment and which the record does not resolve.[161]

Even if equipment is available on time, the rebate does not automatically enter the supply chain; it reaches vendors and installers only through commercial arrangements with the eligible operator or owner.

[160] FAA NPRM at 464, 466. The NPRM does not state the period over which the 7,500 modifications ran; the monthly rates in the text are Summit Ridge arithmetic on the stated assumptions.

[161] FAA NPRM at 471 ("FAA assumes that the production rate can increase to equal the installation rate within months of the equipment being approved and requests public comment on this assumption.").

7.7 Where the Money Enters the Channel

Measured against the 32,028 eligible units, the $3.5 billion ceiling works out to approximately $109,000 per altimeter, compared with roughly $120,000 for the first group. The FAA's own estimate for the second group is $2.36 billion to $3.44 billion, so the Commission's ceiling sits at the top of the FAA range, and the $2.4 billion point estimate in its own cost appendix at the bottom. What is thinner is the margin for error. Roughly 5,100 of the second group's units are on rotorcraft, which the FAA prices at $40,000 rather than $80,000 to $120,000, so the group average understates what a fixed-wing operator in that population faces.[162] Participation from that group in the October comment cycle will come through associations rather than through individual filings, and a ceiling is a ceiling regardless of what the retrofits ultimately cost.

The rebate is paid to the operator or owner, and to no one else. The Commission declined to extend eligibility to other aviation-sector entities, including radio altimeter manufacturers, observing that many will benefit from the rebates indirectly through operation of the relevant supply chain.[163] The Commission's stated expectation is that the rebates reach the supply chain through pricing. Whether it does, and on what terms, is a commercial question the Order leaves entirely to the parties.

Several practical implications follow, and we flag them as our expectations rather than as findings. The rebate is a fixed amount by category, not a cost pass-through. The operators absorb any amount by which an installed price exceeds the published category amount. Once WTB publishes the schedule, every vendor and installer in the chain will know exactly what each category pays. We would expect that to influence quoted pricing, and we would expect operators who have locked in pricing before publication to be in a better position than those who negotiate after publication.

The claiming entity and the paying entity are frequently not the same party. First-deadline rebates flow to the Part 119 certificate holder operating the aircraft. Second-deadline rebates flow to the registered owner shown in the FAA Aircraft Registry.[164] In leased fleets, owner trusts, fractional programs, and managed corporate aircraft, the party that pays the installer may be neither the owner nor the lessee. The Order does not allocate the rebate between them. That allocation is a matter of contract, and the contracts that govern it were mostly written before this program existed.

Documentation travels with the airframe, not with the operator. A claim follows completed retrofit work, a rule Section 7.8 takes up in detail.[165] An aircraft sold, returned off lease, or moved between certificates during the retrofit window will carry its completion records into a different organization's files. Operators with active fleet churn should decide now who retains the retrofit documentation and who is entitled to file.

[162] FAA Final Rule, Tables 6 and 8; Upper C-band Order, Appendix D ¶ 20.
[163] Upper C-band Order ¶ 182 & n.647.
[164] Upper C-band Order ¶ 182 & nn.643–44; 47 C.F.R. § 27.1411(b)(5)–(6) (as adopted).
[165] Upper C-band Order ¶ 182 & n.639.

7.8 Claim Timing and Forfeiture

Three timing rules determine whether a claimant receives a rebate. First, a claim may be filed only after the aircraft retrofit is complete and supported by documentation.[166] Second, any aircraft that misses its FAA deadline receives no rebate, although the operator may still claim rebates for aircraft completed on time. Third, final claim deadlines fall six months after each FAA deadline: June 30, 2031, for the first group and April 30, 2035, for the second. These are outer limits. WTB may set earlier deadlines, and late claims must be denied.[167] The Clearinghouse must prioritize first-deadline claims through June 30, 2031.[168] As a result, an airline's rebate recovery depends heavily on maintenance scheduling. Fleets that complete retrofits early during routine overnight maintenance, as the industry expects most mainline aircraft can do by the fourth quarter of 2029, protect both FAA compliance and rebate recovery.

7.9 The October 6, 2026 Comment Window

The Order deliberately leaves the rebate categories, dollar amounts, and documentation requirements open, delegating them to WTB with instructions to publish draft proposals for comment no later than October 6, 2026, and to finalize them as soon as feasible thereafter.[169] Everything an aircraft operator will eventually care about, whether widebodies and regional jets sit in different categories, how a multi-altimeter aircraft is counted, and what proof of completed work suffices, will be decided in that proceeding. The design question runs in both directions: licensees fund the rebates, so category amounts set above the cost of the work raise their bills dollar for dollar, while amounts set below it leave the difference with the fleet. Calibration is intended to protect the integrity of the fund and the retrofit alike. Operators and owners who wait to engage until the Clearinghouse publishes claim forms will be working within categories someone else designed.

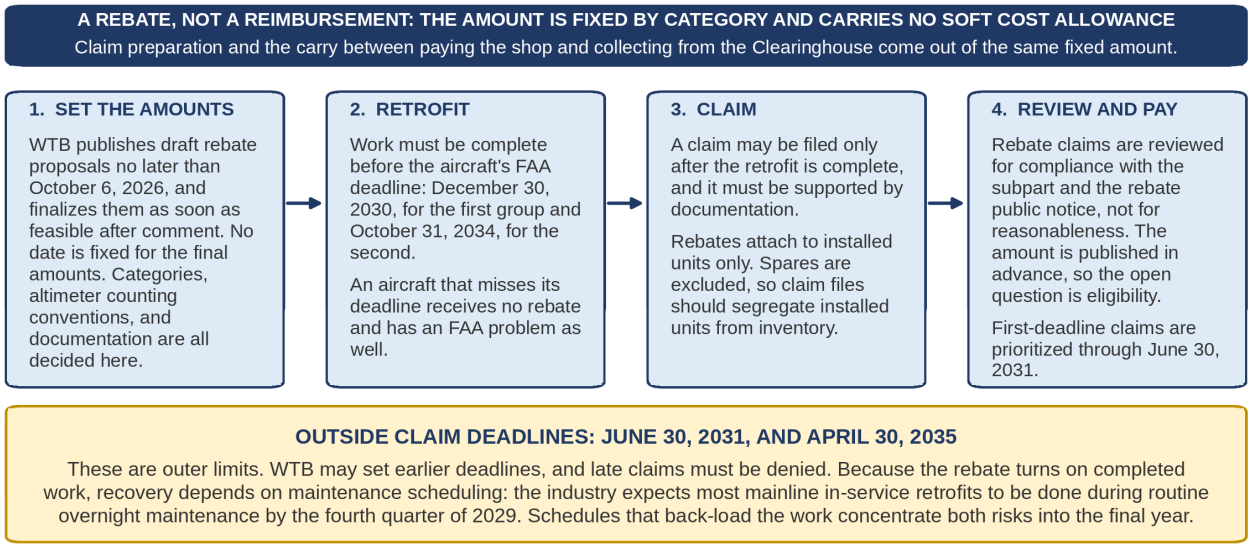
[166] Upper C-band Order ¶ 182 & n.639.

[167] Upper C-band Order ¶ 182 & nn.640–41.

[168] Upper C-band Order, n.640.

[169] Upper C-band Order ¶ 182 & nn.638, 642.

Figure 7-3: The Radio Altimeter Rebate Path



Source: Summit Ridge Group, LLC analysis of FCC 26-46 and the FAA Final Rule.

8. WINNING BIDDERS: WHAT TO EXPECT

8.1 The Size of the Check

A winning bid is the beginning of the payment obligations, not the end. On top of their bids, licensees will fund, in aggregate: an estimated $4–$5 billion in FSS clearing costs, $6.3 billion in incentive payments, an estimated $3.83–$5.71 billion in altimeter retrofit rebates, and the Clearinghouse's own operating costs, or roughly $14 to $17 billion before administration.[170] For scale, realized relocation cost payments across the entire Lower C-band transition totaled approximately $3.4 billion, compared with $81.2 billion in gross proceeds from Auction 107.[171] Administrative costs are also only estimated, as discussed in Section 9.6.

8.2 How the Bill Is Split

Most costs use one allocation formula: each licensee pays a pro rata share based on the final clock-phase prices of the blocks it won, divided by the final clock-phase prices of all blocks sold. This formula applies to space station transition costs, Clearinghouse costs, incentive payments, altimeter rebates, and possibly Relocation Coordinator costs. These costs are spread across the entire auction, so each licensee pays in proportion to the value of its winning blocks, regardless of location. Incumbent earth station costs are different. Each station's relocation cost is assigned to the PEA where the station is located, and the licensees that won blocks in that PEA divide the cost based on the final clock-phase prices of their local blocks. As a result, a licensee focused on markets with many earth stations may pay more than its national footprint would suggest. The concentration is knowable in advance: the November 19, 2025, incumbent list is public, and

[170] Summit Ridge arithmetic based on Upper C-band Order ¶¶ 127, 135, and 183.

[171] Upper C-band Order ¶ 127 & n.462; Appendix D (Regulatory Impact Analysis), n.25.

mapping station counts to PEAs shows where earth station costs will pool before bidding opens. That exercise belongs in the auction model rather than in the first invoice cycle (Section 11.4).

The obligations follow the license, not the licensee. If a license is relinquished before payments are complete, the remainder is redistributed among similarly situated licensees, and a purchaser on the secondary market assumes all payment obligations associated with the license.[172]

8.3 Quarterly Invoices, Two Funds, and a 30-Day Clock

Expect the first bill quickly. After the auction concludes, the Clearinghouse will calculate each licensee's estimated share of relocation costs, including an estimate of total program costs from before the auction through the first three months after its completion. Each licensee must pay its share into the reimbursement fund shortly after the license grant.[173] That first payment looks backward as well as forward: it is the point at which the operators recover the Clearinghouse administrative costs they had fronted before the auction.[174] Thereafter, licensees replenish the funds at three-month intervals until the reimbursement program is complete, with notice of amounts owed at least 30 days before every payment deadline. The Lower C-band transition used semi-annual replenishments. The Commission moved to a quarterly cycle here at CTIA's request for budgeting and cash-flow efficiency.[175]

Two separate accounts operate in parallel: a reimbursement fund for the in-band FSS transition and a rebate fund for the altimeter program, which are the names used in 47 C.F.R. § 27.1417, each replenished quarterly on the same pro rata basis. If either account runs short between replenishments, licensees receive 30 days' notice of the additional shares they must contribute, and unused amounts in each fund are refunded pro rata when the program ends.[176] The Clearinghouse pays approved claims within 30 days of invoice submission. It will also invoice its own actual, reasonable costs at appropriate intervals and may withdraw them from the fund 30 days after each invoice, absent a timely objection from a licensee.[177]

8.4 Dispute Rights, and When the Incentives Come Due

Any licensee may dispute a cost estimate, an approved claim invoice, or a payment or cost-sharing obligation, expressly including the Clearinghouse's own costs. Objections are decided within 30 days. A party that remains unsatisfied can take the dispute to expedited, non-binding arbitration, completed within 30 days, with costs shared if the dispute was first brought before the Clearinghouse, and then to WTB, which decides on the record, with a petition for de novo review to the Commission.[178] The right to object existed last time, but it sat in the Clearinghouse's own

[172] Upper C-band Order ¶ 149 & n.523; 47 C.F.R. § 27.1418(c) (as adopted).

[173] Upper C-band Order ¶ 149; 47 C.F.R. § 27.1417 (as adopted).

[174] Upper C-band Order ¶ 148.

[175] Upper C-band Order ¶ 149 & n.522 (citing CTIA Apr. 22, 2026, Ex Parte at 5).

[176] 47 C.F.R. § 27.1417 (as adopted).

[177] Upper C-band Order ¶¶ 149–50.

[178] 47 C.F.R. § 27.1421(b)–(c) (as adopted). Unresolved issues may be referred to the Bureau within ten days of the Clearinghouse's recommended decision, the Bureau decides on the record forwarded to it, and a party wishing to appeal that decision must file a petition for de novo review with the Commission within ten days of its effective date.

dispute resolution plan and a Bureau public notice, where it was easy to miss. Now it is in the rules, and it expressly reaches the Clearinghouse's own costs.[179] The window is short, though: the Clearinghouse may withdraw its own invoiced costs from the fund 30 days after each invoice absent a timely objection, so the right is only as strong as a licensee's routine for reviewing invoices inside those 30 days. The Clearinghouse must also file public quarterly status reports and undergo annual independent audits, so paying parties will have ongoing visibility into costs as they accumulate.[180] A note of caution for the auction window: while the anti-collusion rule is in force, applicant communications with the Clearinghouse are subject to real-time disclosure, and nothing in them can touch on bids or bidding strategy.[181]

The incentive payments arrive on an event clock, not the quarterly cycle. When a space station operator's Certification of Completion is validated, licensees must pay their pro rata shares of the corresponding incentive amount to the Clearinghouse within 60 days of the validation notice, and the Clearinghouse disburses to the operator within seven days of receipt.[182] The largest single call on that clock would be SES's Primary Deadline amount of approximately $4.37 billion.[183] One planning note follows: if all three operators clear the entire band early, the incentive calls may come early too, in exchange for the right to launch service ahead of the Final Transition Deadline.[184]

The incentive calls and the quarterly replenishment cycle run on independent clocks, so both can land in the same 60-day window. Cash management planning should provide for the overlap rather than for the average quarter.

[179] Upper C-band Order ¶¶ 151–52; 47 C.F.R. § 27.1421 (as adopted).

[180] Upper C-band Order ¶¶ 144 & n.498, 153.

[181] Upper C-band Order ¶ 153 & n.538.

[182] Upper C-band Order ¶ 141.

[183] Upper C-band Order ¶ 138 (table).

[184] Upper C-band Order ¶ 141.

KEY DIFFERENCE FROM THE LOWER C-BAND

The right to object existed in the Lower C-band, but it sat in the Clearinghouse's own dispute resolution plan and a Bureau public notice, where it was easy to miss. It now sits in the rules at 47 C.F.R. § 27.1421, and it expressly reaches the Clearinghouse's own costs. Objections are decided within 30 days, with expedited non-binding arbitration, a Bureau decision on the record, and de novo review at the Commission.

PART III: OVERALL ISSUES

This section addresses issues that cut across stakeholder groups, including payment timing and process risks, open items and when they resolve, and how to prepare.

9. PAYMENT TIMING AND PROCESS: RISKS THE ORDER DOES NOT PRICE

All incumbents (satellite operators, earth station operators, and aviation operators undergoing altimeter retrofits) are exposed to the gap between incurring costs and being paid for them. In the Lower C-band transition, SES reported an average time to reimbursement of 323 days for the claims that were processed at all.[185] On roughly $3.4 billion of reimbursements paid between October 2021 and June 2025, against U.S. inflation averaging about 3.9% annually over the October 2020 through June 2025 program period, a one-year lag alone eroded roughly $130 million of real value, an amount on the same order as the entire operating cost of the Lower C-band Clearinghouse.[186] Delay is therefore an unfunded cost borne by claimants, and it is large enough to rival the administrative budget everyone argues about.

The discussion starts with the record from the Lower C-band transition because it shows the central problem: physical work can finish while payment review continues long afterward.

9.1 The Lower C-band Record, in Full

The 323-day average understates the problem because of what it averages. As of September 15, 2023, SES had submitted 1,311 claims to the Lower C-band Clearinghouse, and 103 of them had been processed, under 8% of the total.[187] The 323 days is the average across those 103. The remaining 1,208 claims had no processing time because they had not been processed, and the Lower C-band Clearinghouse had put questions to SES on only about 164 of them.[188] An average computed from the eight percent that cleared is a survivor statistic, and the figure across all claims was necessarily worse.

Forty-two of the 103 processed claims took more than a year, and some were paid after 680 days. Forty-eight of the 103 were approved for only part of the amount claimed and remained under review for the balance, so even “processed” overstates completion. Of approximately $1.322 billion submitted, $927 million had been reimbursed, leaving close to $400 million outstanding against a transition SES had budgeted at roughly $1.617 billion.[189]

Six weeks later, the position had not moved. In comments filed November 8, 2023, SES reported 1,696 claims submitted as of October 31 and stated that the Lower C-band Clearinghouse had

[185] Letter from Brian D. Weimer, Sheppard, Mullin, Richter & Hampton LLP, Counsel to SES Americom, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 1–2 (filed Sept. 27, 2023) (“SES Sept. 27, 2023, Ex Parte”) (reporting an average time to reimbursement of 323 days for processed claims, with some claims paid after 680 days).

[186] Summit Ridge arithmetic, as presented in Summit Ridge June 2, 2026, Ex Parte at 5–6. Claimants’ actual cost of capital will exceed the inflation rate, so this figure understates the economic cost. The 3.9% average inflation is computed from October 2020 through June 2025, the reimbursement window stated in that filing. Payments did not begin until late 2021, and inflation over the shorter window averaged approximately 4.4 to 4.5% annually, so the erosion figure is conservative.

[187] SES Sept. 27, 2023, Ex Parte at 1–2. Metrics stated as current as of September 15, 2023.

[188] SES Sept. 27, 2023, Ex Parte at 3 n.3.

[189] SES Sept. 27, 2023, Ex Parte at 1–2; SES Transition Plan (total estimated transition cost of $1,616,710,000).

processed none of its claims in the interval. Outstanding claims stood at $416 million, and SES expected to file nearly a thousand more.[190] Figure 9-1 below sets out both snapshots.

Figure 9-1: SES's Lower C-band Claims Experience

Metric	As of September 15, 2023	As of October 31, 2023
Claims submitted	1,311	1,696
Claims processed	103	103
Share processed	Under 8%	Approximately 6%
Processed claims approved only in part	48 of 103	—
Open claims on which questions had been raised	About 164 of 1,208	—
Average time to reimbursement	323 days	323 days
Processed claims taking more than 365 days	42 of 103	—
Longest reported time to payment	680 days	—
Amount submitted	Approximately $1.322 billion	—
Amount reimbursed	$927 million	—
Amount outstanding	Approximately $400 million	$416 million

Source: Summit Ridge Group, LLC compilation from the SES Sept. 27, 2023, Ex Parte and the SES Nov. 8, 2023, Comments, both GN Docket No. 18-122. Dashes indicate figures not restated in the later filing. The claims-processed count and the 323-day average are stated as of September 15, 2023, and are carried forward to the October 31 column because SES reported that the Clearinghouse had processed none of its claims in the interval.

Verizon's figures support the claimants' account. It reported that by the end of 2021, the Lower C-band Clearinghouse had approved only about half of more than 900 lump sum claims. By the end of 2023, it had approved only 546 of more than 2,000 space station operator claims, many of which appear to have been pending for more than a year. Claimants and payers disagree on many parts of the record from the Lower C-band transition, but both sides agree that claims processing was slow.

One feature of that record is structural, and it will recur. Some claims cannot be filed until others are paid. SES could not submit its financing cost claims until the Lower C-band Clearinghouse had reimbursed the underlying claims for the costs being financed, and the same dependency applied to certain filter claims. The result is a loop. A review delay defers the underlying payment; the deferral incurs additional financing costs, and the claim for those costs cannot be filed until the payment that caused them finally arrives. Delay therefore enlarges the bill in addition to postponing it.

SES made that point to the Commission itself in its own Transition Plan for the Lower C-band transition. Having budgeted approximately $1.617 billion, it said the final figure would be lower,

[190] Comments of SES Americom, Inc., GN Docket No. 18-122 (filed Nov. 8, 2023) ("SES Nov. 8, 2023, Comments"), at 2.

but that the margin would depend on timely claims processing because "processing delays lead to additional manpower and financing costs."[191] That sentence is the argument for a processing clock, and it is addressed to the parties who pay. Every month a claim sits in review, the claimant funds the float while the licensees fund the interest, the additional staff time, and eventually the dispute. On this issue the payers and the claimants want the same thing.

SES asked for a remedy in 2023, and it was specific: a 90-day deadline for the Lower C-band Clearinghouse to decide a claim, a requirement that any request for further information be issued within 45 days and tolling of the clock while that request was outstanding.[192] It asked again, in a different form, three years later in the proceeding for the Upper C-band Transition. The Order adopts neither version.

The next question is what the Order changed in response to that record and, equally important, what it left to the Clearinghouse.

9.2 What the Order Fixed, and What It Left Open

The Order tightened transparency and left the clock alone. The Clearinghouse must publish a claims processing handbook that sets target timelines for processing complete claims and must report the pendency of claims in its quarterly filings.[193] Both are real improvements on the Lower C-band, where claimants had no published standard to measure against. But a target timeline is a statement of intent, not a deadline, and the Clearinghouse sets its own.

The proposals to create an enforceable clock were all declined. SES asked for a 60- or 90-day claims-processing window backed by interest penalties on late payments, and for stage-gate service levels of 60 days for legality review, 30 days for reasonableness, and 30 days for validation. CTIA asked for a shot clock. Verizon asked for required processing timeframes, limits on how many times a deficient claim may be resubmitted, and claim-aging disclosure in the quarterly reports.[194] SES also asked that backlogs beyond 180 days be escalated to another adjudicative body.[195] SES's reply went further into the mechanics. A decision made at one review stage should not be reopened at a later one, as happened when the last Clearinghouse passed claims among its technical, legal, and audit teams, each reviewing the whole claim. Decisional memos, which SES observed regularly ran to twenty pages or more, should be shorter. And where review of a fully documented cost category stalled, the overlay licensees themselves could approve it and release the Clearinghouse from further dispute-resolution responsibility.[196] The Commission adopted none of them. It declined "at this time to set firm deadlines or service-level requirements" for claims handling, on the stated ground of avoiding "delays due to timing disputes," and it expressly declined to establish a direct path for claimants to escalate pending

[191] SES Transition Plan.

[192] SES Sept. 27, 2023, Ex Parte at 2–3; SES Nov. 8, 2023, Comments at 2–3.

[193] Upper C-band Order ¶¶ 144–45.

[194] Comments of SES Americom, Inc., GN Docket No. 25-59, at 27–28 (filed Jan. 20, 2026) ("SES Comments"); SES Reply at 29; CTIA Comments at 26–27; Verizon Comments at 15–16.

[195] SES Comments at 28; SES Reply at 26–31; CTIA Comments at 26–27; Eutelsat Comments at 16–19; Upper C-band Order ¶ 145 & n.508.

[196] SES Reply at 29–31 & n.86.

claims.[197] The same paragraph, however, delegates to WTB specific authority to establish such deadlines and policies later if needed, so a clock remains possible without further Commission action. Nothing requires the Bureau to use it. Line the timing rules up, and the pattern is clear, as Figure 9-2 below shows. Every binding clock in the Order relies upon an event that the Clearinghouse itself controls. The rule requires payment within 30 days of invoice submission, and the Clearinghouse issues the invoice. Nothing binds the interval that consumed those 323 days.

Figure 9-2: Where the Order Sets a Clock, and Where It Does Not

Step in the Claim Lifecycle	Deadline in the Order	Enforceable?
Claimant submits a claim	No later than six months after the Final Transition Deadline	Binding subject to WTB
Clearinghouse reviews a complete claim	Target timelines set by the Clearinghouse in its own handbook	Not binding
Clearinghouse requests further information	None stated	None
Claimant responds to that request	"Timely"; non-response may end the claim	Discretionary
Clearinghouse approves and invoices licensees	None stated	None
Licensees fund the account	Quarterly, on 30 days' notice	Binding
Clearinghouse pays an approved claim	30 days from invoice submission	Binding
Clearinghouse decides an objection or dispute	30 days from full briefing	Binding
Licensees pay a validated incentive	60 days from the validation notice	Binding
Escalation of a stalled claim	No path adopted	None

Source: Summit Ridge Group, LLC analysis of FCC 26-46 ¶¶ 140–52 and 47 C.F.R. §§ 27.1416–.1421 (as adopted).

Because the Order leaves the review clock largely to the Clearinghouse, the practical burden shifts to documentation: how much proof the Clearinghouse requires, and how efficiently it reviews that proof.

9.3 The Documentation Burden

SES described what a single $1,000 filter claim took in the Lower C-band transition: the purchase order, the invoice, evidence of payment, evidence that cash left the account, the installer's purchase order, the installer's invoice, evidence of payment to the installer, a photograph of the installed filter, and evidence that the antenna was in scope.[198] Nine documents for one thousand dollars. Even if such a burden falls on only a couple of hundred filter installations, it slows the

[197] Upper C-band Order ¶¶ 145–46 & n.508.
[198] SES Comments at 28 & n.61.

review process and leaves claimants bearing the cost while they wait. SES's documented 323-day average, on the under 8% of claims that were processed at all, shows the result.

The Order encourages, without requiring, batch processing, sampling, auditing, cost averaging, and certification.[199] SES asked for the same machinery from the claimant side: documentation proportionate to the expense category, with sampling audits for routine claims such as filter installations. Its reply cited CTIA's and Summit Ridge's proposals to the same effect.[200] Whether the Clearinghouse uses them, and for which claim categories, will do more to determine payment timing than any other decision it makes. Each choice is measurable in advance. Sampling thresholds by claim category, batch certification for routine items such as filters, standardized electronic claim packets, and cycle-time reporting by review stage can all be stated in a candidate's proposal and tested against the programs it has closed. Those choices land in the claims processing handbook, which is due within six months of confirmation and is not subject to a comment cycle. Parties that want influence over them should engage the Clearinghouse regarding proportionality of documentation as soon as the Clearinghouse is selected, not after the handbook is issued. They are also, in substance, questions about how the work gets done rather than about who does it, which is why they belong in the Selection Committee's criteria and not only in the handbook. Section 9.8 discusses this point further.

9.4 The Rip & Replace Precedent

The Lower C-band transition ultimately paid all claimants. Rip & Replace shows the added risk when program funding is insufficient. The common problem in both programs was delay: reimbursement lagged well behind the work, and in Rip & Replace it still does. Applications were approved in July 2022, approved applications sought approximately $4.98 billion, and recipients initially received allocations covering only 39.5% of approved cost estimates. Full funding did not arrive until April 2025, after Congress authorized and the Commission borrowed $3.08 billion from the Treasury.[201] Approval and funding were separate events: approval came in 2022, but the money arrived in 2025.

In November and December 2023, the Competitive Carriers Association put two filings before the Commission describing what its members were experiencing. Summit Ridge attended the November 29, 2023, meeting with Wireline Competition Bureau staff that the second filing memorializes.[202]

The most useful figure in those filings is the processing rate. Participants put the program's processing pace at roughly $40 to $50 million per month, compared with a program of nearly $5 billion.[203] At the midpoint of that range, the program needs about nine years. Participants were

[199] Upper C-band Order ¶ 146 & n.511.

[200] SES Comments at 28; SES Reply at 29 & n.85.

[201] Wireline Competition Bureau, Secure and Trusted Communications Networks Reimbursement Program Sixth Report at 1 n.10, 2–3, 8 (June 30, 2025).

[202] Letter from Angela Simpson, Senior Vice President and General Counsel, Competitive Carriers Association, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 18-89 (filed Dec. 1, 2023) ("CCA Dec. 1, 2023, Ex Parte"), Attach. A (listing meeting participants, including Summit Ridge); Letter from Angela Simpson, Senior Vice President and General Counsel, Competitive Carriers Association, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 18-89 (filed Nov. 1, 2023) ("CCA Nov. 1, 2023, Ex Parte").

[203] CCA Dec. 1, 2023, Ex Parte at 1.

asked to finish in two to three. The pace operated as the binding constraint on the program, with participants reporting that they were "simply unable to proceed materially faster than the reimbursement pace."

CCA also reported an application lock: while a modification request was pending, the invoices tied to that application could not be reviewed or paid.[204] The lock applied even where the modification sought approval for less than the original estimate, and a change as minor as an equipment model name halted invoice review.

Financing costs are not reimbursable under the Rip & Replace rules, so a participant waiting on payment absorbs the carry outright.[205] The Upper C-band Transition Program is better on this point, treating financing as a reimbursable soft cost within the 2% presumption discussed in Section 5.8, but better is not unlimited. The presumption is also thin, measured against what this program spent on administration. As per figures from the FCC's OIG, project management fees ran to 15% of hard costs on the reimbursements SCRP had actually paid through January 2026, and that figure excludes both internal labor and the financing just described. Section 9.6 sets out the comparison. Furthermore, the burden does not rest solely with the claimant. CCA reported that vendors and consultants were themselves going unpaid and incurring costs they could not recover.[206] When the Rip & Replace Clearinghouse is slow, the vendors and consultants doing the work go unpaid, along with the claimant.

CCA's proposed remedies were operational, not legal: import the streamlining used in the television broadcast repack, split line items so invoices unrelated to a pending modification can be reviewed and paid, allow one response to a request for information to cover multiple sites instead of filing separately for each, and staff the volume.[207] None of these requires a rule change. Each is a choice a clearinghouse makes, as argued in Section 9.8.

In May and June 2026, the Wireline Competition Bureau granted RRD (removal, replacement, and disposal) term extensions to more than thirty recipients, nearly four years after their applications were approved.[208] By then, full funding had been in place for more than a year. The remaining constraint (and still the constraint for Rip & Replace) was the review queue. Several sought extensions solely because disbursements had been held or had not arrived, and in at least one case, a vendor stopped shipping when a deposit could not be paid.[209] In each case, a payment problem became a compliance problem, and the compliance deadline did not move to accommodate it.

A recipient's own description matches the aggregate record. Pine Telephone Company, a rural Oklahoma carrier approved for $79.7 million of reimbursements, wrote to the Chairman in June

[204] CCA Nov. 1, 2023, Ex Parte at 2 & n.2.

[205] CCA Nov. 1, 2023, Ex Parte at 2.

[206] CCA Dec. 1, 2023, Ex Parte at 2.

[207] Id.

[208] Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs, WC Docket No. 18-89, Order, DA 26-435 (WCB May 1, 2026); Streamlined Resolution of Requests Under the Secure and Trusted Communications Networks Reimbursement Program, WC Docket No. 18-89, Public Notice, DA 26-576 (WCB June 10, 2026).

[209] DA 26-435 ¶¶ 56–57; DA 26-576 at 3–4.

2026 that reviewers resolve issues in series: identify a problem, stop the entire application, issue a request for information, analyze the response, and only then move to the next issue. Pine knows of no mechanism for working on issues in parallel.[210] The same letter prices the claims process itself. Pine expects more than $700,000 of wind-down soft costs, project management and document work performed after the covered equipment is already out of its network, and it supported pending requests by Widelity and Summit Ridge to clarify that costs of that kind are reimbursable at all.[211] Pine adds that it cannot run the submission and response process without outside help and cannot afford it while it waits to be reimbursed. Nearly four years in, the open question was not whether the work was done. It was whether the cost of proving it would be paid.

One Rip & Replace filing sets out the problem step by step. Velocity Communications sought a first extension in April 2026, citing Cell on Wheels units that were “not widely available across the US market,” a scarcity it attributed to “industry demand driven by overlapping, federal and state funded deployment programs.”[212] The Bureau granted 90 days, to August 6, 2026. On July 22, 2026, Velocity requested an additional 180 days. The reason it gave was not the equipment replacement process in the field, but the administrative review queue.[213]

Velocity submitted a cost estimate modification on March 10, 2026. After a series of requests for information, it was approved on April 13, 2026, and Velocity filed the corresponding reimbursement claim the same day. Five further requests for information followed on April 17, April 27, May 7, May 12, and June 3, the last directing Velocity to split the claimed costs between the two statutes that fund the program. Velocity re-filed in the directed form on June 11, and the claim was still pending six weeks later. Velocity reports that Fund Administrator review and approval lead times have run to over four months, and states that the review timeline itself consumed the extension the Commission had granted.[214]

Three features of that sequence generalize beyond one recipient. First, the last request for information was structural rather than substantive: the claim had to be re-cut along the boundary between two appropriations, an accounting artifact of the funding shortfall described above, rather than any defect in the underlying costs. Second, Velocity states that as a smaller participant, it cannot pre-fund the procurement while its submissions are under review, so review time converts directly into schedule. Third, the two obstacles compound. Velocity had been told in December 2025 that its supplier held a single unit of one configuration, and in March 2026 that it was at risk of losing a unit being held for it.[215] A claimant that cannot buy until it is paid, in a market where inventory does not wait, loses the equipment and the deadline together.

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[210] Letter from Lee Brown, Chief Technical Officer, Pine Telephone Company, to Brendan Carr, Chairman, FCC, WC Docket No. 18-89, at 1 (dated June 17, 2026) (“Pine Telephone Letter”).

[211] Pine Telephone Letter at 1–2.

[212] Velocity Communications, Inc. Response to RFI on Petition for Extension, WC Docket No. 18-89, at 2 (filed Apr. 21, 2026); see also Velocity Communications, Inc. Petition for Extension, WC Docket No. 18-89 (filed Apr. 3, 2026); DA 26-435, App. A (granting a 90-day extension to August 6, 2026).

[213] Letter from Velocity Communications, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 18-89, Application FRN 0023968233, File No. SCRP0001136, Request for Extension of Time – Renewed Request (filed July 22, 2026) (“Velocity Renewed Request”), at 1.

[214] Velocity Renewed Request at 1–2 and Exh. A.

[215] Velocity Renewed Request at 2 (citing coreNOC advisories of December 16, 2025, and March 19, 2026).

That is the failure mode this section is about, and it is not confined to Rip & Replace. The same dynamic of programs competing for scarce hardware will govern radio altimeter transceivers between 2029 and 2031. The Order sets no deadline on the review step that produced it.

Nor is the risk limited to programs that ran short of money; other FCC reimbursement programs show that administrative delay can persist even when funding exists.

9.5 Other FCC Reimbursement Programs Experienced Delays

The objection to the preceding section is that Rip & Replace ran late because it ran short of money, and that the Upper C-band Transition cannot run short, because winning bidders fund it under license conditions that make the obligation enforceable. The objection deserves an answer, and two other programs supply one. In the broadcast television repack, the money outlasted the physical transition by six years. In the 800 MHz rebanding, a solvent private payer with a letter of credit standing behind it took about 17 years against a 36-month schedule. A funding shortfall worsens the delay. It is not what starts it.

The repack cleanly separates the two clocks. The incentive auction closed on April 13, 2017, and 987 full power and Class A stations had 39 months, until July 13, 2020, to clear their pre-auction channels under a ten-phase plan. They cleared on schedule, and the Commission announced as much on the deadline date.[216] Reimbursement, however, followed a slower calendar. Final invoice deadlines ran from October 8, 2021, for the earliest phases to September 5, 2022, for everyone else, and the Media Bureau built its close-out schedule around July 3, 2023, the date Congress set for returning unobligated money to the Treasury.[217] The Commission announced the return of the unused balance on August 5, 2026: $881 million of the $2.75 billion appropriated, or roughly 32%.[218] It took six years after the end of the physical transition to fully reimburse the money paid for it.

The 800 MHz record is longer and, structurally, the closer match because a private party paid. The Commission adopted the rebanding plan in an order released August 6, 2004. It required Nextel, later Sprint, and then T-Mobile, to cover the relocation costs of public safety and other incumbent licensees along with its own, to secure that obligation with a letter of credit, and it appointed a Transition Administrator to run the program under Commission direction.[219] The rules

[216] Post-Incentive Auction Transition Successfully Meets 39-Month Deadline, News Release (FCC rel. July 13, 2020). The 39-month period ran from the close of the incentive auction on April 13, 2017. See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268, Report and Order, 29 FCC Rcd 6567, 6796 ¶ 559 (2014) ("Incentive Auction R&O").

[217] Invoice Filing Deadlines for TV Broadcaster Relocation Fund, Public Notice, 35 FCC Rcd 11273, 11277–78 ¶ 13 (MB/IATF 2020). Under the Reimbursement Expansion Act of 2018, amounts remaining unobligated in the Fund on July 3, 2023, were to be rescinded and deposited in the Treasury.

[218] FCC Returns $881 Million in Unused TV Broadcaster Relocation Funds, News Release (FCC rel. Aug. 5, 2026). Congress appropriated $2.75 billion for the Fund under the Middle Class Tax Relief and Job Creation Act of 2012 and the Reimbursement Expansion Act of 2018. The percentage is our own arithmetic. The rescission date applied to unobligated amounts, and the public record does not explain how the returned balance was carried in the interim.

[219] Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, 19 FCC Rcd 14969 (rel. Aug. 6, 2004) ("800 MHz Report and Order"); FCC Successfully Concludes 800 MHz Rebanding Program to Improve Public Safety Communications, News Release (FCC rel. Apr. 22, 2021) ("800 MHz Close-Out News Release") (summarizing the payment obligation, the letter of credit, and the appointment of a Transition Administrator).

allowed 36 months outside the border areas.[220] The Commission closed the proceeding on April 22, 2021, with more than 2,100 systems retuned and no interruption to public safety communications along the way.[221] Reported costs ran past $3.6 billion, more than three times the ceiling an industry consensus proposal had contemplated for the payer before the order issued.[222]

The causes are worth naming, because most of them are present here. Coordination with Mexico along the border was particular to that band. The rest were not. Public safety systems had to keep operating while they were retuned. Approvals ran through more than one level of government. And the negotiations between the payer and individual licensees over what was reasonable ran long, with participants observing at the time that some parties were better off delaying than settling.[223] The Upper C-band Transition puts the same two sides in the same posture. Wireless licensees pay, incumbents claim, and the Clearinghouse decides what is reasonable. The Order sets the first two steps of a dispute at 30 days at the Clearinghouse and 30 days for arbitration, as Section 8.4 describes. It sets no limit on the Bureau and Commission review that follows.

Set the four programs side by side, and the split is consistent. The Lower C-band transition accelerated clearing deadlines were met, and reimbursement of clearing costs was not, as Section 9.1 sets out. In Rip & Replace, the binding constraint on removing equipment turned out to be the review queue rather than the field work. The repack stations moved on time, and the reimbursement fund stayed open six more years. The 800 MHz systems were retuned starting in 2004, and the debate over their cost ran until 2021.

The Upper C-band Transition Program repeats the design. The clearing deadlines of December 30, 2030, and June 30, 2031, are fixed by rule and enforced by the loss of interference protection, as described in Section 5.5. Section 9.2 shows that every binding clock on the payment side turns on an event that the Clearinghouse controls. Claimants should size the carry themselves and assume it outlasts the transition. In each of the four programs, the schedule that slipped was the one nobody was required to keep.

Against that record, the 2% soft-cost presumption assumes a claims process far more efficient than any of the four.

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[220] 800 MHz Report and Order, 19 FCC Rcd at 15063 ¶ 176 n.471, and at 15125 ¶ 332; see Improving Public Safety Communications in the 800 MHz Band; New 800 MHz Band Plan for U.S.-Canada Border Regions, WT Docket No. 02-55, Second Report and Order, DA 08-1094, at 3 ¶ 3 (PSHSB 2008) (referring to the 36-month period established for rebanding in non-border regions).

[221] 800 MHz Close-Out News Release; Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, Order, FCC 21-41, 36 FCC Rcd 7690 (2021); see also 800 MHz Transition Administrator, LLC, Notice of Program Completion and Request for Authorization to Terminate Program Agreements, WT Docket No. 02-55 (filed Mar. 5, 2021).

[222] Donny Jackson, Transition Administrator Notifies FCC of 800 MHz Rebanding Completion, Urgent Communications (Mar. 15, 2021) (reporting rebanding costs of more than $3.6 billion, and an industry consensus proposal advanced before the order issued that would have capped the payer's financial obligation below $1 billion). This is trade press rather than a Commission document, and we have not confirmed the cost figure against a primary source.

[223] Id. (border coordination with Mexico, the need to keep public safety systems in service during retuning, approvals running through multiple government bodies, and negotiating incentives that rewarded delay). The Transition Administrator's January 2005 schedule had contemplated completing most of the program by the summer of 2008.

9.6 The 2% Presumption Against That Record

The 2% figure forecasts how the program will be run. It does not measure what claim administration actually costs. The Commission's OIG reported in March 2026 that project management fees for the Rip & Replace program accounted for $182.3 million of the $1.4 billion actually reimbursed under that program through January 2026, or 13% of the total.[224] Against hard costs, which is how the Upper C-band presumption is framed, the figure is 15%.[225] Both figures exclude participants' internal labor and exclude financing, which Rip & Replace does not reimburse at all, as described in Section 9.4 above. Figure 9-3 below breaks down the Rip & Replace program's cost composition on both measures.

Figure 9-3: Comparative Analysis: Rip & Replace Cost Composition, Approved Estimates Versus Reimbursements Paid, Through January 2026

Category	Approved Cost Estimates ($)	Share	Reimbursements Paid ($)	Share
Equipment and software	$2,021,978,184	44.0%	$647,141,966	46.0%
Additional services and uncategorized costs	1,983,480,997	43.0%	548,422,334	39.0%
Project management fees	505,642,004	11.0%	182,301,171	13.0%
Disposal-related services	100,814,912	2.0%	25,360,423	1.8%
Total	**$4,611,916,097**	**100.0%**	**$1,403,225,894**	**100.0%**
Memo: project management fees as a share of all other categories		12.3%		14.9%

Source: Summit Ridge Group, LLC analysis of FCC OIG Advisory, figs. 2 and 3. Dollar amounts and shares are as reported by the OIG. Shares may not sum because of rounding. Totals and the memo line are Summit Ridge's arithmetic.

Project management is a larger share of what has actually been paid than of what was approved, 13% against 11%, and the gap holds on the hard cost measure, 14.9% against 12.3%. We would not read much into that direction on these figures alone. Only about 30% of the approved base has been reimbursed, and the mix of what has been paid may not match the mix of what remains. The level holds up regardless. In either column, on either measure, third-party project management alone runs several times the 2% that the Upper C-band Transition presumes for all soft costs combined.

Reducing program management from 15% to 2% on comparable work asks this program to be administered roughly seven times more efficiently than the one the FCC's OIG examined, which is a different order of change from trimming. The record from the Lower C-band transition gives

[224] FCC OIG Advisory at 5 fig.2, 8 fig.3. Both charts are sourced to the Commission's SCRP ServiceNow portal as of January 30, 2026, and are set out in Figure 9-3 below.

[225] Summit Ridge arithmetic based on ibid., as shown in Figure 9-3 below. Project management fees of $182,301,170.65 divided by the other $1,220,924,723.05 of reimbursements paid equals 14.9%. We treat every non-project-management category as a hard cost, which matches the construction of the Upper C-band 2% presumption. That treatment is conservative: the additional services and uncategorized costs line may itself contain soft costs, and to the extent it does, the ratio understates project management as a share of true hard costs.

no reason to expect it by default. By the payers' account, the operating budget of the Lower C-band Clearinghouse grew from $62.2 million to more than $114 million, as described in Section 3.4 above. Administration proved expensive for both the Lower C-band Clearinghouse and the claimants.

The 2% presumption covers the claimants' soft costs. The Clearinghouse's own costs are incurred outside the 2% presumption and billed to the licensees separately. We can put a figure on the Clearinghouse's costs based on SRG's serving as the 3.45 GHz Relocation Payment Clearinghouse, which generated administrative costs that ran to 10% of the reimbursements processed.[226] That result was in line with the recommendation of the search committee of 3.45 GHz stakeholders that selected the clearinghouse.[227] The 3.45 GHz relocation program closed on budget against the initially projected cost to license winners and filed an audited final report. The percentage reflects how small the program was. It also reflects a simplified invoice submission process that largely eliminated the separate project management fees the FCC's OIG found in Rip & Replace. Similarly, Summit Ridge supported participants in the 600 MHz repack, where costs were on a comparable scale to those of the current Rip & Replace experience.

Administrative cost is largely fixed. Receiving a claim, reviewing its eligibility and reasonableness, and paying it takes much the same effort whether the claim is worth $2,000 or $2 million, and the staffing and audit apparatus barely changes with the amount a program disburses. The smaller the base, the larger the project management costs look as a percentage. For comparison, the Lower C-band Clearinghouse spent more than $114 million against roughly $3.4 billion reimbursed, or about 3.4%. The two percentages do not measure the same work. The $114 million figure is the cost specific to the Lower C-band Clearinghouse and does not include project management costs, which are reimbursed separately as a claimant cost. The figure from the 3.45 GHz Relocation Payment Clearinghouse had a minimal reimbursed soft cost (1.31%) associated with it. Scale accounts for most of what remains, because the 3.45 GHz program was a fraction of the size of either. The claimant side works the same way, which is why the 2% presumption is the least safe for the smallest claimants, where the effort of filing dominates the value claimed.

Some of that gap reflects program design, not administration. Rip & Replace funded removal, replacement, and disposal at thousands of cell sites, which generates more paperwork per dollar than a satellite procurement does, and the Commission has said it wants to avoid repeating those documentation demands here. But the direction of the finding still matters. Soft costs track how many times a claim is handled, not how much the claim is worth.

The mismatch falls unevenly, and it falls hardest on the smallest items. Section 6.4 sets out one operator's budget for the Lower C-band transition: SES allocated 82.2% of its $1.617 billion to the satellite replacement program, while filters, LNBs, antennas, and dual illumination together totaled roughly $77 million, under 5% of the total. A satellite is one procurement, with one contract, one

[226] Summit Ridge served as the Commission-confirmed 3.45 GHz Relocation Payment Clearinghouse. This figure is our own, drawn from that program's books, and states total clearinghouse administrative cost as a share of the reimbursements processed. See 3.45 GHz Final Report.

[227] Clearinghouse Search Committee, Request for Proposal: Reimbursement Clearinghouse, WT Docket No. 19-348, at 6 (Mar. 6, 2023) (providing that the Clearinghouse "shall use its best efforts to not exceed ten percent of the estimated relocation costs for administering the reimbursement program").

milestone schedule, and a cost base in the hundreds of millions, so 2% of it is real money. A filter installation is a site visit, an invoice, a photograph, and a certification, repeated across thousands of sites against a hard cost of a few thousand dollars each. Section 9.3 describes what a single thousand-dollar filter claim required in the Lower C-band transition: nine separate documents. Two percent will not pay for that, and an operator whose entire hard cost base is filters and LNBs has nothing larger to average against.

On the other hand, the 2% presumption looks less binding than the aggregate comparison suggests. Two percent of the $869 million SES budgeted for six spacecraft is $17.4 million, or roughly $2.9 million of presumptive soft cost per satellite contract. The costs of negotiating, insuring, and administering a single spacecraft procurement are unlikely to be that high before accounting for financing costs. Third-party costs on a procurement do not scale with contract value the way per-site claims scale with site count. One contract is one negotiation, one milestone schedule, and one insurance placement, whether it is worth $100 million or $900 million.

The same arithmetic holds across a full operator budget. Two percent of SES's $1.617 billion is $32.3 million. Funding the soft costs on its entire small-item base at the Rip & Replace rate, meaning 15% of the $77.1 million of filters, LNBs, antennas, and dual illumination, would consume $11.6 million and leave $20.8 million for everything else. Meeting 2% across a program dominated by procurement is therefore a good deal less demanding than meeting the 2% on a claim-by-claim basis. Averaging is available because the same claimant performs both jobs. An eligible space station operator must plan, coordinate, and perform the migration of every incumbent earth station receiving its signals, with or without a contract. Thus, the filter installations and the spacecraft procurement end up in the same claim file.

Whether that surplus is usable turns on a point the Order does not settle, which is whether the Clearinghouse tests the 2% presumption claimant by claimant, claim by claim, or line by line. The Lower C-band transition offers little comfort on the question. CTIA reports that the Lower C-band Clearinghouse never required claimants to present evidence beyond the presumption, leaving licensees to police the excess through appeals.[228] Accordingly, the Cost Catalog comment cycle is the place to ask. The claimant with nothing large to average against is exposed either way. An incumbent earth station operator that self-performs at actual cost may have a hard cost base of a few hundred thousand dollars for filters and LNBs, with no procurement costs to include. Moreover, financing competes for the same room, as Section 5.8 describes, and an operator carrying a billion dollars of procurement to auction close may find the surplus already spoken for.

Radio altimeter claimants face the same economics, but without any presumption. The rebate is a fixed amount by aircraft category, not a reimbursement of actual costs, leaving no separate soft-cost allowance. Claim preparation, records retrieval, fleet scheduling, and the cost of carrying vendor payments until the rebate is received all must be absorbed within the rebate. Compared with the FAA's estimated installed unit cost of $80,000 to $120,000, these costs represent a smaller percentage than they would for a filter claim, but they remain unrecoverable.

This does not necessarily mean the 2% presumption should be higher. A higher allowance would pay for inefficiency rather than reduce it, and licensees would bear the cost. The main driver of

[228] CTIA Reply at 36.

soft costs is the claims process. If the Clearinghouse batches small claims, uses sampling, and matches documentation to claim size, soft costs may remain closer to 2%. If the Clearinghouse reviews filter invoices as closely as it does satellite purchases, costs will rise and create more disputes. The rules already help by limiting lump sum and rebate claims to compliance review, as explained in Section 5.7. Those claims will make up much of the program, so the Clearinghouse's approach will matter. Section 9.8 explains how the Selection Committee could assess that approach.

The practical implications, therefore, differ by stakeholder group, depending on whether the party is electing a lump sum, self-funding a transition, filing a rebate claim, or paying the system's invoices.

SRG OBSERVATION

We do not read this record as an argument for a higher presumption. A larger allowance would pay for inefficiency rather than reduce it, and licensees would bear the cost. The variable that matters is the claims process. If the Clearinghouse batches small claims, samples, and matches documentation to claim size, soft costs may stay near 2%. If it reviews a filter invoice as closely as a satellite procurement, they will not, and the disputes will follow.

9.7 What Follows for Each Stakeholder Group

For earth station operators, the lump-sum election is as much a timing decision as a price decision. An electee is paid on a schedule tied to its election, not to line-item review of every filter invoice. Against a 323-day benchmark, that difference has a present value, and it belongs in the site-by-site analysis alongside the headline amount.

For satellite operators, the Order already requires self-funding until the Auction winners are announced. A review queue of the length produced by the Lower C-band transition would extend that exposure well past the Auction, which is the case for raising advance funding under paragraph 146 before the first large claim is filed rather than after. The Order conditions any such arrangement on four things: protection of the program against contingencies such as a claimant's bankruptcy, balancing against the financial equities of the wireless licensees who separately bear their own auction financing costs, documentation supporting the reasonableness and necessity of the underlying claim, and a later true-up. An operator who arrives with those four answers prepared is asking a different question than one who simply asks for cash earlier.

For aircraft operators and owners, the rebate is a fixed amount paid only after the work is done. Every day of review adds carrying cost on money already spent. The Clearinghouse is directed to prioritize first-deadline rebate claims through June 30, 2031, the only categorical prioritization in the Order. Second-deadline claimants have no such assurance and should assume they are behind both the FSS queue and the first aviation cohort.

Ultimately, delay is not free for the licensees who fund the Upper C-band Transition Program. Every month a claim sits in review is a month of uncertainty about the size of the next quarterly replenishment. The objection rights granted by the Order do not reach the pace of the Clearinghouse's work. The paying parties and the claimants have, unusually, the same interest

here. Verizon's reply comments make the point in a section heading: the C-band incumbents and the Lower C-band licensees, it wrote, agree on the need for more oversight, accountability, and structure.[229] SES's reply says the same from the other side of the ledger: it opens its Clearinghouse discussion by agreeing "with wireless industry commenters about the need to improve the administration of the RPC [the Lower C-band Relocation Payment Clearinghouse]."[230] Both should press the Selection Committee to weigh cycle time and the proportionality of documentation when it sets its criteria.

Those shared interests point to the final implementation question: what the Clearinghouse selection criteria should measure before the Clearinghouse is selected.

9.8 What the Clearinghouse Selection Criteria Should Measure

Everything in this section turns on how one entity performs, and the moment to influence the Clearinghouse's performance comes before the Clearinghouse selection rather than after. The nine-member Selection Committee must notify the Commission of its selection criteria within 30 days of its first meeting, followed by publication by the WTB.[231] Those criteria are not subject to a comment cycle, and once the Clearinghouse administrator is chosen, the levers described above, i.e., the handbook, the documentation standards, and the use of sampling, belong to the Selection Committee. The mandate is bounded but real. The Order directs the Selection Committee to employ criteria "based upon the clearinghouse's revised duties," meaning the internal controls, audit, reporting, and briefing obligations described in Section 3.4. The WTB's confirmation review will only ask whether the selected entity satisfies the criteria the committee wrote.[232] The criteria define both the search and the standard against which the choice is later tested. The Commission keeps the ultimate backstop: removal and replacement of a failing Clearinghouse.[233] However, that lever belongs to the Commission, not to the parties paying the bills or waiting for reimbursement. Proposals from CTIA, Verizon, and Summit Ridge to give the Selection Committee continuing oversight, third-party beneficiary rights, or the power to replace a failing Clearinghouse administrator were all declined as inconsistent with the Clearinghouse's independence, and the Selection Committee itself dissolves once WTB confirms its choice.[234] SES endorsed the Summit Ridge proposal in its reply, describing committee supervisory authority, exercised through supermajority voting, as an approach that "could provide a meaningful check on Clearinghouse performance while preserving its independence."[235] Stakeholders who care about payment timing have weeks, not months, to say what good administration means. One constraint bounds the exercise and explains why the criteria carry so much weight. The Order provides that neither the Selection Committee nor any of its members may require a candidate to enter into a contract or service level agreement as a condition of selection.[236] The Selection

[229] Reply Comments of Verizon, GN Docket No. 25-59, at 11 (filed Feb. 18, 2026) ("Verizon Reply").
[230] SES Reply at 4.
[231] Upper C-band Order ¶¶ 156–58.
[232] Upper C-band Order ¶ 157.
[233] Upper C-band Order, n.561.
[234] Upper C-band Order ¶¶ 157, 159 & n.560.
[235] SES Reply at 30.
[236] Upper C-band Order, n.552.

Committee, therefore, cannot negotiate conditions with a Clearinghouse candidate but must select from what each applicant offers.

Across the Lower C-band, 3.45 GHz, Rip & Replace, and repack records, good claims administration shows five observable attributes: predictable cycle times, documentation proportionate to the claim, transparent fund status, separation of the entity that decides a claim from the entity that holds the money, and public metrics that make the first four visible. Each traces to a duty the Order now imposes or to a failure documented above, and each can be stated as a selection criterion rather than as a preference.

Six measures would predict the outcomes described in this section better than the ones typically used.

1. Cycle time for complete claims is reported by review stage, not only in aggregate, so a backlog at one gate is visible before it compounds.
2. A documentation proportionality policy stated in the bid: which claim categories will be sampled, which batch processed, which accepted on certification, and at what dollar thresholds. The Order permits all of these and requires none of them.[237]
3. Claim-error rates measured against post-audit review, since speed alone is the wrong target, as licensees noted in the record.
4. Dispute throughput and the age of the oldest pending claim.
5. Evidence of an actual close-out. Whether a bidder has completed a federal reimbursement or disbursement program, what its final cost was against the budget it projected at the outset, and what its independent audit found. Consider that cost against the size of the program administered, not against the size of the Upper C-band Transition. Administrative cost is largely fixed, so a percentage drawn from a small program will look high beside one drawn from a large program, and the comparison then says more about the denominator than about the Clearinghouse. A closed program provides evidence that a committee can test, whereas a program still running produces only representations.
6. How much of the mechanical work the bidder proposes to perform systematically, rather than by hand, and what evidence supports the claim. The rebate program makes this unavoidable: roughly 38,000 claims on some 50,000 altimeters will be decided by eligibility and completion, not cost reasonableness (Section 5.7 above).

The sixth criterion has to be evidentiary, because every bidder will claim the capability. The Order's streamlined practices (batch processing, sampling, auditing, cost-averaging, certifications) cost far less to run systematically than by hand, so a bidder who promises to use them has said nothing its competitors won't. The paying side is already asking for the machinery: CTIA has suggested that the Clearinghouse consider using artificial intelligence tools to improve the efficiency of batch processing.[238] Summit Ridge made the same recommendation from the

[237] Upper C-band Order ¶ 146 & n.511.
[238] CTIA Reply at 35 n.111.

administration side of the table. SRG's June 2, 2026 ex parte urged the Commission to encourage the Clearinghouse, incumbents, and their vendors to automate routine reimbursement workflows where doing so cuts cost and processing time without compromising accuracy or security. It named the tool categories, from AI-assisted invoice parsing to real-time program dashboards, that replace manual entry and hand-prepared status reports.[239]

The case for systematic processing is narrower here than in the broader case for automation. Many disputes will still require judgment, including whether a new satellite is necessary, whether a Ku-band architecture is reasonable, and how to treat internal labor. But rebate and lump-sum claims are reviewed for compliance, not reasonableness, as described in Section 5.7. That kind of review is inexpensive at scale and costly when handled manually. It is the one process improvement on this list that can reduce both cycle time and cost rather than trading one for the other. Because nothing comparable existed in the Lower C-band transition, prior bidder experience does not answer the question; the committee must test for this capability directly.

Another question the committee should ask is how the Clearinghouse will coordinate with the Relocation Coordinator. The Order divides the transition between the two entities: the Clearinghouse handles money, while the Relocation Coordinator handles scheduling. It also says the Relocation Coordinator will act as a liaison with the Commission and the Clearinghouse, but it does not explain what that liaison role will require.

This coordination between the Clearinghouse and the Relocation Coordinator matters because the Relocation Coordinator's schedule decisions affect when costs are incurred, and the Relocation Coordinator's completion assessments affect when licensees may begin operations. For that reason, the Clearinghouse and the Relocation Coordinator will need regular working-level communication, not just quarterly reports. Because the Clearinghouse and the Relocation Coordinator will each be selected by a different committee and neither has been named, candidates should be asked to explain how they would manage this interface. The test is practical: schedule data flowing to the Clearinghouse early enough to anticipate claim volume, completion assessments flowing back so incentive calls are timely, and no duplicate requests to operators for information the other entity already holds.

One structural point remains. The Order leaves the Clearinghouse administrator's compensation where the Lower C-band transition left it: on an hourly basis, with no performance metrics. Summit Ridge proposed tying part of the Clearinghouse administrator's recovery to accuracy and cycle time, but the Commission declined to adopt performance-linked compensation.[240] Verizon opposed the idea as well, on the grounds that performance bonuses would create perverse incentives and argued that a candidate should instead put its best proposal forward for the committee to evaluate. The Commission's stated reason was different: performance incentives would inherently conflict with the Clearinghouse's obligation to prevent fraud, waste, or abuse.[241] Part of Summit Ridge's argument was technological. Hourly billing, it told the Commission, gives

[239] Summit Ridge June 2, 2026, Ex Parte at 8–9.
[240] Upper C-band Order ¶ 150 & n.525; Verizon Reply at 15.
[241] Verizon Reply at 15–16; Upper C-band Order, n.525.

a Clearinghouse administrator no built-in incentive to invest in tools that reduce the hours billed, so the compensation model discourages the capability that criterion 6 tests for.[242] With that lever unavailable, the selection criteria are the only remaining mechanism by which the paying parties and the claimants can align the Clearinghouse administrator's incentives with their own. Readers should weigh this recommendation against the disclosures at the front of this paper: Summit Ridge may seek a role in administering this program. The criteria above are the ones we would want applied to any Clearinghouse administrator, including ourselves. Appendix G puts them as questions a selection committee could ask any candidate.

10. OPEN ITEMS AND WHEN THEY RESOLVE

The timing risks described in Section 9 are magnified by the number of implementation decisions still unresolved.

The Order leaves several issues unresolved, and resolving them will further compress the program schedule. Nearly every open item that affects dollar amounts or irrevocable elections will be decided between October 2026 and mid-2027. Several must be resolved in a fixed sequence, and missed windows cannot be reopened. As Figure 10-1 shows, the calendar is front-loaded, with fewer key decisions later. Appendix A consolidates these dates and subsequent compliance milestones into a single table.

For preparation purposes, the important point is not only the date of each decision but also the dependencies it creates for later elections, claims, and auction obligations. Read Figure 10-1 as a decision calendar rather than a compliance calendar.

Figure 10-1: Open Items and Expected Resolution

Open item	Decided By	Expected Resolution	What it Determines
Federal Register publication	FCC and the Federal Register	Occurred July 31, 2026	Starts the protest, effectiveness, and committee-convening clocks
OMB approval of new information collections	OMB under the PRA	Not scheduled	Effectiveness of rules containing new collections
Section 316 protests	Affected licensees	By Aug. 31, 2026	Whether any license or registration modification is contested
Relocation Coordinator selection	Space station operator committee, confirmed by WTB	Committee convenes by Oct. 1, 2026; procurement failsafe Jan. 1, 2027	Who coordinates the schedule, and who pays for it

[242] Summit Ridge June 2, 2026, Ex Parte at 5; Summit Ridge Comments at 5 (the hourly model "hinders such investment by lowering billable hours").

Open item	Decided By	Expected Resolution	What it Determines
Draft rebate proposals	WTB	By Oct. 6, 2026	Rebate categories, amounts, and documentation requirements
Transition Plans	SES, Eutelsat, and Telesat	Nov. 5, 2026	Scope, cost estimates, and per-site migration approach
Transition Plan amendment window	WTB	Closes before auction bidding begins	Last opportunity to change critical plan elements
Clearinghouse selection	Nine-member committee	Dec. 15, 2026; failsafe Jan. 15, 2027; then OMD procurement	Who administers claims and rebates
Cost Catalog and lump sum amounts	WTB	Within six months of release, by approximately Jan. 24, 2027	Presumptively reasonable cost ranges and lump sum dollar figures
Lump sum election window	Incumbent earth station operators	60 days after the Cost Catalog notice, no extensions	Irrevocable per-site elections
Final rebate categories and amounts	WTB	As soon as feasible after comment; no fixed date	The dollar value of every aviation claim
Claims processing handbook and dispute resolution plan	The selected Clearinghouse	After selection, no fixed date	Documentation standards, target timelines, and objection procedures
Advance funding arrangements	Clearinghouse, with operators and licensees	Discretionary; no date	Whether capital costs are funded ahead or financed
Auction procedures	WTB and the Office of Economics and Analytics (“OEA”)	Before bidding	Bidding rules and pre-auction obligations
Auction bidding	Bidders	Expected to close by July 2027	The identity of the licensees who pay for everything
Reconsideration and judicial review	Parties and the courts	Open-ended	Whether any element of the framework changes

Source: Summit Ridge Group, LLC analysis of FCC 26-46.

The front-loaded items are the most consequential because they define the program's economics before most parties incur the associated costs.

Three patterns in that table matter more than any single row.

- First, undated items are still important. Federal Register publication occurred on July 31, 2026, but OMB approval, which governs the effectiveness of the rules containing new

information collections, remains unscheduled. The claims processing handbook and dispute resolution plan will determine how claims are documented and contested, yet both depend on a Clearinghouse that will not be selected until December at the earliest. Relevant parties should be aware that many of their costs will be incurred before documentation standards are established, however inconvenient that may be.

- Second, the sequence contains one genuine trap. The Cost Catalog opens a 60-day lump sum election window; the Commission has stated that no extensions beyond that window are envisioned, and that the election is irrevocable.[243] If the catalog issues on schedule, that window could open in the first quarter of 2027 and close before the auction. An operator that waits for the notice to begin its site-by-site analysis is compressing six months of work into 60 days (Section 5.4).
- Third, almost nothing resolves in a way that reopens. The Transition Plans are final as to critical elements after one amendment window. The incumbent earth station list will not be reopened. The lump sum election cannot be reversed. Rebate claims filed after the submission deadlines shall be denied. The Order's flexibility is concentrated in the comment cycles that precede these decisions, not in the decisions themselves.

Accordingly, management teams are well-advised to treat the period from now through the first quarter of 2027 as the operative planning window and to calendar the comment cycles, in addition to the compliance deadlines, which are themselves four years out. The opportunities to influence what compliance costs and who pays for them are measured in weeks.

11. HOW TO PREPARE

Section 10 above identifies when the open decisions will be resolved; this section translates that calendar into preparation steps for each affected group. The common lesson from the decision calendar is that preparation must begin before the details are finalized. Because several windows close before claims begin, each stakeholder group should treat the next year as the planning period rather than the waiting period.

The steps below assume the Order takes effect substantially as adopted. Some steps depend on a pending public notice, which we indicate. Explain the coming elections and deadlines to boards, lenders, and content or operations partners now, not after the windows have closed. Appendix C sets out the claim-readiness checklist, organized by claimant type.

The steps in this section are organized by group. Figure 11-1 below organizes the same work by date, running backward from the fixed points: the Cost Catalog notice and the 60-day window it opens, the November 5, 2026 Transition Plan filing, and the October 6, 2026 rebate proposals.

[243] Upper C-band Order ¶¶ 126, 186 & n.460; 47 C.F.R. § 27.1419 (as adopted).

Figure 11-1: Working Backward from the Fixed Dates

Window	What To Do	Who It Applies To
By August 31, 2026	Decide whether to protest a proposed license or registration modification. The window runs 30 days from the July 31, 2026 Federal Register publication and cannot be reopened.	Incumbent earth station operators and other affected licensees.
By mid-September 2026	Reconcile entries on the November 19, 2025 incumbent earth station list against physical inventory. Flag stations moved, expanded, decommissioned, or sold. There is no mechanism to add stations, so the exercise is about knowing exactly what you hold.	Incumbent earth station operators.
By September 29, 2026	Put your view of what good administration means in front of the Selection Committee. It convenes on this date and must notify the Commission of its criteria within 30 days.	All parties.
By October 1, 2026	Engage the eligible space station operators before their committee convenes to select the Relocation Coordinator.	Earth station and space station operators.
By October 6, 2026	Read WTB's draft rebate proposals the day they appear. Prepare comments on categories, altimeter counting conventions, documentation, the airworthiness-certificate divergence, and the treatment of spares.	Airlines, aircraft owners, and prospective bidders.
Before November 5, 2026	Give your space station operator the site-level detail you want reflected in its Transition Plan. Reaching the operator before the filing is the difference between shaping your entry and correcting it afterward.	Incumbent earth station operators.
November 5, 2026	File the Transition Plan, with itemized cost detail and a documented necessity analysis for any new satellite.	SES, Eutelsat, and Telesat.
November 2026 to January 2027	Complete the site-by-site lump sum analysis and the internal approval chain, so that the only variable left is the published amount. Comment on the draft Cost Catalog.	Incumbent earth station operators
By approximately January 24, 2027	Expect the Cost Catalog and lump sum amounts. The irrevocable 60-day election window opens with that notice.	Incumbent earth station operators
Cost Catalog notice plus 60 days	File elections. The window closes for good. The Order envisions no extensions, and NCTA's request for 90 days was denied.	Incumbent earth station operators
From March 31, 2027	Quarterly status reports begin and continue through the transition.	SES, Eutelsat, and Telesat
Before bidding closes	Finish the PEA-level model of incumbent earth station costs, and price the incentive pool against your own dollar-per-MHz-pop and cost of capital rather than the Commission's.	Prospective bidders
Throughout	Keep claims-grade records from the first dollar, and code internal hours contemporaneously. Hours cannot be reconstructed later, and the treatment of internal labor is unresolved.	All claimants

Source: Summit Ridge Group, LLC analysis of FCC 26-46. Dates that depend on future public notices are described as expected or approximate.

11.1 For Earth Station Operators

For earth station operators, the first task is to preserve optionality before the Cost Catalog and lump-sum window narrow the choices. Earth station preparation should start with the assets and records that determine eligibility, transition scope, and lump-sum economics. The most important decision for many operators will arrive early: whether to remain in the managed transition or elect a fixed lump sum site-by-site.

1) **Reconcile your registrations against physical reality.** Pull your entries from the November 19, 2025 incumbent earth station list and verify each antenna's existence, location, and operational status. Flag stations that have been moved, expanded, decommissioned, or sold. There is no mechanism to add stations, so the exercise is about knowing exactly what you hold, correcting record errors, and identifying sites whose incumbency could be questioned.

2) **Build a site-level technical and commercial inventory.** For each site, document the satellites and transponders received, the programming or data services carried, the antenna and low-noise block downconverter ("LNB") equipment installed, site access constraints, and any landlord or permitting dependencies. The Transition Plans due November 5, 2026 will describe your sites. You want to be able to check that description line by line.

3) **Engage your space station operator before the Transition Plans are filed.** SES, Eutelsat, and Telesat are drafting the plans that will govern your earth station migration. Contacting SES, Eutelsat and Telesat before November 5, 2026 is the difference between shaping your entry in the plan and correcting it during the public comment window afterward. Review the filed plans promptly and submit input. After the initial amendment window closes, the plans are final as to critical elements.

4) **Run the lump sum analysis now, not during the 60-day window.** For each site, decide in advance which of the three paths fits: keep FSS and self-perform, migrate to IP or fiber delivery, or discontinue. Establish the decision criteria and the approval chain before the Cost Catalog public notice starts the irrevocable 60-day clock, which could open as early as 2027. Then the only variable to plug in is the published lump sum amount.

5) **Comment on the draft Cost Catalog.** The Cost Catalog defines the presumptively reasonable cost ranges and lump sum categories. If your equipment class, region, or configuration is underrepresented, the comment cycle is the time to say so. WTB must finalize the Cost Catalog within six months of the Order's release.

6) **Plan filtering and migration logistics against fixed dates.** Every station staying in 4.16–4.2 GHz needs a passband filter installed before its PEA's deadline. Sequence rooftop and tower access, landlord approvals, permits, and downtime windows, assuming December 30, 2030 and June 30, 2031 will not move, because the Order authorizes wireless launch on those dates regardless.

7) **Institute claims-grade record-keeping from the first dollar.** Actual-cost claimants must justify and document every claim and may be audited. Capture procurement records, invoices,

engineering time, and site photographs as work occurs. Claim decisions from the Lower C-band transition carry no precedential force for the Transition, so a determination obtained in the Lower C-band transition is, at most, persuasive material to attach, not a precedent to rely on.

8) **Calendar the outside claims deadline, then plan not to use it.** The outside deadline for all FSS claims is six months after the June 30, 2031 Final Transition Deadline, but the Commission expects claims to be filed as costs are incurred. Filing early surfaces documentation gaps while they are still curable.

9) **Budget your own claim preparation cost and track it separately.** The 2% soft-cost presumption is shared across engineering, consulting, legal, and finance, and is measured against hard costs. An operator whose hard costs are filters and LNBs should expect claim preparation to consume more than the presumption allows. Code those hours from the first invoice, both to support a claim above the presumption and to know what the exercise actually costs. Section 9.6 explains why.

10) **Decide whether to protest your license or registration modification ASAP.** The modifications adopted here are proposed modifications under section 316. An affected licensee may protest by August 31, 2026 (30 days after the July 31, 2026, Federal Register publication), and a contested modification is not final as to that party until the Commission orders otherwise. This is the nearest hard date most earth station operators face. The clock is already running, and the window cannot be reopened. Decide the position now.

11) **Watch the Certification of Completion comment cycle.** WTB must establish certification procedures that include a public comment cycle allowing stakeholders to challenge whether an operator has, in fact, completed its clearing actions. An operator whose site was not migrated on schedule has a forum, and challenged certifications are decided within 60 days of filing.

11.2 For Satellite Operators

For satellite operators, the preparation burden centers on the Transition Plan and the financing bridge to the Auction's close. The satellite operator timeline starts earlier than the reimbursement timeline because procurement, planning, and customer coordination precede payment. Unlike other stakeholders, satellite operators must define much of the transition before they know how many earth station operators will opt out.

1) **Treat the November 5 filing as the audit baseline.** Every cost claimed later will be measured against the Transition Plan's itemized estimates, and technology choices are not entitled to a presumption of reasonableness. Specificity in the plan now is cheaper than a reasonableness dispute with the Clearinghouse later.

2) **Justify any new satellites in the plan itself.** The Order requires a detailed description of why each new satellite is necessary, and the Clearinghouse will independently review its necessity. The filing is the place to build that record, with capacity analyses and alternatives considered, not a supplement produced after a claim is questioned.

3) **Reconcile customer and antenna records before filing.** An operator is responsible for migrating every incumbent earth station receiving its signals, with or without a direct contract.

Gaps between internal customer lists and the incumbent earth station list will surface either in the public comment cycle or, worse, mid-transition.

4) **Sequence the clearing schedule against the sliding scale.** A single 30-day slip past the Primary Transition Deadline costs SES approximately $328 million in reduced incentives, by our arithmetic on the Order's table. Build schedule margin into the PEAs with the hardest site logistics and document any delays beyond the operator's control as they occur, since such delays do not count against the certification.

5) **Plan the financing gap and keep claims-grade records from the first dollar.** Costs are self-funded until winners are announced and reimbursed afterward only if actual and reasonable. Procurement records, engineering time, and vendor invoices captured contemporaneously convert directly into claims, whereas records reconstructed in 2028 do not.

11.3 For Airlines and Aircraft Owners

For aviation stakeholders, the rebate process begins with documentation and vendor positioning, not with the eventual claim form. Aircraft operators and owners should prepare on two tracks: shaping the rebate categories in 2026 and preserving claim-ready records once retrofits begin. The rebate is fixed, so preparation should focus on closing the gap between the published amount and the actual installed cost.

1) **Map the fleet to the two deadlines and the eligibility cutoffs.** Sort every aircraft by operating rule (Part 121 versus Part 91 and related parts) and check each original certificate of airworthiness against the April 1, 2030, and July 1, 2031, eligibility cutoffs. Aircraft certificated after those dates are expected to have factory-installed upgraded altimeters and will not qualify for rebates.

2) **Identify the airframes that cannot be retrofitted overnight.** The industry timeline distinguishes between aircraft that can be retrofitted during routine overnight maintenance and regional aircraft that require a new transceiver design. Sort the fleet on that line first. The second group forms the critical path, where hangar slots and out-of-service exposure are concentrated.

3) **Track the certification programs your plan depends on.** The eligibility cutoffs are keyed to the aviation sector's own availability projections, not to supplier commitments. Know which supplier and which certification program each tail number's plan assumes, and monitor that schedule directly, not through trade press.

4) **Secure your position in the equipment queue.** Five companies make certified radio altimeters, and the FAA expressly declined requests to police how they allocate production. Military and foreign-carrier demand compete for the same output and offer no rebates. A delivery position negotiated before the category amounts are published is worth more than the rebate differential it might cost.

5) **File comments on WTB's draft rebate proposals.** The draft public notice is due by October 6, 2026. Categories, amounts, altimeter counting conventions, and documentation requirements are all on the table. This is the single best opportunity to align the rebate structure with how your fleet and maintenance program actually operate. Categories set without regard to the cost of

claiming will understate what a retrofit costs an operator because the rebate carries no separate soft-cost allowance.

6) **Integrate retrofits into the maintenance schedule early.** An aircraft that misses its FAA deadline forfeits its rebate entirely and creates a separate FAA compliance problem. The industry's own projections show that most mainline in-service retrofits will be completed during routine overnight maintenance by late 2029. Schedules that back-load the work concentrate both risks into the final year.

7) **Decide your spares position and price it.** Spares are excluded from the rebates, and the FAA does not require them. An operator who holds rotables to protect dispatch reliability during the retrofit window bears that cost outright. Settle the position before the category amounts are published, so the decision follows operational need rather than a rebate number.

8) **Confirm which entity holds the claim.** First-deadline rebates flow to the Part 119 certificate holder operating the aircraft. Second-deadline rebates flow to the registered owner. Leased aircraft, ownership trusts, and management arrangements should be reviewed now so that the claiming entity and any required flow-through to the party paying for the retrofit are settled by contract before money moves.

9) **Build a per-aircraft documentation file.** Claims may be filed only after retrofit work is complete and must include supporting documentation. Retain work orders, completion records, and altimeter counts per airframe. Spares do not qualify, so claim files should distinguish installed units from inventory.

10) **Diary the claim deadlines as outward limits.** June 30, 2031 and April 30, 2035 are the latest possible filing dates; WTB may set earlier ones, and late claims may be denied. The Clearinghouse is required to prioritize first-deadline claims through June 30, 2031, so early filers in that group should see faster processing.

11.4 For Prospective Bidders and Licensees

For prospective license-auction bidders, preparation means pricing not only the spectrum but also the transition obligations attached to the license. Winning bidders will inherit a payment stream whose size depends on decisions made before and shortly after the Auction. Bidders should treat the transition framework as part of the auction valuation, because the license carries both spectrum rights and reimbursement obligations. Licensees fund every payment described in this paper, and the decisions that set those payments are being made now, in proceedings where no one else represents them.

1) **Model the PEA concentration of earth station costs, not just the national total.** Space station costs, Clearinghouse costs, incentive payments, and altimeter rebates are allocated on national pro rata shares of gross winning bids. Incumbent earth station costs are not. They are allocated PEA by PEA, so two licensees holding the same national share can carry materially different earth station bills. The November 19, 2025 incumbent list is public, and the exercise belongs in the model before bid limits are set, rather than after the first invoice arrives.

2) **Price the incentive pool against your own assumptions.** The $6.3 billion is calibrated to the value of earlier access at $0.70 per MHz-pop and an 8.5% discount rate, as described in Section 6.3. If your view of either differs from the Commission's, so does your view of what the incentive is worth against what it costs.

3) **Take note of the objection right and use it early.** 47 C.F.R. § 27.1421 lets any licensee object to a cost estimate, an approved claim invoice, or a cost-sharing obligation, expressly including the Clearinghouse's own costs. Objections are decided in 30 days, with expedited non-binding arbitration, then a Bureau decision on the record, and de novo review at the Commission. The payers in the Lower C-band transition reported the operating budget grew from $62.2 million to more than $114 million, and had nothing to point to in the rules to rein in the costs. They do now.

4) **Plan the incentive calls separately from the quarterly replenishment cycle.** Validation of a Certification of Completion triggers payment within 60 days. SES's Primary Deadline amount alone is approximately $4.37 billion, and early clearing by all three operators can pull those calls forward. That is a different cash management problem from a quarterly replenishment.

5) **Participate in the certification comment cycle.** WTB must establish certification procedures that include a public comment cycle allowing stakeholders to challenge a Certification of Completion. Licensees fund the incentives that the validation releases, which makes them the parties with the most direct reason to test a certification they doubt.

6) **File in the Cost Catalog and rebate proceedings.** Licensees pay for both the Cost Catalog and the rebate proceedings but are represented in neither by anyone else. The Cost Catalog establishes the presumptively reasonable ranges governing every actual-cost claim. The public notice from the rebate proceedings sets the dollar value of roughly 38,000 aviation claims. Neither the Cost Catalog nor the rebate proceedings is expected to be reopened.

7) **Recognize the licenses as an obligation.** Payment obligations follow the license rather than the licensee. A relinquished license redistributes its remaining balance among similarly situated licensees, and a secondary-market purchaser assumes the entire outstanding balance. Diligence on an Upper C-band license acquired after the Auction has to include the unpaid transition obligation.

Taken together, these preparation steps all point to the same conclusion: the decisive work occurs before the formal reimbursement process opens. The remaining uncertainty is manageable only if the parties use the early comment windows, the selection process, and the internal record-building period effectively. Section 12 closes by returning to the central point: the program's success will depend as much on process design as on engineering execution.

12. CONCLUSION

There has been extensive discussion of the Auction and what 160 megahertz of mid-band spectrum means for wireless carriers. There has been far less discussion of what the earth station incumbents, the satellite operators, the aviation sector, and the eventual licensees themselves must do in the meantime, and the interval is short. Between now and mid-2027, the Clearinghouse

will be selected, the Cost Catalog and lump sum amounts finalized, the rebate structure set, the Transition Plans filed and locked, and the irrevocable earth station elections made. That window will largely determine the Transition's outcomes for individual operators, three and a half years before the first wireless base station lights up in the band.

The Lower C-band transition holds one more lesson worth carrying forward. The parties that fared best were those whose records, elections, and filings were in order before each deadline. We expect the same pattern here, compressed into less time.

Summit Ridge has worked on FCC reimbursement programs on both the claimant and Clearinghouse sides. We were the Commission-confirmed 3.45 GHz Relocation Payment Clearinghouse, neutrally serving claimants and payers alike under Commission oversight. Summit Ridge has assisted claimants directly, including earth station operators, content distributors, aviation interests, and other affected parties, with transition planning, lump sum election analysis, claim preparation, and comment filings in FCC reimbursement programs, including the TV Broadcast Repack, the Lower C-band Transition, and the SCRP program. Do not hesitate to reach out to us with any questions.

PART IV: APPENDICES

This section contains reference materials, including a consolidated key dates table, a comparison of the Lower and Upper C-band processes, a claim-readiness checklist, a glossary, a summary of issues and opportunities, and an index.

APPENDIX A: CONSOLIDATED KEY DATES

Figure A-1 below consolidates the program milestones. Dates marked with an asterisk depend on the timing of subsequent public notices and were not fixed as of this writing.

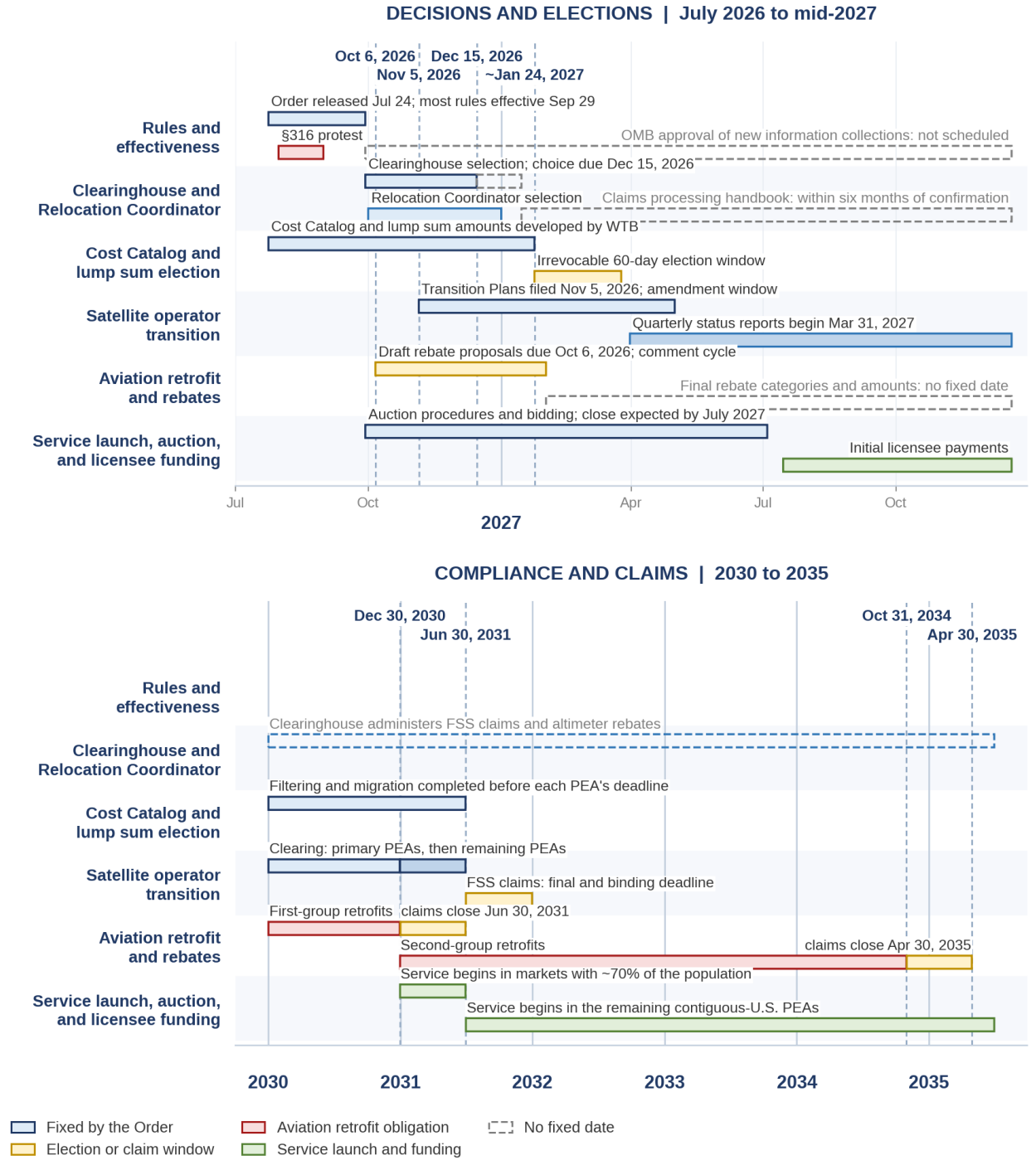
Figure A-1: Upper C-band Program Milestones

Date	Event	Citation (FCC 26-46)
July 24, 2026	Order released	—
August 31, 2026	Deadline to protest proposed license modifications	¶ 194
September 29, 2026	The Clearinghouse selection committee convenes; most rules take effect	¶¶ 157, 198
By October 1, 2026	The Relocation Coordinator selection committee convenes	¶ 170
By October 6, 2026	WTB draft public notice on rebate categories, amounts, and documentation	¶ 182
November 5, 2026	Eligible space station operators file formal Transition Plans	¶ 163
December 15, 2026	The selection committee informs the Commission of its choice for the Clearinghouse	¶ 157
January 1, 2027	If no Relocation Coordinator qualifies, OMD may initiate a procurement	¶ 170
January 15, 2027	Failsafe selection deadline for the reduced committee	¶ 158
By ~January 24, 2027	Cost Catalog and lump sum amounts finalized (six months after release)	¶ 154
Catalog + 60 days	Irrevocable per-site lump sum election window closes	¶¶ 126, 186
March 31, 2027 onward	Quarterly public status reports by space station operators begin	¶ 167
By July 2027	Auction bidding is expected to close	¶ 184
Shortly after license grant	Licensees pay initial shares into the reimbursement and rebate funds; quarterly replenishment invoices follow	¶ 149
December 30, 2030	Primary Transition Deadline; first FAA altimeter retrofit deadline	¶¶ 111, 175
December 31, 2030	Wireless operations begin in PEAs 1–41 and 43–76	¶ 111
June 30, 2031	Final Transition Deadline; outside deadline for first-group rebate claims	¶¶ 111, 182
July 1, 2031	Wireless operations begin in the remaining contiguous-U.S. PEAs	¶ 111
Final Deadline + 6 months	Final and binding deadline for all FSS reimbursement claims	¶ 145
October 31, 2034	Second FAA altimeter retrofit deadline	¶ 182
April 30, 2035	Outside deadline for the second-group rebate claims	¶ 182

Source: Summit Ridge Group, LLC analysis of FCC 26-46.

Figure A-2 below presents the same milestones as a single program timeline, separated into the period when decisions are made and the period when compliance obligations fall.

Figure A-2: Consolidated Upper C-band Program Timeline



Source: Summit Ridge Group, LLC analysis of FCC 26-46 and the FAA Final Rule. Items shown without a fixed date depend on public notices that have not been issued as of this writing.

APPENDIX B: LOWER C-BAND VS UPPER C-BAND DIFFERENCES

The Upper C-band reuses most of the Lower C-band's architecture, so the differences are where preparation time should go. Figure B-1 below consolidates them into a single reference table: the program structure in Figure 4-1, the earth station details in Figure 5-1, and the claims, payment, and aviation mechanics in Sections 5 through 9. The Lower C-band column describes a completed program. Much of the Upper C-band column describes a framework whose operating details, the Cost Catalog, the lump sum amounts, the rebate categories, and the Clearinghouse's procedures, remains to be set through the public notices cataloged in Figure 10-1.

Figure B-1: The Clearing Process, Lower C-band Versus Upper C-band

Process Element	Lower C-band (2020)	Upper C-band (2026, as Adopted)
Spectrum outcome	280 MHz repurposed (3.7–3.98 GHz); FSS retained 200 MHz at 4.0–4.2 GHz	160 MHz auctioned (3.98–4.14 GHz); 20 MHz guard band; FSS retains 40 MHz at 4.16–4.2 GHz, plus Ku-band migration paths
Auction	Auction 107; $81.2 billion gross proceeds	Procedures to be set by WTB and OEA; bidding expected to close by July 2027 under the OBBB Act
Eligible space station operators	Five: SES, Intelsat, Eutelsat, Telesat, and Star One/Embratel	Three: SES, Eutelsat, and Telesat
Clearing deadlines	Ultimate deadline Dec. 5, 2025; elective accelerated Phase I (Dec. 5, 2021) and Phase II (Dec. 5, 2023)	Mandatory: Dec. 30, 2030 (PEAs 1–41 and 43–76) and June 30, 2031 (remaining contiguous-U.S. PEAs), aligned with the FAA retrofit deadline
Wireless launch trigger	Gated on validated certifications and accelerated relocation payments, absent incumbent consent	Date certain: Dec. 31, 2030, and July 1, 2031, whether or not clearing is complete
Operator incentives	$9.7 billion in elective accelerated relocation payments ($2.4 billion Phase I; $7.3 billion Phase II)	$6.3 billion tied to the mandatory deadlines; 7.5% reduction per 30 days late, against 5% in 2020; zero at day 181
Incentive allocation method	Weighted blend of the operators' own market-based agreement (heaviest weight), transponder usage, and coverage	Value of the spectrum each operator would encumber if it alone failed to clear: $0.70 per MHz-pop, 8.5% discount rate, 8 km exclusion radius
Earth station eligibility	Registration and certification windows (2018–2019)	Frozen to the November 19, 2025, incumbent list; no reopening
Lump sum election	One election covering all of an operator's stations	Per site; priced to include Ku-band migration; irrevocable 60-day window after the Cost Catalog notice, expected Q1 2027
Claims review standard	One standard: reasonableness, with the Cost Catalog presumption	Split by claim type: actual cost claims reviewed for reasonableness; lump sum and rebate claims for compliance only

Process Element	Lower C-band (2020)	Upper C-band (2026, as Adopted)
Filtering	Performed as part of the transition	Expressly required by rule for every station remaining in 4.16–4.2 GHz
Clearinghouse workload	FSS claims only	FSS claims plus roughly 38,000 radio altimeter rebate claims
Clearinghouse oversight	Largely contract-based; objections through the Clearinghouse's dispute resolution plan and a Bureau public notice	Written into the rules: internal controls, annual audits, quarterly reports, stakeholder briefings, and objection rights that reach the Clearinghouse's own costs
Selection committee	No aviation seats	Nine members, including A4A and AOPA; criteria published within 30 days of first meeting; choice due December 15, 2026
Relocation Coordinator	RSM US LLP, confirmed after public comment	Not yet selected; the operator committee convenes by October 1, 2026; the selection path determines who pays
Licensee funding cadence	Semi-annual replenishment	Quarterly, on 30 days' notice, across separate reimbursement and rebate funds
Aviation	Outside the program, coexistence is addressed separately	$3.83–$5.71 billion in fixed rebates by aircraft category, paid through the Clearinghouse and forfeited for aircraft that miss FAA deadlines
Payment timing discipline	No published processing standard; SES reported a 323-day average to reimbursement, with under 8% of claims processed as of September 2023	Handbook must state target timelines; pendency reported quarterly; binding clocks on payment and disputes, none on claim review

Source: Summit Ridge Group, LLC analysis of FCC 26-46 and the 2020 C-band R&O. Rows summarize the sections and figures cited above; entries in the right-hand column reflect the framework as adopted, not final program terms.

APPENDIX C: CLAIM-READINESS CHECKLIST

The Clearinghouse is expected to publish documentation standards within six months of its confirmation. This checklist is the record a reviewer asked for in the Lower C-band transition and the 3.45 GHz program, organized so that a claimant can begin assembling it before the standard exists. Nothing here should be read as a prediction of what the Upper C-band Clearinghouse will require.

Every claimant. Start these now, whatever your category. Code employee hours contemporaneously to identified transition tasks at documented rates. The treatment of internal labor is unresolved, and hours cannot be reconstructed later. Open one repository per site, per space station, or per tail number, not per invoice. Name a single claims owner with authority over both procurement and records, because the gap between what purchasing keeps and what a reviewer wants is where claims stall.

Document or Record Needed	Owner	Status	Deadline or Trigger
Contemporaneous time records coding employee hours to identified transition tasks, at documented rates	Claims owner		Start now; hours cannot be reconstructed
One repository per site, per space station, or per tail number, rather than per invoice	Claims owner		Before the first invoice
A single named claims owner with authority over both procurement and records	Management		Now
A separate cost code for claim preparation, tracked against the 2% soft cost presumption	Finance		From the first invoice
Written internal procedure for what is captured, by whom, at each stage of the work	Claims owner		Before work begins

Incumbent earth station operators, actual cost. SES described the requirement in the Lower C-band transition for a single $1,000 filter claim: purchase order, vendor invoice, evidence of payment, evidence that cash left the account, installer purchase order, installer invoice, evidence of payment to the installer, a photograph of the installed equipment, and evidence that the antenna was in scope.[244] Assume that set per line item until the handbook says otherwise, and add proof that each antenna appears on the November 19, 2025, incumbent earth station list, since scope is the one element no vendor can supply after the fact.

Document or Record Needed	Owner	Status	Deadline or Trigger
Purchase order	Procurement		Per line item
Vendor invoice	Procurement		Per line item
Evidence of payment, and evidence that cash left the account	Finance		Per line item

[244] SES Comments at 28 & n.61.

Document or Record Needed	Owner	Status	Deadline or Trigger
Installer purchase order and invoice, and evidence of payment to the installer	Procurement		Per line item
Photograph of the installed equipment	Site engineering		At installation
Evidence that the antenna was in scope, and that it appears on the November 19, 2025, incumbent list	Claims owner		Before filing; no vendor can supply this later
Engineering time records, and site access, landlord, or permit documentation	Site engineering		As incurred
Any relevant final decisional memoranda from the Lower C-band, attached as persuasive material only	Claims owner		With the claim

Incumbent earth station operators, lump sum. The election itself is the entitlement, so the file is shorter, but the deadline is absolute. Retain the election record per site, the pre-election site inventory that supported it, and evidence of completion or discontinuance. An electee assumes responsibility for its own transition, so keep the completion evidence to the same standard you would have needed for an actual cost claim.

Document or Record Needed	Owner	Status	Deadline or Trigger
Election record per site	Claims owner		Within the 60-day window
Pre-election site inventory that supported the election, by site	Engineering		Before electing
Board or management approval of the election criteria and the decision chain	Management		Before the window opens
Evidence of completion or discontinuance, to actual cost standard	Engineering		By the deadline for the site's PEA
Tax treatment position on the lump sum receipt, per site	Tax counsel		Before electing

Eligible space station operators. Every claimed cost should trace to a line in the filed Transition Plan, because the plan is the baseline against which reasonableness will be judged, and technology choices carry no presumption. Retain the necessity analysis for any new satellite, including capacity analysis and alternatives considered; procurement and milestone payment records; and, if you intend to claim financing above the 2% soft cost presumption, the borrowing terms and the documented transition purpose, papered before the money is drawn.

Document or Record Needed	Owner	Status	Deadline or Trigger
Trace from each claimed cost to a line in the filed Transition Plan	Program finance		Continuous

Document or Record Needed	Owner	Status	Deadline or Trigger
Necessity analysis for any new satellite, with capacity analysis and alternatives considered	Engineering and legal		In the November 5, 2026, filing
Procurement and milestone payment records	Procurement		As incurred
Borrowing terms and documented transition purpose, papered before the money is drawn	Treasury		Before drawing
Contemporaneous record of any delay beyond the operator's control	Program management		As it occurs
Customer-level grooming records reconciled against the incumbent earth station list	Commercial		Before filing, then as amended

Aircraft operators and owners. A rebate claim may be filed only after the retrofit is complete, supported by documentation.[245] Per airframe, retain the work order and completion record, the altimeter count with unit serial numbers, the original certificate of airworthiness date establishing eligibility, and evidence of the claiming entity's status, meaning the Part 119 certificate for the first deadline or Aircraft Registry ownership for the second. Segregate installed units from spares in the file itself, since spares are excluded and a commingled record invites a denial of the whole claim.

Document or Record Needed	Owner	Status	Deadline or Trigger
Work order and completion record, per airframe	Maintenance control		At completion
Altimeter count with unit serial numbers, installed units segregated from spares	Maintenance control		At completion
Original certificate of airworthiness date establishing eligibility	Records		Before filing
Evidence of claiming entity status: the Part 119 certificate for the first deadline, Aircraft Registry ownership for the second	Legal		Before filing
Contractual allocation of the rebate for leased, trust-held, or managed aircraft	Legal		Before money moves
Supplier and certification program assumed for each tail number's retrofit plan	Technical services		Now, then monitored

What not to document. Do not build files for these. Lost revenues, the speculative value of foregone business opportunities, and the expenses of appealing a Clearinghouse determination are not compensable. Allocated overhead, general and administrative loadings, and executive attention are not testable by a reviewer and may not survive review.[246] Similarly, redundant distribution paths an operator builds for itself are an optional upgrade, not a transition cost.

[245] Upper C-band Order ¶ 182 & n.639.
[246] Upper C-band Order ¶¶ 122, 124 & nn.439, 447.

APPENDIX D: GLOSSARY

Certification of Completion. A filing by an eligible space station operator, due no later than each Transition Deadline, demonstrating completion of all clearing actions under its Transition Plan. Deemed validated absent a WTB deficiency notice within 30 days of filing.

Cost Catalog. A schedule, to be developed by WTB, listing ranges of presumptively reasonable transition costs and the categories and procedures for lump sum elections. Claims within catalog ranges are presumed reasonable.

Eligible Space Station Operator. An incumbent space station operator that, as of February 1, 2020, demonstrated an existing relationship to provide C-band satellite service to one or more incumbent earth stations in the contiguous United States. Currently, SES, Eutelsat, and Telesat qualify as eligible space station operators.

Final Transition Deadline. The date, June 30, 2031, by which all incumbent FSS operations must be cleared from 4.0–4.16 GHz in the remaining contiguous U.S. PEAs.

FSS. Fixed Satellite Service. The satellite downlink services that currently occupy the Upper C-band.

Incentive Payment. A payment from Upper C-band licensees to an eligible space station operator, imposed as a license condition, for clearing by a Transition Deadline. The $6.3 billion total is allocated 89% to SES, 8% to Eutelsat, and 3% to Telesat, and is subject to a sliding-scale reduction of 7.5% for each 30-day delay past the Primary Transition Deadline, falling to zero ($0) after 180 days.

Incumbent Earth Station. An earth station entitled to interference protection under section 25.138(c) of the Commission's rules: operational as of April 19, 2018, registered or licensed by November 7, 2018, and timely certified by May 28, 2019. The November 19, 2025, list is the program baseline.

Lump Sum Election. An irrevocable, per-site choice by an incumbent earth station operator to opt out of the operator-led transition in exchange for a fixed payment, electing to self-perform, migrate to an alternative distribution technology, or discontinue service.

OBBB Act. The One Big Beautiful Bill Act, Pub. L. No. 119-21 (2025), which restored the Commission's auction authority and directed competitive bidding for at least 100 megahertz of the Upper C-band by July 4, 2027.

PEA. Partial Economic Area, the geographic unit for Upper C-band licenses and for allocating earth station transition costs among licensees.

Primary Transition Deadline. The clearing deadline of December 30, 2030, for PEAs 1–41 and 43–76, aligned with the FAA's first radio altimeter retrofit deadline.

Pro Rata Share. A licensee's fraction of a program cost category, equal to the final clock phase prices of the license blocks the licensee won, divided by the total final clock phase prices of all

blocks sold. Computed nationwide for most categories and PEA by PEA for incumbent earth station costs.

Relocation Coordinator. An entity that coordinates clearing schedules, engineering analysis, and scheduling disputes across the eligible space station operators and incumbent earth stations, and assesses PEA-by-PEA completion. RSM US LLP held the role in the Lower C-band transition. The Relocation Coordinator for the Upper C-band Transition has not been selected. A committee of the three eligible space station operators convenes by October 1, 2026 to choose one.

Retrofit Rebate. A fixed payment, in an amount to be set by WTB by aircraft category, made through the Upper C-band Clearinghouse to eligible aircraft operators or owners upon completion of FAA-required radio altimeter retrofit work.

Transition Plan. A public filing by each eligible space station operator, due November 5, 2026, detailing all relocation steps, affected earth stations, technology choices, estimated costs, and timelines.

Upper C-band Clearinghouse. The independent third party, to be selected by December 15, 2026, responsible for claims processing, cost apportionment, dispute resolution, reporting, and administration of the radio altimeter retrofit rebates.

WTB. The FCC's Wireless Telecommunications Bureau, which holds delegated authority over the Cost Catalog, rebate structure, transition oversight, and Clearinghouse confirmation.

APPENDIX E: ISSUES AND OPPORTUNITIES

Figure E-1 below consolidates the issues and opportunities identified in this paper, ranked by our assessment of likelihood and impact, with the stakeholders each affects, the point at which each can still be influenced, and the sections that discuss it. The likelihood and impact ratings are Summit Ridge's judgment, not findings of the Commission, and reasonable parties will rank some of these differently. The table is a reading aid, not a substitute for the discussion it points to.

Figure E-1: Issues and Opportunities, Ranked by Likelihood and Impact

Issue or Opportunity	Who It Affects	SRG Assessment	Where It Can Still Be influenced	Discussed In
No deadline in the rules governs Clearinghouse claim review	All claimants	Likelihood: high Impact: high	Selection criteria, due 30 days after the committee's first meeting and published without a comment cycle	9.1, 9.2, 9.8
The 2% soft cost presumption measured against the program record	All claimants; especially filers with smaller claims	Likelihood: high Impact: high	Rebuttable claim by claim; the Cost Catalog comment cycle (draft expected late 2026, final by roughly January 24, 2027) sets the ranges it is measured against	3.3, 9.6
Rebate categories, amounts, and documentation requirements	Airlines and aircraft owners	Likelihood: certain Impact: high	WTB draft due October 6, 2026, with a comment cycle to follow. The proceeding is not expected to be reopened	7.2, 7.9
Per-site, irrevocable lump sum priced to include a Ku-band migration	Earth station operators	Likelihood: certain Impact: high	Cost Catalog comment cycle, then a 60-day window that closes for good	5.4
Date-certain launch; interference protection ends at the deadline	Earth station operators	Likelihood: certain Impact: high	Fixed by the Order. Manageable only through site sequencing and early ordering	5.5
Equipment availability against fixed deadlines, with no mechanism tying one to the other	Airlines and aircraft owners	Likelihood: medium Impact: high	Supplier negotiation and queue position. The FAA declined to police how production is allocated	7.4 to 7.6
No rebate allowance for spare altimeters	Airlines and aircraft owners	Likelihood: certain Impact: medium to high	The exclusion is settled. The amounts remain open in the October 6, 2026 cycle	7.4
Incentive reductions of 7.5% per 30 days of slip, with forfeiture at day 181	Space station operators; bidders	Likelihood: medium Impact: high	Fixed by the Order. Build schedule margin into the PEAs with the hardest site logistics	6.3

Issue or Opportunity	Who It Affects	SRG Assessment	Where It Can Still Be influenced	Discussed In
Financing the gap to auction close	Space station operators	Likelihood: certain Impact: medium	Transition Plan cost detail, due November 5, 2026, and the treatment of financing as a soft cost	6.2, 5.8
Documentation proportionality: sampling, batching, and certification	All claimants	Likelihood: medium Impact: medium to high	Permitted by the Order and required by none of it. Selection criteria (due 30 days after the committee's first meeting), then the claims processing handbook (due six months after confirmation)	5.7, 9.3
The Clearinghouse and Relocation Coordinator interface	All parties	Likelihood: medium Impact: medium	Both selection processes. Criteria should test how a candidate would run the interface; the committees convene September 29 and October 1, 2026	3.5, 9.8
Objection rights that reach the Clearinghouse's own costs	Winning bidders	An opportunity, new this cycle	Written into the rules at 47 C.F.R. § 27.1421. Objections are decided within 30 days	3.4, 8.4
Automation of routine claim processing	Clearinghouse; all parties	An opportunity	Selection criteria. Raised in SRG's June 2, 2026, ex parte and in CTIA's comments	9.8

Source: Summit Ridge Group, LLC analysis of FCC 26-46.

APPENDIX F: PRIMARY SOURCES

The documents below are the primary sources for this paper. Unless otherwise noted, paragraph citations throughout are to FCC 26-46, and section citations are to 47 C.F.R. as amended by it. Links were current as of this writing.

Document	Citation and Where to Find It
Upper C-band Report and Order, Order of Proposed Modification, and Order on Reconsideration	FCC 26-46, GN Docket Nos. 25-59 and 18-122, adopted July 22, 2026, released July 24, 2026. Full text: https://docs.fcc.gov/public/attachments/FCC-26-46A1.pdf
Federal Register version, including the codified rules	91 FR 48700 (July 31, 2026). Most rules effective September 29, 2026. https://www.federalregister.gov/documents/2026/07/31/2026-15598/upper-c-band-398-42-ghz-expanding-flexible-use-of-the-37-to-42-ghz-band
Statement of Chairman Brendan Carr	FCC 26-46 (rel. July 24, 2026). https://docs.fcc.gov/public/attachments/FCC-26-46A2.txt
FAA companion rule, Requirements for Interference-Tolerant Radio Altimeter Systems	Final Rule, Docket No. FAA-2025-5666, 91 Fed. Reg. 48656 (July 31, 2026). https://www.federalregister.gov/documents/2026/07/31/2026-15585/requirements-for-interference-tolerant-radio-altimeter-systems
FAA notice of proposed rulemaking on the same subject	91 Fed. Reg. 459 (Jan. 7, 2026). Cited in this paper for its cost, production-capacity, and installation-rate estimates.
Codified Upper C-band rules	47 C.F.R. Part 27, sections 27.1400 et seq., and Part 25, as amended by FCC 26-46. The relocation, cost-sharing, election, rebate, and dispute provisions cited in this paper appear at sections 27.1411 through 27.1421.
The proceeding record, including Transition Plans, quarterly status reports, and comments	FCC Electronic Comment Filing System, GN Docket Nos. 25-59 and 18-122. https://www.fcc.gov/ecfs/search/search-filings
FCC Office of Inspector General advisory on Rip & Replace fraud risks	FCC OIG Advisory Regarding Fraud Risks in FCC's “Rip & Replace” Program, Project No. 24-AUD-06-02 (Mar. 2026). Cited in Sections 3.3, 9.4, and 9.6.
2020 Lower C-band Report and Order	Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122. Cited throughout as the 2020 C-band R&O.

Compiled by Summit Ridge Group, LLC.

APPENDIX G: POTENTIAL COMMENT LANGUAGE AND QUESTIONS

The comment cycles described in this paper close before most parties incur any transition costs. The questions and draft language below are illustrative only: starting points, not a filing. They are drawn from the issues this paper identifies, and each should be adapted to a party's own facts and reviewed by its own counsel before filing.

For the Cost Catalog comment cycle. WTB must finalize the Cost Catalog within six months of the Order's release, and the notice that finalizes the Cost Catalog starts the 60-day election clock.

- Ask WTB to reconcile the election notice with the three paths the Order describes. Draft language: “The election notice should permit an electee to indicate that it will transition a station to an alternative distribution technology, consistent with section 27.1412(f), rather than compressing that election into a binary choice between retaining and discontinuing fixed satellite service under section 27.1419.”
- Ask that the Cost Catalog ranges reflect your equipment class, region, or configuration if it is underrepresented in the record, and supply the cost data that supports the range you propose.
- Ask what a compliance review of a lump sum claim will require, and which site records establish eligibility for which lump sum category. The claims processing handbook may not be issued until after the election window closes.
- Ask that the Cost Catalog state how internal labor is treated. The Order does not address it, and hours cannot be reconstructed after the fact.
- Ask that the Cost Catalog address the treatment of financing costs against the 2% presumption, given that engineering, consulting, legal, and financing all draw on the same allowance.

For the radio altimeter rebate cycle. WTB's draft proposals are due no later than October 6, 2026. Categories, amounts, counting conventions, and documentation are all decided in this proceeding.

- On spares, draft language: “The Commission should address whether rotable spare altimeters acquired to protect dispatch reliability during the retrofit window are recognized in the rebate amounts. Operators that hold spares to avoid removing aircraft from service bear that cost entirely, so excluding spares imposes a cost penalty on the scheduling practice that most reduces out-of-service exposure.”
- On category design, draft language: “Rebate categories should distinguish airframes that can be retrofitted during routine overnight maintenance from those requiring a new transceiver design, because the level of effort per retrofit differs materially between them.”
- On the airworthiness certificate divergence, draft language: “The codified rule should be conformed to paragraph 182 of the Order, which extends both eligibility cutoffs to aircraft holding an original export certificate of airworthiness. As adopted, the rule text refers only to the original certificate, which would exclude imported airframes that the Order appears to include.”

- On the Part 47 condition: ask WTB to confirm whether the United States registration requirement in section 27.1411(b)(5)(ii) excludes any operators that paragraph 182 of the Order would include.
- Ask how a multi-altimeter aircraft is counted, and what proof of completed work will suffice.
- Ask whether the amounts include any allowance for the cost of claiming, given that the rebate carries no separate soft cost line.

For the Clearinghouse selection process. The criteria are not subject to a comment cycle, so the opportunity is to put questions in front of the Selection Committee before it writes the selection criteria. Section 9.8 explains why each of these predicts the outcomes that matter.

- What is your cycle time for complete claims, reported by review stage rather than in aggregate?
- Which claim categories will you sample, which will you batch process, which will you accept on certification, and at what dollar thresholds?
- What were your claim-error rates, measured against post-audit review?
- What is the age of the oldest pending claim in the last program you administered, and what is your dispute throughput?
- Have you completed and closed out a federal reimbursement or disbursement program? What was its final cost against the budget you projected at the outset, what did your independent audit find?
- How much of the mechanical work will you perform systematically rather than by hand, and what evidence supports the claim? Every bidder will assert the capability.
- How would you run the working interface with the Relocation Coordinator, whose schedule decisions determine when clearing costs are incurred?
- How will program funds be held: in dedicated accounts at a regulated custodian, separate from your operating funds, released only against approved determinations, and visible in the quarterly fund-status reports?
- How will you staff and systematize for roughly 38,000 rebate claims, an order of magnitude more than the Lower C-band produced, and what happens to your cycle-time targets at that volume?

The same ground can be put to every candidate in a uniform disclosure form, so that answers arrive in comparable shape. Figure G-1 below is a one-page version that the committee could ask each candidate, Summit Ridge included, to complete.

Figure G-1: Illustrative Candidate Disclosure Matrix

Disclosure	What the Candidate Should State	Discussed In
Cycle-time targets	Days per review stage for a complete claim, by claim type, and how pendency will be reported	Sections 9.2, 9.8

Disclosure	What the Candidate Should State	Discussed In
Sampling and batching plan	Categories to be sampled, batch processed, or accepted on certification, with dollar thresholds	Sections 9.3, 9.6
Documentation standards	The claim packet by category, and what makes a claim complete	Section 9.3, Appendix C
Fund custody	Custodian bank structure, account separation, and release controls	Section 3.4
Fraud and improper-payment controls	Internal controls and GAO Green Book procedures, and who audits them	Section 3.4
Public metrics	What the quarterly reports will show, including claim aging and fund status	Section 9.2
Close-out record	Programs completed and closed, final cost against the initial budget, and audit findings	Section 9.8
Systematic processing	The share of mechanical work performed by system rather than by hand, with evidence	Section 9.8
Relocation Coordinator interface	Data hand-offs in both directions, without duplicate requests to operators	Sections 3.5, 9.8

Source: Summit Ridge Group, LLC. Illustrative only; the Selection Committee's published criteria and submission requirements control.

For the Certification of Completion procedures. WTB must establish procedures that include a public comment cycle allowing stakeholders to challenge whether an operator has completed its clearing actions, and challenged certifications are decided within 60 days of filing.

- Ask that the procedures specify what evidence a challenger must produce, and how completion is demonstrated at the level of an individual site rather than a PEA.
- Licensees fund the incentives that validation releases, which makes them the parties with the most direct reason to test a certification they doubt.

A note for prospective bidders. Licensees pay for both the Cost Catalog ranges and the rebate amounts, and no other party represents them in either proceeding. Neither will be reopened.

Summit Ridge is glad to discuss any of the above, including the sections of this paper that support them.

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