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Operations



**SPACELIFT LAUNCH STRATEGIES AND
SCHEDULING PROCEDURES**

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SUMMARY OF REVISIONS

This document has been revised to update the existing launch scheduling processes and incorporate the new launch scheduling process for the Evolved Expendable Launch Vehicles (EELV). It has also been reorganized to improve clarity. This instruction has been completely revised and should be reviewed in its entirety.

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1. General. US spacelift operations provide the nation with continued access to space through the deployment of space-based assets supporting the Department of Defense (DoD), intelligence community, civil and commercial users. The US Air Force (USAF) provides the infrastructure required to support DoD, National Reconnaissance Office (NRO), National Aeronautics and Space Administration (NASA) and commercial spacelift operations. This infrastructure consists of the launch and range facilities of Vandenberg AFB, CA and Cape Canaveral AFS, FL. This instruction describes launch strategies supporting current and future Combatant Command (COCOM) satellite systems, organizational responsibilities and spacelift scheduling products and procedures.

2. Definition of Terms. The following terms are introduced here to facilitate reading this instruction. Other terms and acronyms are also defined in [Attachment 1](#).

2.1. An “executable launch schedule” is defined as all of the following:

2.1.1. A schedule that does not conflict with activities listed on the Current Launch Schedule, such as Range maintenance periods, range modernization contract activity periods or heritage launch system pad maintenance periods.

2.1.2. A schedule that does not conflict with any scheduled Range tests.

2.1.3. A schedule that does not conflict with scheduled launches from other pads or scheduled launches from the same pad within prescribed time centers for each launch pad. [Attachment 2](#) identifies the launch centers for each Air Force-owned and operated pad. More detailed information is provided within the Launch Scheduling Factors List located at <http://lisn.peterson.af.mil>.

2.1.4. A schedule that does not contain launch dates that the Space Wing Commander (SW/CC) has determined to be unattainable, i.e., “placeholder” launch dates, etc.

2.1.5. A schedule that is approved as a “funded requirement” within the Planning Programming and Budgeting System (PPBS).

2.2. A “significant scheduling action” is defined as a schedule change request (SCR) affecting a COCOM mission that:

2.2.1. Changes a priority (sequence) in the Current Launch Schedule Review Board (CLSRB) approved launch queue.

2.2.2. Adds a launch date not previously presented at the CLSRB.

2.2.3. Moves a launch date to another fiscal year.

2.2.4. Adds a maintenance period that precludes operations for 72 hours or more not previously presented at the CLSRB.

2.2.5. Moves a launch date more than 3 days earlier or 10 days later from the accountable launch dates as defined in UPD 10-33, *Space Launch Operations*, Atch 2, Para A2.3.

3. Launch Strategies. The following paragraphs define the operational and emerging launch strategies that support initial COCOM satellite system deployment and satellite constellation sustainment and augmentation. The matrix at [Attachment 3](#) contains operational launch strategies, possible schedule scenarios, procedures, constraints and applicable systems for cross-reference.

3.1. **Launch to Deploy (LTD).** The USAF uses this operational strategy to achieve a satellite system's initial designed operational capability (DOC). This includes initial constellation deployment and research and development launches. This strategy uses a launch-on-schedule approach in which launches are scheduled in the National Launch Forecast (NLF) and Space Launch Manifest (SLM), and executed in accordance with the Current Launch Schedule (CLS).

3.2. **Launch to Sustain (LTS).** The USAF uses this operational strategy to replace satellites predicted to fail or that fail abruptly. Predicted and unforeseen satellite failures drive two lower-level strategies, LTS-Predicted (LTSP) and LTS-Unforeseen (LTSU).

3.2.1. The USAF uses LTSP to maintain the DOC of a constellation by replacing satellites that are predicted to fail. This strategy employs a launch-on-schedule approach to plan and execute replacement launches for operational constellations. HQ AFSPC Directorate of Air and Space Operations (HQ AFSPC/XO) forecasts launches in the NLF and SLM based on user inputs and analysis conducted by the HQ AFSPC/XORS Launch Services Office. Constellation Sustainment Assessment Teams (CSATs) evaluate COCOM constellation health quarterly and recommend available launch opportunities (often referred to as "launch slots") for the CLS and launch and contingency opportunities for the SLM to 14AF/CC, and to the CLSRB.

3.2.2. The USAF uses LTSU as an operational strategy to respond to an unanticipated satellite failure where a launch is necessary to replenish an operational constellation and maintain DOC. In response to an unanticipated failure, the Commander, United States Strategic Command (CDRUSSTRATCOM) will request Operational Considerations (OCs) from AFSPC, Naval Network and Space Operations Command (NNSOC) or Army Space Command (ARSPACE) as required. These agencies then develop OCs necessary to restore the constellation to the DOC. 14AF/CC will act as the focal point for OC development and coordination with the 21st, 30th, 45th and 50th Space Wings and COCOM constellation CSATs.

3.3. **Launch to Augment (LTA).** The USAF uses this operational strategy to increase operational capability above the DOC in response to war, crisis or contingency. This strategy is considered in conjunction with other systems that may provide similar capabilities (i.e., non-space or non-launch alternatives). CDRUSSTRATCOM requests OCs from AFSPC, NAVSPACE or ARSPACE as required. The components develop OCs necessary to appropriately augment the DOC. 14AF is the focal point for OC development and coordination with the 21st, 30th, 45th and 50th Space Wings and COCOM constellation CSATs.

3.4. **Launch to Operate (LTO).** LTO is an emerging strategy intended to increase the useful life of space assets through scheduled or on-demand launches providing space (on-orbit) support such as refueling or repair.

4. Responsibilities:

4.1. **Commander, Air Force Space Command (COMAFSPC) shall:**

4.1.1. Ensure COCOM satellite constellations meet warfighter needs.

4.1.2. Issue Spacelift Execute Orders to 14AF, in the form of an approved and endorsed CLS.

4.2. **Air Force Space Command, Director of Air and Space Operations (HQ AFSPC/XO) shall:**

4.2.1. Provide Launch Service Delivery Orders to the EELV System Program Office (SMC/EV) (courtesy copies to 14AF/CC) for the procurement of EELV launch services that will support the CLS, and any LTSU and LTA requirements.

4.2.2. Ensure HQ AFSPC/XOR and HQ AFSPC/XOS represent AFSPC at CSATs.

4.2.3. HQ AFSPC/XOR shall:

4.2.3.1. In coordination with HQ AFSPC/XOS, solicit NLF inputs, reconcile differences for NLF inputs for Air Force satellite programs following official programmatic decisions such as changes recommended by a CSAT.

4.2.3.2. Solicit launch requirements for other outside agencies such as NRO, commercial and civil satellite programs for incorporation into the NLF. HQ AFSPC/XOR shall maintain the accuracy, completeness, and credibility of the NLF by requiring that all NLF inputs from involved agencies be formally validated by a designated agency official who is accountable for the agency's requirements.

4.2.3.3. Continuously update, and publish the NLF on the Launch Information Support Network (LISN) web page at <http://lisn.peterson.af.mil>.

4.2.3.4. Annually obtain HQ AFSPC/XO approval on the NLF prior to the fiscal year start.

4.2.3.5. Distribute the SLM every regular duty day via the HQ AFSPC/XOR LISN web page.

4.2.3.6. Develop and manage an electronic data collection and storage system to allow government agencies electronic access to approved SLM and historical launch data.

4.2.3.7. Represent HQ AFSPC/XO at Government Integration Meetings (GIMs) and the CLRSB meetings.

4.3. 14th Air Force (14AF) shall:

4.3.1. As the tactical control (TACON) delegate for space forces to COMAFSPC, provide Spacelift Execute Order to 30 SW and 45 SW.

4.3.2. Ensure Space Wings execute the CLS.

4.3.3. Host the semiannual CLSRB and any out-of-cycle CLSRBs as deemed necessary and IAW this instruction.

4.3.4. Serve as the focal point for the 30th and 45th Space Wings' scheduling processes.

4.3.5. Receive "heads-up" notification on all significant scheduling actions and coordinate on all significant scheduling actions within the CLS prior to final wing approval of an SCR. See **Attachment 4**, for an illustration of the SCR process and 14AF notification of and coordination on SCRs.

4.3.6. Identify available launch queue opportunities and approve any queue changes in months 19-36 of the SLM.

4.3.7. Work with Space Wings to assess Space Wing ability to satisfy launch requirements submitted by customer agencies for missions in months 19-36 of the SLM.

4.3.8. Coordinate with all affected parties to resolve scheduling conflicts on the SLM that cannot be resolved at a lower level.

- 4.3.9. Develop options for resolving launch schedule conflicts and forward recommendations to the CLSRB for approval.
- 4.3.10. Bi-annually evaluate launch-scheduling timelines to determine if 18-month CLS period and the 36-month SLM period adequately meet customer requirements with respect to launch date and launch opportunity commitment.
- 4.3.11. Chair the CSATs and determine CSAT membership.
- 4.3.12. Using the CSAT process, assess the status of COCOM satellite constellations and provide launch recommendations to the CLSRB.
- 4.3.13. Present COCOM constellation status and launch recommendations at the semiannual Government Constellation/Launch Update.
- 4.3.14. Chair bi-annual Government Integration Meeting (GIM) to define launch options and available launch periods.
- 4.3.15. Chair quarterly Government Reconciliation Telecon to reconcile the SLM and Range schedules and prepare for GIM.
- 4.3.16. Brief the requirements for and the recommended release of government contingency launch opportunities that are no longer required for heritage systems at the GIM.
- 4.3.17. Develop and coordinate OCs during instances when LTSU and LTA strategies are being employed.
- 4.3.18. Obtain COMAFSPC approval prior to approving a “significant scheduling action”. See [Attachment 4](#), for an illustration of the SCR process and 14AF notification of and coordination on a “significant scheduling action”.

4.4. Space and Missile Systems Center (SMC) shall:

- 4.4.1. Conduct the Combined Manifest Process, which is comprised of the Multi-Mission, the Delta II assessment, and the EELV Mission Services and Options Assessment processes.
- 4.4.2. Launch Programs System Program Office (SMC/CL) shall:
 - 4.4.2.1. Conduct the heritage Multi-Mission process and Delta II assessment process.
 - 4.4.2.2. Inform HQ AFSPC/XOR of heritage-related issues which could impact the launch schedule.
 - 4.4.2.3. Notify 14AF of all potential significant scheduling actions.
- 4.4.3. EELV System Program Office (SMC/EV) shall:
 - 4.4.3.1. Conduct the EELV Mission Services and Options Assessments.
 - 4.4.3.2. Purchase launch services from EELV launch service providers that will support the SLM and any LTSU and LTA requirements.
 - 4.4.3.3. Inform HQ AFSPC/XOR of EELV-related issues which could impact the launch schedule.

4.5. Space Wings (30 SW and 45 SW) shall:

- 4.5.1. Execute the CLS.

4.5.2. Serve as the primary interface to launch customers for issues within the 18-month CLS period.

4.5.3. Maintain the executable launch schedule (i.e., receive, de-conflict and schedule executable launch requests and all associated tests and operations for launch customers in support of the CLS). Inform HQ AFSPC/XORS of launch scheduling changes and coordinate with 14AF/CC on significant scheduling actions to COCOM missions prior to final Space Wing Commander approval.

4.5.4. Remove unattainable launch dates (i.e., placeholder launch dates, etc.) from the CLS if reasonable doubt exists that a launch service provider can make a scheduled launch date. The SW/CC will make the determination of whether a launch date is attainable using criteria such as:

4.5.4.1. National Security requirements.

4.5.4.2. Input from launch wing units, Range Safety, launch vehicle SPO, payload SPO, etc., regarding validated technical or programmatic issues that would prevent the launch provider from achieving the launch date.

4.5.4.3. Current contractual status.

4.5.4.4. Current CSOSA status (if applicable).

4.5.4.5. Current FAA licensing status (if applicable).

4.5.4.6. Experience with the launch provider.

4.5.5. Resolve all SCRs submitted for the CLS period that have no known conflicts, within 72 hours, 95 percent of the time. This response time is applicable unless schedule conflicts mandate higher headquarters involvement. See [Attachment 4](#), for an illustration of the SCR process.

4.5.6. Collect and report metrics associated with the 24-hour schedule request on a quarterly basis to HQ AFSPC/XORS and 14AF/A3. Report total number of changes processed, percentage of changes completed within 72-hours, and reason(s) for changes not processed within 72-hours.

4.5.7. Provide input to the CLS/SLM regarding maintenance periods for AFSPC-owned and operated Space Launch Complex (SLC) and Range assets. AFSPC-owned and operated launch complexes must have a minimum of 45 scheduled maintenance days, including at least 30 consecutive maintenance days, each fiscal year. The Space Wing commander possesses the authority to change, waive and/or shorten maintenance periods.

4.5.8. Assess the ability of the space wing to support the execution of launch requirements submitted by customer agencies within the CLS.

4.5.9. Determine and report launch base mishaps and anomalies such as delays caused by weather, structural damage to launch processing facilities, power outages to include standby power, and other anomalous events affecting launch operations, scheduled launch dates and other major launch processing milestones in accordance with AFI 10-206 AFSPCSUP1, Operations Reporting.

4.5.10. Forward the approved launch date information for all launches (DoD, NRO, civil, and commercial) within the 18-month CLS period to HQ AFSPC/XORS and 14AF/A3.

4.6. Constellation Sustainment Assessment Teams (CSATs) shall:

- 4.6.1. Assess the health of COCOM constellations.
- 4.6.2. Review the launch requirements on the NLF, SLM and CLS quarterly (prior to the Government Integration Meeting).
- 4.6.3. Forecast COCOM launch requirements, factor budget constraints, production schedules, range availability and launch-base support capability into launch recommendations.
- 4.6.4. Forward satellite reconfiguration, constellation repositioning, and launch replenishment recommendations to 14AF for review.
- 4.6.5. Forward assessments of constellation risk and spacelift support capability to 14AF and the CLSRB, in turn, for review and approval or further evaluation.
- 4.6.6. Convene on a contingency basis (in response to LTSU and LTA scenarios) to develop assessments of constellation risk and spacelift support capability.

4.7. Current Launch Schedule Review Board (CLSRB) shall:

- 4.7.1. Convene semiannually to review the SLM, identify and resolve conflicts, approve changes, identify available launch queue opportunities and publish a new SLM (which includes the CLS). The CLSRB shall be composed of members as shown in [Attachment 5](#).
- 4.7.2. Review and approve launch dates for COCOM (LTD and LTSP), NRO, civil, commercial and ballistic missions scheduled to launch from the 30th and 45th Space Wings within the 18-month CLS period.
- 4.7.3. Review and approve a queue of launch opportunities for months 19-36 of the SLM.
- 4.7.4. Convene on a contingency basis in response to LTSU and LTA scenarios or as needed to address launch scheduling concerns.

5. Scheduling Products:

5.1. Space Launch Manifest: The SLM is a three-year integrated schedule composed of the CLS (the first 18 months of the SLM) and the approved launch opportunity queue (months 19-36 of the SLM). The SLM contains LTD launch dates, forecasted LTSP launches, commercial and civil missions and spacelift operational capabilities and constraints. The CLSRB shall semi-annually review the SLM and identify and resolve any conflicts that would limit the ability to execute the 30th and 45th Space Wing launch schedules. The CLSRB shall formally re-establish the three-year launch schedule once COMAFSPC approves the SLM. HQ AFSPC/XORS shall maintain configuration control of the SLM on a daily basis.

5.1.1. Current Launch Schedule: The CLS, the first 18 months of the SLM, is an executable launch schedule with de-conflicted dates for government and commercial launches and planned maintenance. The approved CLS, contained in the COMAFSPC-approved SLM, serves as the Spacelift Execute Order directing the space wing commanders to execute all COCOM missions and to support all other government, civil and commercial missions identified on the CLS.

5.1.2. Launch Opportunity Queue: The launch opportunity queue is the CLSRB-approved queue of reserved and available launch opportunities during months 19-36 of the SLM. Assignment of a launch opportunity in months 19-36 of the SLM does not provide a specific launch date.

5.2. **National Launch Forecast (NLF).** The NLF is an eight-year projection (beyond the 36-month period of the SLM) of government, commercial, and civil launches in the US. The forecast is the result of coupling initial launch requirements (facilities and range dates) with launch-base capacities, range availability, funding constraints (COCOM missions only) and acquisition profiles for satellites and launch vehicles. HQ AFSPC/XOR shall generate the NLF, based on POM projections and constellation mission requirements gathered through extensive coordination with all US government organizations with space launch requirements and with US commercial launch service providers. The NLF identifies launch requirements for AFSPC missions only; all other launch missions listed on the NLF are launch projections.

6. Scheduling Procedures. Launch scheduling is a dynamic process. The CLSRB process establishes and approves the government baseline launch schedule semi-annually. The CLS and SLM are managed on a daily basis by 14AF/A3 and HQ AFSPC/XO using inputs provided by 30SW and 45SW.

6.1. **CLSRB Process.** The CLSRB process is divided into three phases: Constellation/Program Assessment, Launch Schedule Assessment, and Launch Schedule Integration. The following paragraphs describe the phases and [Attachment 6](#) illustrates this process.

6.1.1. **Constellation/Program Assessment.** Government agencies with launch requirements convene independently each quarter to review satellite launch requirements based on constellation health and program readiness. AFSPC uses the CSAT process and constellation assessment tools to evaluate launch requirements for COCOM programs. CSATs are teams of satellite and launch systems experts, procurement agencies, transportation managers, and users who collectively evaluate satellite constellation health, user requirements, production schedules, results of failure prediction models, and schedule and fiscal constraints to forecast launch requirements necessary to sustain operational satellite constellations. The NRO and NASA independently evaluate their programs to assess their future requirements.

6.1.2. **Launch Schedule Assessment.** Once the CSATs have identified the spacecraft launch requirements, AFSPC quarterly reviews launch scheduling options for the next three years to determine whether conflicts exist between government launch agencies. This is accomplished using the Combined Manifest Process, which is comprised of the Delta II assessment process, the heritage Multi-Mission process, and the EELV Mission Services and Options Assessment. Due to the flexibility arising from dual pad operations, AFSPC, launch service provider, and launch customers de-conflict missions on Delta II launch vehicles based on mission priority and launch schedule feasibility. This Delta II assessment process is not covered in detail in this instruction, but it is usually held quarterly and is managed by the launch vehicle contractor. Because Atlas II, Atlas III, and Titan IV launch vehicles lack the flexibility arising from dual pad operations, AFSPC, the launch-service providers, and launch customers use the Multi-Mission process to identify launch schedule constraints, resolve launch schedule conflicts and recommend launch-schedule options. The Multi-Mission process will be phased out with the heritage vehicles. SMC/EV is responsible for the EELV Mission Services and Options Assessment, the launch schedule assessment process for EELV systems. The following paragraphs describe the Multi-Mission process and the EELV Mission Services and Options Assessment process.

6.1.2.1. **The Multi-Mission Process:** This quarterly process begins approximately six weeks before the Government Reconciliation Telecon and involves several teleconferences and meetings, which are described below in chronological order.

6.1.2.1.1. Government Options Teleconference (GOT): Approximately seven weeks before the CLSRB, AFSPC and NRO representatives participate in a teleconference to identify a variety of launch options for evaluation. These launch option evaluations identify quick-look launch dates, hardware delivery and resource availability concerns and impacts to other missions. AFSPC and NRO representatives present the results of the launch option evaluations at the Combined Launch-Site Multi-Mission (CLSMM).

6.1.2.1.2. Combined Launch-Site Multi-Mission. At the CLSMM meeting, held approximately two weeks after the GOT, launch vehicle contractor representatives present to AFSPC and NRO representatives the launch options for launches at each launch base, using priorities determined at the GOT. The CLSMM only considers launch-site capability and does not consider potential hardware or manpower conflicts at other locations. Once all options have been presented, the representatives from each agency determine their launch-option preference(s) to be further evaluated and integrated with the launch options from the opposite space wing at the Integrated Multi-Mission meeting.

6.1.2.1.3. Integrated Multi-Mission: At the Integrated Multi-Mission meeting, held approximately two weeks after the CLSMM, AFSPC and NRO representatives present de-conflicted launch options (including milestone dates and schedule margins). Government representatives determine which option best meets their requirements based on mission need, funding, operational capability and storage costs. The representatives at the Integrated Multi-Mission meeting forward the recommended launch-schedule options and any unresolved conflicts (with associated risk and cost data) to 14AF/A3 at the Government Reconciliation Teleconference.

6.1.2.2. The EELV Mission Services and Options Assessment Process: SMC/EV shall conduct the quarterly EELV Mission Services and Options Assessment process, which is similar in purpose to the heritage multi-mission process, but conducted separately to maintain the EELV competition sensitive environment. Depending on option scope, SMC/EV shall conduct EELV Mission Services and Options Assessment in coordination with spacecraft SPOs or other appropriate government organizations, or, if necessary and if appropriate resources are available, with input from the appropriate EELV contractor. Significant option assessments such as payload swaps, launch vehicle changes, or launch schedule changes shall be assessed only in response to validated options provided by 14AF/CC or NRO to SMC/EV, AFPEO/SP, and affected spacecraft SPOs. SMC/EV shall gather assessments of program resource availability from the EELV contractors taking into account all factors such as downtime resulting from maintenance on the contractor-owned launch pads, conduct preliminary coordination with the appropriate range, and coordinate payload availability to support requested options with the appropriate spacecraft SPOs. SMC/EV shall then provide integrated option assessments and recommendations to 14AF/CC at the Government Reconciliation Telecon and GIM. Until heritage launch system fly out is completed, SMC/EV and SMC/CLT will coordinate their respective processes.

6.1.3. Launch Schedule Integration: Once the involved agencies have identified the inputs and requirements in the Launch Schedule Assessment process, 14AF/A3 shall coordinate with these agencies and prepare a combined schedule for eventual presentation to the CLSRB and 14AF/CC. The first half of the Launch Schedule Integration process (commercial integration and the Government Reconciliation Telecon) occurs quarterly. The latter half of the Launch Schedule Integration

process (comprised of the Government Integration Meeting, Customer Senior Management Review, the Government Constellation/Launch Update, and the CLSRB) occurs semi-annually.

6.1.3.1. Commercial Integration: Quarterly, the 30SW and 45SW shall forward to 14AF/A3 the launch requirements of commercial launch operators who intend to use their ranges within the next three years. For heritage systems, 14AF/A3 shall review requirements for launches between 19 and 36 months for launch site availability. If the launch site is available and the launch is on contract, 14AF/A3 shall forward the launch information to HQ AFSPC/XORS for addition to the SLM. The 30SW and 45SW may begin de-confliction with commercial launch operators who possess approved commercial launch opportunities on the SLM when the desired launch date comes within 21 months of execution. If a new heritage launch is added within 18 months of execution the appropriate space wing will de-conflict their schedule and will inform 14AF/A3 and HQ AFSPC/XORS of new requirements added to the CLS.

6.1.3.2. Government Reconciliation Telecon: Approximately two weeks after the Integrated Multi-Mission meeting, action-officer-level government representatives from 14AF/A3 (chair), HQ AFSPC, NRO, 30 SW, 45 SW, USSTRATCOM/OP34, SMC and NASA meet quarterly via teleconference to verify the accuracy of the SLM.

6.1.3.3. Government Integration Meeting: The Government Integration Meeting (GIM) occurs semi-annually in conjunction with the CLSRB, normally the day after the Government Reconciliation Telecon (usually via video-teleconference). The purpose of the GIM is to review the recommended launch-schedule developed during the Integrated Multi-Mission and the SMC Community Combined Manifest Team meetings, to consider commercial launch constraints and requirements, and to resolve any outstanding conflicts. The government integration team reviews executable launch-schedule options and establishes a three-year baseline launch schedule, which includes maintenance requirements. They also consider releasing unneeded government heritage launch contingency opportunities as potential commercial launch queue opportunities to commercial industry. 14AF/A3 consolidates the findings of the GIM for presentation to the 14AF/CC at the government Launch/Constellation Update.

6.1.3.4. Customer Senior Management Review (CSMR): The day before the CLSRB, the NRO holds the CSMR.

6.1.3.5. Government Constellation/Launch Update: The Government Constellation/Launch Update meeting is held prior to the CLSRB meeting (approximately two weeks after the GIM). The Government Constellation/Launch Update meeting is a government-only meeting at which 14AF/A3, NRO, NASA, and other government agencies present constellation health and launch requirements/priorities to the 14AF/CC (CLSRB chair), SMC/CV, and government members of the CLSRB. The 14AF/CC approves the government baseline launch schedule and approves the release of unneeded heritage launch queue opportunities for commercial use.

6.1.3.6. Current Launch Schedule Review Board (CLSRB): The CLSRB meeting occurs immediately after the Government Constellation/Launch Update meeting. 14AF/CC shall chair the CLSRB and senior officers, program managers, and commercial representatives from the launch community may participate. The CLSRB shall review and approve the three-year SLM, which is composed of the CLS (the first 18 months of the SLM) and the launch opportunity queue (months 19-36 of the SLM) and identify and resolve any conflicts that would limit the ability to execute the 30th and 45th Space Wing launch schedules. The

CLSRB-approved SLM shall be forwarded to COMAFSPC for approval and USSTRATCOM/OP for endorsement.

6.2. Changes to the CLSRB-Approved Schedule:

6.2.1. Changes during the 18-month CLS period: Between CLSRB meetings, the space wings approve changes to their launch schedule within the 18-month CLS period. ROPS will act as the single interface to the customer. An agency desiring a change to the approved CLS must submit a SCR to the appropriate ROPS and give “heads-up” notification to 14AF/A3. The ROPS shall de-conflict SCR and forward the recommended launch date change to the SW/CC for approval. If the requested change constitutes a significant scheduling action, the SW/CC will, prior to implementation, request COMAFSPC approval through 14AF/A3. The ROPS shall send the approved launch date change information to HQ AFSPC/XORS. The Space Wing will update the web site <http://lisn.peterson.af.mil> IAW AFI 10-206 AFSPCSUP1, Operational Reporting, guidance. HQ AFSPC/XORS will post the official manifest on the web site <http://lisn.peterson.af.mil>. SCRs that cannot be resolved at the space-wing-level shall be elevated to the 14AF/CC for resolution. See **Attachment 4**, for an illustration of the SCR process.

6.2.2. Changes during the 19- to 36-month period of the SLM: Between CLSRB meetings, 14 AF approves changes and additions to months 19 through 36 of the SLM, i.e., the approved launch opportunity queue. ROPS will act as the single interface to the customer. An agency desiring a change to the approved launch opportunity queue must submit a written request to the appropriate ROPS. The ROPS will forward requests to 14AF/A3 for approval and shall inform HQ AFSPC/XORS of all approved changes. If a COCOM mission meets any of the criteria in paragraphs **2.2.1.-2.2.3.**, 14AF will forward the change for COMAFSPC approval.

6.2.2.1. For all schedule changes, an agency, such as a SPO or LSP, desiring a change to the approved launch opportunity queue must make the request, in writing, to the appropriate ROPS, which in turn will forward it to 14AF/A3 (SCRs are not required for months 19-36 of the SLM). 14AF/A3 shall forward the request to 14AF/CC for approval and shall inform HQ AFSPC/XORS of all approved changes.

6.2.2.2. Once 14 AF approves a change or addition to the launch opportunity queue, commercial launch operators may submit requests to the appropriate space wings for a specific launch date when the launch is within 21 months of the desired launch date.

6.2.2.3. Space wings will confirm launch dates for commercial launch requirements between 19 and 21 months prior to launch. Any conflicts for specific range dates within an authorized launch opportunity will be resolved at the lowest possible level. The CLSRB is the final determining body if the conflict cannot be resolved at a lower level.

6.2.3. Preemption. If a government launch requirement results in the reallocation of a previously approved commercial launch opportunity, space wings must obtain the approval of the commercial launch operator or must initiate preemption actions in accordance with the statutory requirements set forth in the Commercial Space Act, USC Title 49, Section 70109.

7. Government Contingency Launches. AFSPC and the NRO use contingency launches to implement LTSU and LTA strategies. Specific procedures are detailed in the following paragraphs and illustrated in **Attachment 7**.

- 7.1. In the event of an unforeseen satellite failure or a need to augment a system above a constellation's DOC, the government may implement either launch strategy to recover lost capability or respond to a crisis.
- 7.2. CDRUSSTRATCOM identifies the problem and directs COMAFSPC, NNSOC and ARSPACE (as appropriate) to develop OCs.
- 7.3. COMAFSPC shall direct 14 AF/CC to develop OCs based on input from the user, satellite and launch and test communities (e.g., CSAT, Space Wings, SMC, and USSTRATCOM).
- 7.4. 14AF/CC shall coordinate recommended OCs with the CLSRB members. 14AF/CC shall then forward results and recommendations to COMAFSPC. COMAFSPC shall forward the results and recommendations to CDRUSSTRATCOM and identify launch execution conflicts or preemption requirements.
- 7.5. COMAFSPC shall direct action according to CDRUSSTRATCOM direction via the CLS.

DOUGLAS M. FRASER, Brig Gen, USAF
Director of Air and Space Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFDD 2-2, *Space Operations*

AFPD 10-12, *Space*

AFI 10-1201, *Space Operations*

AFI 10-1211, *Space Launch Operations*

Public Law 105-303, *Commercial Space Act of 1998*

UPD 10-33, *Space Launch Operations*

Abbreviations and Acronyms

AF—Air Force

AFB—Air Force Base

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

AFPEO—Air Force Program Executive Officer

AFS—Air Force Station

AFSPC—Air Force Space Command

AOC—Air Operations Center

ARSPACE—Army Space Command

CLS—Current Launch Schedule

CLSRB—Current Launch Schedule Review Board

CLSMM—Combined Launch-Site Multi-Mission

COCOM—Combatant Command

COMAFSPC—Commander, Air Force Space Command and AF Component to USSTRATCOM

CDRUSSTRATCOM—Commander, United States Strategic Command

CSAT—Constellation Sustainment Assessment Team

CSMR—Customer Senior Management Review

DOC—Designed Operational Capability

DoD—Department of Defense

DoT—Department of Transportation

DMSP—Defense Meteorological Satellite Program
DSCS—Defense Satellite Communication System
DSP—Defense Support Program
EELV—Evolved Expendable Launch Vehicle
GIM—Government Integration Meeting
GOT—Government Options Teleconference
GPS—Global Positioning System
LSP—Launch Service Provider
LTA—Launch to Augment
LTD—Launch to Deploy
LTS—Launch to Sustain
LTSP—Launch to Sustain: Predicted
LTSU—Launch to Sustain: Unforeseen
NRO—National Reconnaissance Office
NASA—National Aeronautics and Space Administration
NLF—National Launch Forecast
NNSOC—Naval Network and Space Operations Command
OC—Operational Consideration
OT&E—Operational Test and Evaluation
POM—Program Objective Memorandum
ROPS—Range Operations Squadron
R&D—Research and Development
SCR—Schedule Change Request
SLM—Space Launch Manifest
SLS—Space Launch Squadron
SMC—Space and Missile Systems Center
SPD—System Program Director
SPO—System Program Office
SW—Space Wing

Terms

Combatant Command (COCOM)—Nontransferable command authority exercised only by commanders of unified and specified commands. Combatant Command is the authority of a Combatant Commander to perform those functions of command over assigned forces involving organizing and

employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training and logistics necessary to accomplish the missions assigned to the command.

Commercial Launch—Launch activity conducted under the authority of a Department of Transportation (DoT) license and where private capital is at risk and primary financial responsibility for the activity resides with the private sector.

Component Command—A command consisting of the component commander and all those individuals, units, detachments, organizations and installations under the command that have been assigned to the unified command.

Constellation/Program Assessment—The phase of the Launch Scheduling Process in which government agencies with launch requirements convene independently to review satellite launch requirements based on constellation health and program readiness.

Constellation Sustainment Assessment Team (CSAT)—A team of satellite and launch system experts, procurement agencies, transportation managers and users who collectively evaluate satellite constellation health, user requirements, production schedules, results of failure prediction models, schedule and fiscal constraints and forecast launch requirements necessary to sustain operational constellations.

Current Launch Schedule (CLS)—An 18-month executable launch schedule with de-conflicted dates for government and commercial launches and planned maintenance. Dynamically updated and maintained by the respective space wings and re-baselined semiannually at the CLSRB. The CLS is a subset of the Space Launch Manifest and reflects the most current launch scheduling information.

Current Launch Schedule Review Board (CLSRB)—A semiannual scheduling forum chaired by 14AF/CC and attended by senior officers, program managers and commercial representatives from the launch community. The purpose of the CLSRB is to review and approve the three-year SLM and identify any conflicts that would limit the ability to execute the 30th and 45th Space Wing launch schedules. The forum also represents an opportunity for senior leaders in the launch community to discuss any issues associated with launch, range or scheduling operations. The CLSRB formally re-baselines the three-year launch schedule by approving the executable CLS, the launch queues for months 19-36 of the SLM and the identification of available launch queue opportunities. The CLSRB occurs in the Launch Schedule Integration phase of the Launch Scheduling Process.

Current Launch-Site Multi-Mission (CLSMM)—A meeting, held approximately two weeks after the GOT, at which representatives from the 30th and 45th Space Wings independently present launch options for launches at each launch base, using priorities determined at the GOT. Occurring in the Launch Schedule Assessment phase of the Launch Scheduling Process, the CLSMM is part of the Multi-Mission process for heritage Atlas and Titan launch vehicles.

Customer Senior Management Review (CSMR)—A classified meeting held before the CLSRB. The CSMR occurs in the Launch Schedule Integration phase of the Launch Scheduling Process.

Designed Operational Capability (DOC)—A system that has completed operational test and evaluation (OT&E) and has been accepted by the specified operational command/agency. The system has completed all developmental tests, has demonstrated performance within specification and is providing the intended service to the user as defined in the system Operational Requirements Document and System Specification.

El Segundo Integrated Meeting—see the definition of “Integrated Multi-Mission”

Evolved Expendable Launch Vehicle (EELV)—A collective designator for the Delta IV and Atlas V launch vehicles.

Executable Launch Schedule—A schedule that does not conflict with any; 1) scheduled Range maintenance periods, 2) range modernization contract activity periods, 3) heritage launch system pad maintenance periods, 4) scheduled Range tests, or 5) scheduled launches from other pads or scheduled launches from the same pad within prescribed time centers.

Government Constellation/Launch Update meeting—A semiannual government-only meeting chaired by 14AF/CC at which government representatives review the COCOM, NRO, and civil constellation status and government launch requirements for the next 36 months.

Government Integration Meeting (GIM)—A meeting in which government representatives from 14AF/A3 (chair), HQ AFSPC, NRO, 30 SW, 45 SW, USSTRATCOM/J33, SMC and NASA (Code M-7) meet to review the recommended launch-schedule options. The GIM occurs in the Launch Schedule Integration phase of the Launch Scheduling Process.

Government Launch—A non-commercial launch activity.

Government Options Teleconference (GOT)—A teleconference held approximately six weeks before the GIM, at which AFSPC and NRO representatives identify a variety of launch options for evaluation by the Multi-Mission process. Occurring in the Launch Schedule Assessment phase of the Launch Scheduling Process, the GOT is part of the Multi-Mission process for heritage Atlas and Titan launch vehicles.

Green Sheet—see Schedule Change Request.

Heritage (Launch Vehicle) Systems—A collective designator for the Delta II/III, Atlas II/III, Titan II/IV launch vehicles.

Integrated Multi-Mission—A meeting held approximately one week after the CLSMM at which AFSPC and NRO representatives present de-conflicted launch options (including milestone dates and schedule margins). Government customers determine which option best meets their requirements based on mission need, funding, operational capability and storage costs. Occurring in the Launch Schedule Assessment phase of the Launch Scheduling Process, the Integrated Multi-Mission meeting is part of the Multi-Mission process for heritage Atlas and Titan launch vehicles. This meeting was also formerly known as the “El Segundo Integrated Meeting”.

Launch Opportunity Queue—the approved queue of available and reserved launch opportunities occurring during months 19-36 of the SLM.

Launch Schedule Assessment—The phase of the Launch Scheduling Process in which AFSPC reviews launch scheduling options for the next three years to determine whether conflicts exist between government launch agencies. Launch Schedule Assessment is accomplished by the Multi-Mission Process for Heritage Atlas and Titan launch vehicles, by the EELV Mission Services and Options Assessment process for the Atlas V and Delta IV launch vehicles, and by a separate launch-vehicle-specific process for heritage Delta launch vehicles.

Launch Schedule Integration—The phase of the Launch Scheduling Process in which 14 AF/A3 integrates the inputs and requirements from the separate launch systems, launch sites, and customers into a combined schedule.

Launch Scheduling Process—The process by which the government assesses, integrates, and

deconflicts launch requirements for missions launching from government-owned launch bases and manages the executable launch schedule. This process is divided into three phases: Constellation/Program Assessment, Launch Schedule Assessment, and Launch Schedule Integration.

Launch Service Delivery Order—Contractual document used to formally provide the Launch Service Provider with Authority to Proceed with accomplishing Contract Line Item Numbers.

Launch Service Provider (LSP)—A generic term for the prime contractors providing EELV launch services.

Launch To Augment (LTA)—a strategy to increase operational capability above the designed operational capability in response to war, crisis or contingency.

Launch To Deploy (LTD)—a strategy to achieve a satellite system's initial designed operational capability.

Launch To Sustain Predicted (LTSP)—a strategy to maintain the designed operational capability of a constellation by replacing satellites that are predicted to fail.

Launch To Sustain Unforeseen (LTSU)—a strategy to respond to an unanticipated satellite failure where a launch is necessary to replenish an operational constellation and maintain designed operational capability.

Launch To Operate (LTO)—an emerging strategy to increase the useful life of space assets through scheduled or on-demand launches providing space support such as refueling or repair.

National Launch Forecast—An eight-year projection of DoD, commercial and civil launches in the US. The forecast is the result of coupling initial launch requirements (facilities and range dates) with launch-base capacities, range availability, funding constraints (COCOM only) and acquisition profiles (satellite and booster).

Operational Consideration (OC)—A plan that would accomplish or is related to the accomplishment of a mission. Within the time allowed, an OC includes force and sustainment requirements, logistic and transportation feasibility, and identifies predicted shortfalls. OCs are provided by component commanders and normally include a concept of operations, concept of employment, risk assessment, prioritization and supporting databases if appropriate.

Operational Test and Evaluation (OT&E)—Test and evaluation, by the OT&E command or agency or designated command, under conditions as realistic as possible to demonstrate a system's operational effectiveness and suitability, to identify any operational deficiencies and to identify the need for any modifications.

Preemption—A unilateral action by the government to change the launch queue documented in the SLM to reallocate a launch opportunity committed for commercial use, within the 36-month commitment period, without consent of the launch service contractor or payload owner. Statutory requirements for preemption are set forth at 49 USC Section 70109.

Qualified Commercial Space Launch Operator—A US firm that is more than 50% owned by US citizens and not controlled by a foreign entity or citizens that is conducting or planning to conduct space launch activities, has a valid Commercial Space Operations Support Agreement (CSOSA), including annexes, and has a valid Federal Aviation Administration license, if it is planning any commercial missions within 36 months.

Research and Development (R&D) System—A one-of-a-kind system used to demonstrate and validate new technology that, as designed, is not intended for use in an operational capacity.

Schedule Change Request (SCR)—A formal request to change a launch date on the CLS, submitted to the appropriate Range Squadron usually by a Space Launch Squadron (for heritage launch systems) or by a Launch Service Provider for (EELV systems). Sometimes referred to as a “green sheet”.

Significant Scheduling Action—A scheduling change affecting a COCOM mission that does any of the following; 1) changes a priority (sequence) in the CLSRB-approved launch queue; 2) adds a launch date not previously presented at the CLSRB; 3) moves a launch date over a fiscal year; 4) adds a maintenance period that precludes operations for 72 hours or more not previously presented at the CLSRB; or, 5) moves a launch date more than 3 days earlier or 10 days later from the accountable launch dates as defined in UPD 10-33, Space Launch Operations, Atch 2, Para A2.3.

SMC Community Combined Manifest Team meeting—a quarterly meeting composed of SMC Range, Missile, Launch Vehicle, and Space Vehicle program office representatives to ensure the baseline SMC Manifest being presented at the Senior Management Review is as accurate as possible. The main focus of this Action Officer level forum is for developing launch queue recommendations and solutions for resolving manifest conflicts.

Space Launch Manifest—A three-year projection of launch plans integrating executable launch dates for the first 18 months (CLS) and the reserved launch opportunity queue for months 19-36. The SLM includes LTD launch dates, forecasted LTSP launches, commercial and civil missions and spacelift operational capabilities and constraints. 14AF/A3 maintains months 19-36 of the Space Launch Manifest for all DoD, commercial and civil space launch requirements for the 30SW and 45SW.

Spacecraft Deployment—All activities to deliver the payload to its mission orbit configured for operations. Includes all functions required to perform early orbit checkout on a newly launched payload.

Spacelift—The ability to deploy or replace critical space systems. Includes launch vehicle, spacecraft, launch facilities and launch ranges.

Spacelift Execute Order (SEO)—The order created by USSTRATCOM/OP for all COCOM launches when he endorses the CLS after COMAFSPC approval. The Spacelift Execute Order authorizes Component Commanders and their subordinate organizations to conduct launch operations and to support the CLS-directed missions conducted by or for other organizations, unless otherwise directed by CDRUSSTRATCOM.

Spacelift Operations—All booster, upper stage, satellite, safety, range and facility planning, preparations and actions necessary to execute pre-launch, launch and post-launch operations for national, DoD, civil and commercial payloads.

Attachment 2**SPACE LAUNCH COMPLEX LAUNCH CENTERS**

Space Launch Complex (SLC) Launch Centers (i.e., approximate number of days between launches from each complex). Note – the days between launches for each complex are approximate numbers and are provided for planning and scheduling purposes.

Table A2.1. Space Launch Complex (SLC) Launch Centers.

SPACE LAUNCH COMPLEX	DAYS BETWEEN LAUNCHES
SLC – 36A/B	35
SLC – 40	180
SLC – 17A/B	30
SLC – 4E	180
576-E	42

Attachment 3

OPERATIONAL LAUNCH STRATEGIES SUMMARY

Table A3.1. Matrix.

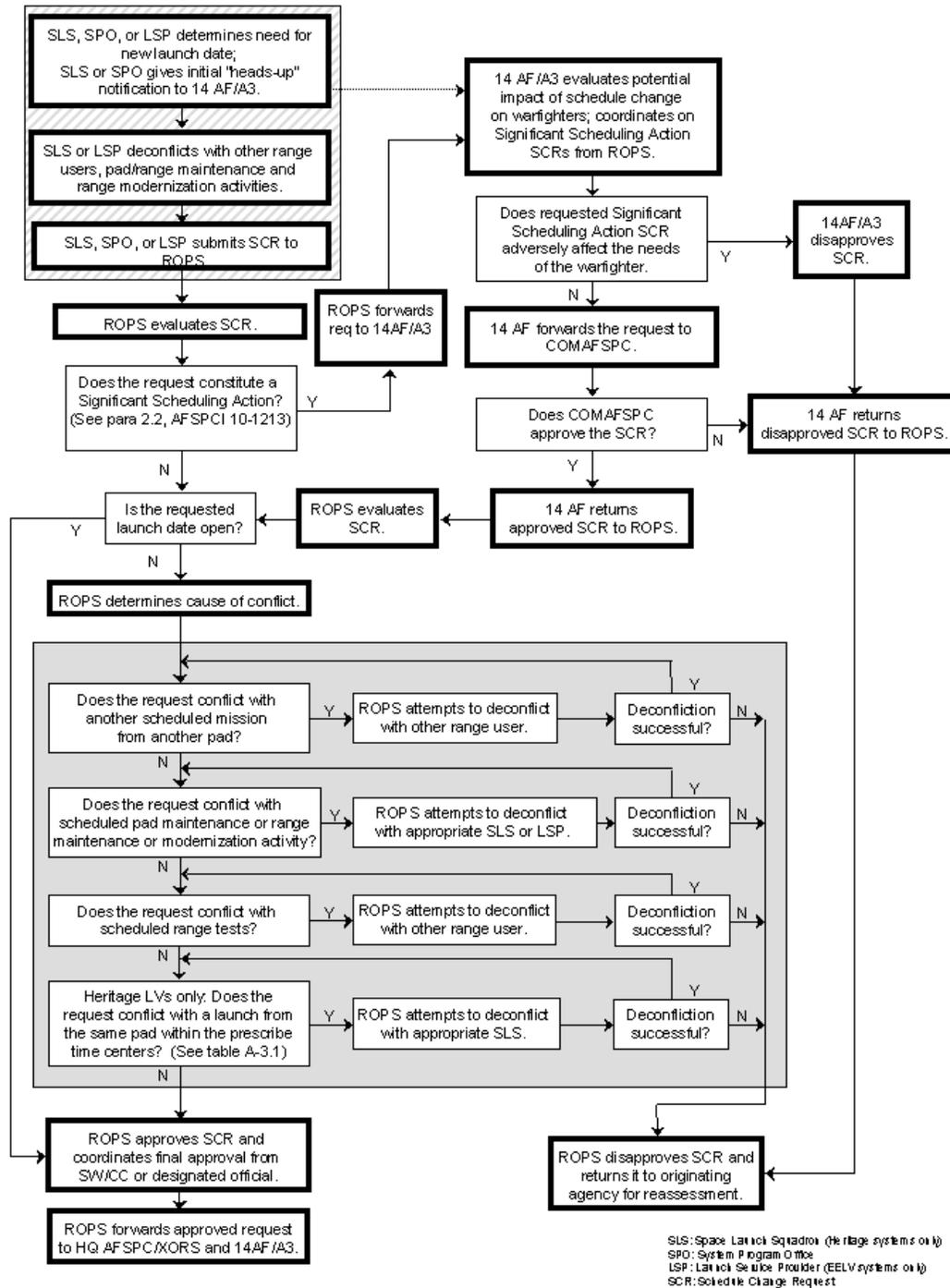
	Launch to Deploy (LTD)	Launch to Sustain (LTS) - Predicted	Launch to Sustain (LTS) - Unforeseen	Launch to Augment (LTA)
Definition	Launches to initially build a satellite constellation and achieve DOC.	Launches to replace predicted satellite failures to maintain satellite system DOC.	Launches to replace unforeseen failures to maintain satellite system DOC.	Launches to increase operational capability.
Scenario	Scheduled approach used to plan and execute launches to initially deploy satellite systems.	Scheduled approach used to plan and execute replacement launches for operational constellations.	Contingency response used to execute replacement launches for operational constellations when unpredicted failures occur requiring immediate replacement.	Contingency response to provide increased capability during crisis or contingency. LTA considered in conjunction with non-space and non-launch alternatives.
Procedure	Mission scheduled per the SLM and executed according to the CLSRB approved CLS.	Launches are scheduled on the SLM based on constellation requirements and projected satellite failure. As the launch date approaches the CSAT forwards a sustainment assessment to 14AF/CC. 14AF/CC delivers a launch recommendation to the CLSRB for approval.	CDRUSSTRATCOM issues orders to components to generate OCs. 14AF/CC polls launch community (AFSPC, SMC, CSAT) and forwards OCs to CDRUSSTRATCOM. CDRUSSTRATCOM coords OCs with the CLSRB, selects an OCs and issues orders as required.	CDRUSSTRATCOM issues orders to components to generate OCs. 14AF/CC polls launch community (AFSPC, SMC, CSAT) and forwards OCs to CDRUSSTRATCOM. CDRUSSTRATCOM coords OCs with the CLSRB, selects an OCs and issues orders as required.

	Launch to Deploy (LTD)	Launch to Sustain (LTS) - Predicted	Launch to Sustain (LTS) - Unforeseen	Launch to Augment (LTA)
Constraints	Launch schedule subject to integrity of launch vehicle and satellite production timeline.	First spacecraft of new block may be launched on schedule ahead of need. Schedule flexibility limited by other pad users.	Limited launch opportunities, funding availability, hardware availability, contracts. Lack of responsive launch systems.	Limited launch opportunities, funding availability, hardware availability, contracts. Lack of responsive launch systems.

Attachment 4

RANGE SCHEDULE CHANGE REQUEST (SCR) PROCESS

Figure A4.1. Range Schedule Change Request (SCR) Procedures.



Attachment 5**CURRENT LAUNCH SCHEDULE REVIEW BOARD (CLSRB) MEMBERSHIP**

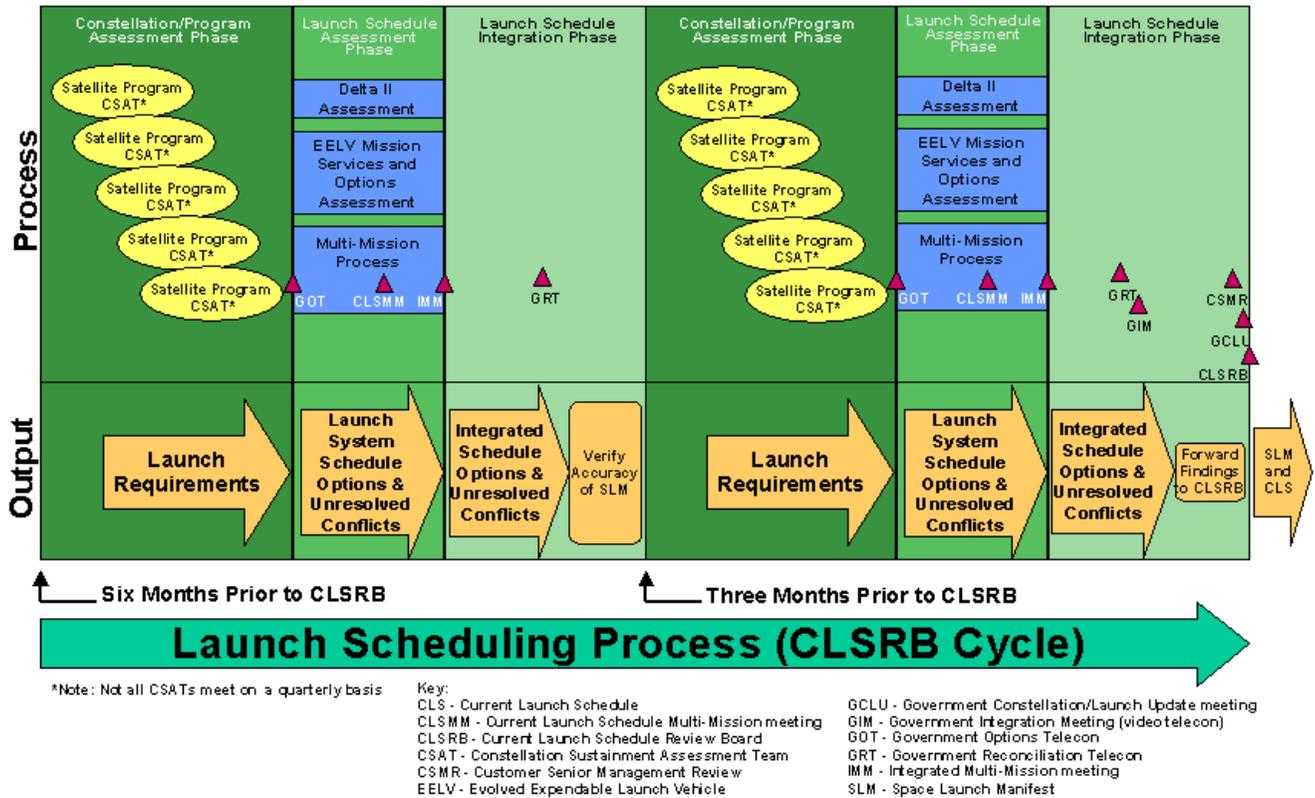
14AF/CC - Chair
SMC/CV
SMC/CL
SMC/EV
USSTRATCOM/J3
HQ AFSPC/XO
30 SW/CC
45 SW/CC
NRO/OSL
NASA/Code M7
FAA/AST

Commercial launch operators with launches scheduled during review period

Attachment 6

SEMI-ANNUAL CLSRB CYCLE

Figure A6.1. Semi-Annual CLSRB Cycle



Attachment 7

CONTINGENCY LAUNCH PROCEDURES

Figure A7.1. Contingency Procedures.

