BY ORDER OF THE COMMANDER
AIR FORCE SPACE COMMAND

AIR FORCE SPACE COMMAND
INSTRUCTION 13-613

16 JULY 2018

Nuclear, Space, Missile, Command and Control Operations

LAUNCH FORECASTING, PLANNING, AND SCHEDULING PROCEDURES

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This instruction implements AFPD 13-6, *Space Policy*; and supports the *Commercial Space Launch Activities* (CSLA), 51 USC 50910 et seq. It applies to Headquarters Air Force Space Command (HQ AFSPC), Fourteenth Air Force (14 AF), the 30th Space Wing (30 SW), 45th Space Wing (45 SW), Space and Missile Systems Center (SMC), applicable subordinate units and supporting agencies. This instruction does not apply to the Air Force Reserve or the Air National Guard. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Process supplements as required in AFI 33-360, Publications and Forms Management. Supplements will not lessen the requirements nor change the basic content or intent of this instruction. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

SUMMARY OF CHANGES

AFSPCI13-1213 has been completely rewritten in response to process changes. Revised instruction is divided into 4 sections: Forecasting, Planning, Scheduling, and Launch Information Support Network (LISN). Each section provides guidance for specific timeframes within the launch scheduling process. Major changes include, but not limited to, Launch Change Request process, Significant Scheduling Action requirements, LISN entry and update requirements. This instruction was reduced by 70%, IAW SecAF/CSAF Air Force Directive Publication Reduction memo, to be less directive, not to decentralize direction. It is recommended the regulation be reviewed in its entirety.

Chapter 1

GENERAL

1.1. Overview. This instruction provides guidance on launch forecasting, planning, and scheduling processes supporting the Department of Defense (DoD), civil, and commercial agencies for the Eastern Range (ER) and Western Range (WR). Included are organizational roles and responsibilities and procedures for Launch Information Support Network (LISN) operations.

1.2. Background. Spacelift operations provide the nation with continued access to space through the deployment of space-based assets supporting DoD, intelligence community, civil and commercial users. The USAF partners with agencies such as the National Reconnaissance Office (NRO), National Aeronautics and Space Administration (NASA), Missile Defense Agency (MDA) and commercial launch providers to ensure successful launch operations. As part of this partnership, the USAF operates the ER at Cape Canaveral AFS, FL and the WR at Vandenberg AFB, CA, which are essential to support DoD, NRO, civil and commercial spacelift operations. The USAF also provides the necessary expertise and tools required to schedule launches on the ER and WR. See **Attachment 1**, *Glossary of References and Supporting Information*, for a list of acronyms and definitions.

1.3. Future Range Operations. In the near future, Range Operations will evolve to preserve and advance National Security interests through globally competitive Ranges with capacity to support launch and test operations on demand. This will require parallel operations supporting simultaneous operations. Launch forecasting, planning and scheduling procedures will have to adapt to this changing environment.

Chapter 2

FORECASTING PROCESS, ROLES, AND RESPONSIBILITIES

2.1. Forecasting Process. Launch forecasting is an ongoing, long-range process supporting the AFSPC Planning, Programming, Budgeting, and Execution (PPBE) process. It is managed by HQ AFSPC A2/3/6SR and is necessary for funding advocacy. AFSPC-funded launches are forecast 5 to 11 years prior to launch and documented in the National Mission Model (NMM). HQ AFSPC A2/3/6SR issues an annual Program Data Call (PDC), collecting DoD and Civil user future mission requirements. When all requirements are collected, HQ AFSPC A2/3/6SR, Launch Services Office (LSO), coordinates the final PDC results with HQ AFSPC Directors/Branches and analyzes results to determine launch requirements across the Future Years Defense Program (FYDP). As programmatic and operational decisions occur, the LSO updates launch records. **Attachment 2** illustrates the inter-relationship between forecasting, planning, and scheduling process.

2.2. Roles and Responsibilities.

2.2.1. Directorate of Air, Space, Cyberspace and ISR Operations (HQ AFSPC A2/3/6).

2.2.1.1. Ensures forecasting processes support AFSPC PPBE process.

2.2.1.2. Provides annual direction via the Launch Service Delivery Order (LSDO) to SMC/CC for the procurement of launch services.

2.2.2. Launch, Ranges and Airfields Branch (HQ AFSPC A2/3/6SR).

2.2.2.1. Serves as the focal point for the forecasting process. Maintains and publishes the NMM.

2.2.2.2. Conducts PDCs (Data Collection phase) at least annually to collect launch requirements (AF, NRO, other DoD/Intelligence Community, civil). Develops and provides a comprehensive Space Vehicle (SV) list to SMC/LE. SMC/LE evaluates collected data alongside launch capabilities (Mission Analysis phase) and then develops multi-mission manifest options (Mission Planning phase). HQ AFSPC A2/3/6S uses data call and multi-mission matching results to inform Program Objective Memorandum (POM) requirements and advocacy. **Figure 2.1.** illustrates the PDC process.

Figure 2.1. Program Data Call Process Flow

2.2.2.3. Functions as the primary HQ AFSPC focal point for multi-mission forecasting IAW AFSPCI 13-610.

2.2.2.4. Operates and maintains the LSO.

2.2.2.4.1. Manages and maintains LISN website and information repository (e.g. NMM, PDC results, etc.).

2.2.3. HQ AFSPC Divisions/Branches for Space Programs (HQ AFSPC A2/3/6SF, A2/3/6SP, A5F, A5M, A5S, A5/8/9X).

2.2.3.1. Participates in and provides Points of Contact (POCs) for the PDC process and NMM coordination.

2.2.3.2. Ensures launch mission forecast inputs for each satellite program are reconciled with applicable agencies prior to submission for the PDC/NMM. Provides reconciled information to HQ AFSPC A2/3/6SR.

2.2.4. Advanced Systems and Development Directorate (SMC/AD).

2.2.4.1. Participates in and provides POCs for the PDC process and NMM coordination.

Chapter 3

PLANNING PROCESS, ROLES, AND RESPONSIBILITES

3.1. Planning Process. Planning consists of activities required in achieving the objective of strategic planning for fulfilling national priorities. It begins at the four year mark when missions are rolled onto the Planning Launch Schedule (PLS). DoD priorities inform the LSDO to ensure operational requirements are accurately reflected. After missions are rolled on to the PLS, a review of the launch queue is performed to ensure national priorities are supported. **Attachment 2** illustrates the interrelationship between forecasting, planning, and scheduling process**.**

3.2. Roles and Responsibilities.

3.2.1. Launch, Ranges and Airfields Branch (HQ AFSPC A2/3/6SR).

3.2.1.1. Publishes the PLS defined in **Attachment 1**. Distributes the first two years of the PLS to authorized personnel.

3.2.1.2. Submits a Launch Change Request (LCR) on initial and subsequent planning mission placement for DoD, Civil, and Commercial missions. Mission data entry requirements are provided in **Table 5.1. Attachment 3** illustrates the LCR process flow within the PLS.

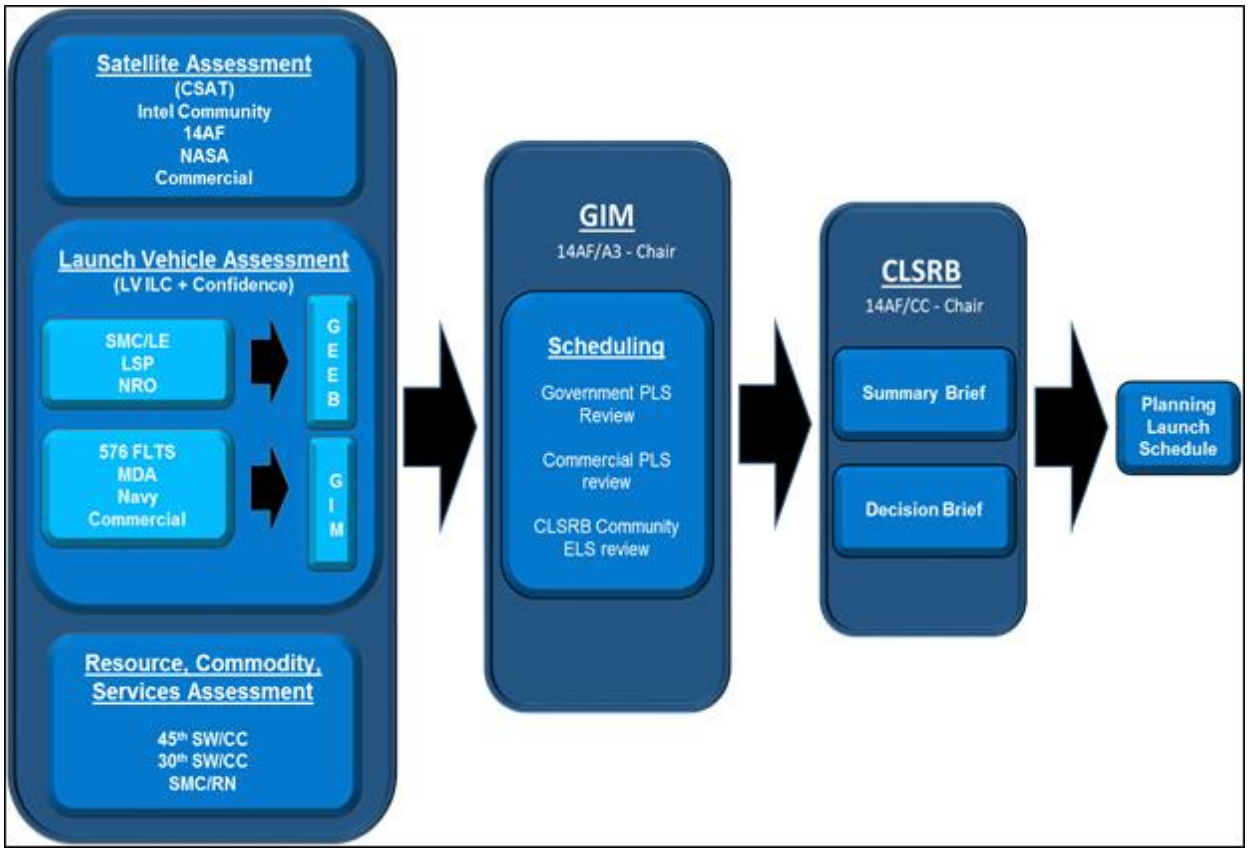
3.2.1.3. Maintains LISN with current Launch Vehicle (LV) Initial Launch Capability (ILC) dates, SV (Space Vehicle) ILC dates, and Target Launch Dates (TLDs), including associated confidence levels in achieving the ILC.

3.2.1.4. Provides AFSPC mission priorities as needed.

3.2.2. 14th Air Force (14 AF).

3.2.2.1. 14 AF/CC serves as Chair of the Current Launch Schedule Review Board (CLSRB). Principle attendees include HQ AFSPC A2/3/6, SMC/CV, NRO/OSL, NASA Launch Services Program (NASA LSP) and the Federal Aviation Administration (FAA). Invitations to the CLSRB includes other applicable launch customers, such as 576th Flight Test Squadron, MDA, etc. In addition, commercial launch service providers and other customers are invited to represent their interests if they have launches projected during the review period. **Figure 3.1.** illustrates the CLSRB Process. **(T-2)**

Figure 3.1. CLSRB Process.



3.2.2.1.1. Convenes the CLSRB semi-annually including one CLSRB just prior to the start of each Government fiscal year to baseline the PPBE. The other CLSRB will be conducted between February and April to baseline the LSDO. If significant scheduling actions or conflicts cannot be resolved at a lower level, then an Out of Cycle (OOC) CLSRB will convene to address concerns. **(T-2)**

3.2.2.1.2. Convenes an OOC CLSRB when interagency communication is required to resolve significant scheduling actions or when a conflict cannot be resolved at a lower level. OOC CLSRB process/membership can be tailored as necessary, but should ensure affected principals understand resolution. **(T-2)**

3.2.2.1.3. 14 AF/CC provides the launch queue via PLS to Space Wings (SWs) within 3 duty days of CLSRB.

3.2.2.1.4. Provides CLSRB meeting minutes within 30 days. **(T-2)**

3.2.3. Launch and Range Division (14 AF A3/6).

3.2.3.1. Implements a Constellation Sustainment and Assessment Team (CSAT) process to assess the status of DoD resources prior to the DoD Priorities Meeting. **(T-2)**

3.2.3.2. Ensures all appropriate launch vehicle assessment (Air Force Global Strike Command, MDA, Commercial, etc.) results not considered at the Government Expendable Launch Vehicle (ELV) Executive Board (GEEB) are available to the

Government Integrated Meeting (GIM) and CLSRB, with the appropriate level of detail for decision-making.

3.2.3.3. Review launch que to ensure customer needs are considered. **(T-2)**

3.2.3.4. Conducts a DoD Priorities Meeting and provides DoD priorities to the GEEB, GIM, and CLSRB.

3.2.3.5. Conducts a GIM prior to each CLSRB and in the Spring to support the Launch Service Delivery Order. The GIM will ensure all appropriate information is available, reviewed, and all issues are addressed for the entire 48-month PLS timeframe defined in **Attachment 1**. **(T-2)**

3.2.3.5.1. Reviews all assessment results, priorities, Courses of Action (COAs) and constraints and makes appropriate scheduling recommendations at the GIM. **(T-2)**

3.2.4. Space and Missile Systems Center (SMC).

3.2.4.1. As member of the CLSRB, the SMC/CV will certify LV/SV ILC and associated confidence levels under SMC purview to AFSPC A2/3/6SR LSO. **(T-2)**

3.2.4.2. Supports 14 AF satellite assessments. Provide SV acquisition and reliability engineering consideration worthiness to support 14 AF operational constellation assessments. **(T-2)**

3.2.4.3. Submits a memorandum to HQ AFSPC A2/3/6SR LSO NLT two weeks prior to each CSAT. This memorandum formally declares SV ILC dates and confidence levels to support DoD priority assessments, GIM, and CLSRB launch scheduling decisions. Memorandum will include primary and alternate points of contact. **(T-2)**

3.2.4.3.1. Changes to SV ILC dates and confidence levels previously specified via memorandum will be communicated to the HQ AFSPC A2/3/6SR LSO at the earliest opportunity following the change. Changes/tentative changes may be communicated by email to the LSO organizational mailbox at **afspc.a3r.lso@us.af.mil**. **(T-2)**

3.2.5. Launch Enterprise Systems Directorate (SMC/LE).

3.2.5.1. Accomplishes Multi-Mission Manifest roles IAW AFSPCI 13-610, operating the Multi-Mission Manifesting Office (MMO) and identifying DoD/intelligence community/Civil/Commercial launch opportunities to enable and execute multi-mission manifesting mission design. Identifies multi-mission suitability (Mission Analysis phase) to develop multi-mission manifest matching (Mission Planning phase) where mission requirements are aligned with LV capabilities to inform procurement and integration efforts.

3.2.5.2. Provides launch constraints for SMC-managed launch vehicles and spacecraft to HQ AFSPC A2/3/6SR LSO for inclusion in the Planning Launch Scheduling Factors List (PLSFL) defined in **Attachment 1**. **(T-2)**

3.2.5.3. Acquires launch services to meet the LSDO requirements. **(T-2)**

3.2.5.4. Provides launch vehicle assessment results to support the GEEB, GIM, and CLSRB to include: constraints to launch, LV constraints, LV readiness, LV ILC, and TLD. **(T-2)**

3.2.5.5. Notifies HQ AFSPC A2/3/6SR LSO when any SMC-Procured Launch Service is awarded a contract and provides LSO with a planning launch date. **(T-2)**

3.2.5.6. Ensures LV ILC and TLD dates are current and any changes to dates and confidence levels are communicated to the LSO via email to the organizational mailbox at **afspc.a3r.lso@us.af.mil**. **(T-2)**

3.2.5.7. Changes to LV ILC dates and confidence levels previously specified via memorandum will be communicated to the HQ AFSPC A2/3/6SR LSO at the earliest opportunity following the change. Changes/tentative changes may be communicated by email to the LSO organizational mailbox at **afspc.a3r.lso@us.af.mil**. **(T-2)**

Chapter 4

SCHEDULING PROCESS, ROLES, AND RESPONSIBILITIES

4.1. Scheduling Process. AFSPC/CC has overall responsibility for the launch schedules and directs all launch activities via delegation to the 14 AF/CC and SMC/CC. The two-year Executable Launch Schedule (ELS) provides direction to the Space Wing Commanders to execute approved DoD missions and provide support to other approved DoD, NRO, civil, and commercial missions. The 30 SW and 45 SW execute the ELS and 14 AF A3, HQ AFSPC A2/3/6SR and SMC/LE coordinate on a daily basis to address issues as they arise. The SWs have the responsibility for ensuring currency of the ELS and shared responsibility with HQ AFSPC A2/3/6SR for the PLS. The 614 AOC is responsible for ensuring currency of the Other Domestic Launch Schedule (ODLS). **Attachment 2** illustrates the interrelationship between forecasting, planning, and scheduling process.

4.2. Roles and Responsibilities.

4.2.1. Launch, Ranges and Airfields Branch (HQ AFSPC A2/3/6SR).

4.2.1.1. Publishes and distributes the ELS to authorized personnel.

4.2.2. 14th Air Force (14 AF).

4.2.2.1. Implement a process to conduct significant scheduling actions, as defined in **Attachment 1**. **(T-2)**

4.2.3. Space Wings (30 SW and 45 SW).

4.2.3.1. Executes the ELS as queued by the CLSRB. Elevates unresolved scheduling conflicts to 14 AF.

4.2.3.2. Reports significant scheduling actions as defined in **Attachment 1** (i.e., changes to approved launch date between CLRSB meetings) to 14 AF and all potential affected base mission partners. **(T-2)**

4.2.3.2.1. Review operations (SV re-entry/LV flyback, LV overflight of other SVs and LVs, significant schedule actions) with base tenants to ensure all concerns are adequately addressed before granting approval for return to AFSPC property. **(T-2)**

4.2.3.3. Conduct an assessment of the viability of planned activities requesting Range resources and review impacts with base tenants before approval. **(T-2)**

4.2.3.4. Provides launch constraints for Space Wing-managed resources to HQ AFSPC A2/3/6SR for inclusion in the PLSFL. **(T-2)**

4.2.3.5. Reports launch status, scheduled launch dates, flyback operations, schedule Encapsulated Assembly (EA) mate dates, and site/facility maintenance on the ER/WR through LISN. **(T-2)**

4.2.3.5.1. Submits LCRs via LISN. Nominally, LCRs will be processed as events occur, but are required NLT 0900 local, the following duty day**.** Delays are authorized if external agency/range coordination is required. **Attachment 3** illustrates the process flow for LCRs within the ELS. **(T-2)**

4.2.3.6. Inputs mission details, milestones and comments for respective missions in LISN to ensure mission status accuracy and currency per **Table 5.1**. **(T-2)**

4.2.3.6.1. Interfaces with SMC Program Offices, as appropriate, on launch processing issues at the launch base that may impact the launch schedule. **(T-2)**

4.2.3.7. At least 65-days before a scheduled launch, provide mission specific technical information to AF Spectrum Management Office (AFSMO) organizational mailbox at **afsmoccworkflow@us.af.mil** and AFSPC Spectrum Management Office organizational mailbox at **afspc.a6ce.smo@us.af.mil**. Mission specific data includes final trajectory data, primary and backup launch windows, telemetry frequency and bandwidth. **(T-0)**

4.2.3.8. Ensure resource, commodities, and services assessment results are provided to the GIM and CLSRB.

4.2.4. 614th Air Operations Center (614 AOC). ODLS is managed by the 614 AOC.

4.2.4.1. Submits missions on a primary range within the U.S. other than AFSPC-owned Ranges via LISN. Used as a means to track and report other domestic launches from data received from Range authorities. A notification from the Range authority constitutes an approval.

4.2.4.2. Submits and updates mission details, primary payload, LV, LCRs (approved and To Be Determined (TBD) only), and post-launch status in LISN following data review intervals provided in **Table 5.1**. **(T-2)**

Chapter 5

LAUNCH INFORMATION SUPPORT NETWORK

5.1. Launch Information Support Network (LISN). LISN is the official launch scheduling system for all launches from the United States. LISN, managed and maintained by the LSO, provides a collaborative, centralized, reporting tool to manage US space launch scheduling, planning, forecasting, launch history, constellation sustainment modeling and current operations information.

5.1.1. LISN Website Uniform Resource Locators (URL).

5.1.1.1. Non-Secure Internet Protocol Router Network (NIPRNET) **https://lisn.milcloud.mil** is used to submit up to For Official Use Only (FOUO) and Proprietary Information (PROPIN). Access to this website is controlled with Public Key Infrastructure via a US Government Common Access Card (CAC).

5.1.1.2. Secure Internet Protocol Router Network (SIPRNET) **https://lisn.afspc.af.smil.mil** is used to submit up to Secret information.

5.2. Users authorized to update LISN. LISN updates are accomplished by appointed personnel within 30 SW, 45 SW, 614 AOC, and HQ AFSPC A2/3/6SR. Applicable unit Commanders/Directors will appoint a primary and alternate LISN POC in writing, as well as any other individuals authorized to update LISN information. Appointment letters will be sent via email to the AFSPC A2/3/6SR organizational mailbox at **afspc.a3r.lso@us.af.mil**. HQ AFSPC A2/3/6SR LISN Administrators will grant the required privileges to authorized individuals based on specific updating/reporting requirements.

Table 5.1. LISN Entry/Update Requirements.

ITEM / INFORMATION	ACTION	EVENT AND ENTRY/UPDATE REQUIREMENT	WHO
Launch Change Request	*Submitted*	Requested Launch Date – A date which was formally requested for range resources, however, has not been approved by Range authority	ROPS
		To Be Determined (TBD) Status – A date which was approved which can no longer be met. Launch Service Provider may request and AFSPC/CC, 14 AF/CC or appropriate SW/CC may direct a status change to TBD. A TBD mission date can remain on the ELS for no more than 30 days at which time HQ AFSPC A2/3/6SR will assign a planning date effectively moving the mission off the ELS	ROPS (For approved launch dates) HQ AFSPC A2/3/6SR (For planning launch dates)

		TBD Status – A date which was approved and can no longer be met. A mission can remain on ODLS until a new approved date is determined	614 AOC (For ODLS)
		Planning Launch Date – Upon request from Launch Service Provider (LSP) or other scheduling authority (e.g. AFGSC, MDA, NOTU, SMC), for missions on the PLS	HQ AFSPC A2/3/6SR
		Flyback Operations - Upon identification or change of Land-landing, drone ship landing, or other recovery method. Ensure a review is conducted with base tenants to ensure all concerns are adequately addressed before approval for return to AFSPC property.	ROPS
	Approved	Upon signature of approval authority (for AFSPC Ranges). After final range deconfliction and any Significant Scheduling Action (SSA) coordination, approval request will be completed within 5 business days	ROPS
		Upon notification from appropriate range scheduling office or launch reporting agency (for non-AFSPC ranges)	614 AOC (For ODLS)
Milestones	*Created*	Launch vehicle integration, i.e. Launch Vehicle On Stand (LVOS), Spacecraft (S/C) arrival/mate. Including exercises, system tests, and dress rehearsals	Launch Group (LCG) or associate Squadron (SQ) when in mission assurance/fleet surveillance role
	Updated	Upon milestone date change	
		Upon milestone completion	
Comments	*Created*	Upon significant event occurrence. Comments are brief, descriptive narratives of events impacting or possibly impacting milestones	Authorized users

		and/or launch date. They are used to describe an event or update a previous event with what occurred, reason for change, extenuating circumstances, etc. Comments should not be repeated, but enhanced to give a running history of events	
Mission Details	*Created*	Upon identification of new mission. Include at a minimum; launch site, mission status, launch date, FAA licensing, and Launch Category (DoD Launch, Commercial Launch, Civil Launch)	HQ AFSPC A2/3/6SR
		Upon identification of new mission. Include at a minimum; launch site, mission status, launch date	614 AOC (For ODLS)
	Updated	For NMM Timeframe – annually (at PDC)	HQ AFSPC A2/3/6SR
		For PLS Timeframe – monthly	HQ AFSPC A2/3/6SR
Payload	*Created*	Upon identification of new payload(s) or multi-mission manifest names	HQ AFSPC A/2/3/6SR ROPS 614 AOC (For ODLS)
	Updated	Upon change of payload(s) or multi-mission manifest names	
Launch Vehicle	*Created*	Upon identification of new LV. Include at a minimum, vehicle family and name	HQ AFSPC A2/3/6SR 614 AOC (For ODLS)
Flyback	*Created*	LV – Upon identification of location of land-landing, drone ship landing, or other recovery method	HQ AFSPC A2/3/6SR ROPS
Re-entry Operations	*Created*	SV – Upon identification of date, time, location	ROPS
Post Launch	*Created*	Upon Launch Post-launch status (launched) including post-flyback status (e.g. successful land landing) is submitted via LCR.	ROPS – within 3 hrs 614 AOC (For ODLS) – within 24 hrs

	Update	For Spacelift: T-0 to upon scheduled spacecraft separation milestone – within 3 duty days For Test & Evaluation (T&E) – Upon achieving the proper trajectory– upon receiving reliability data Launch Success — Launch vehicle performed its required functions successfully Launch Results (successful or failure)	HQ AFSPC A2/3/6SR
Site (Range) Maintenance	*Created*	Upon identification of maintenance period, downtime, or event that will affect the entire range (i.e. Holiday Airspace Release Program (HARP), etc)	ROPS
	Updated	Upon completion or date change	
Facility Maintenance	*Created*	Upon identification of maintenance period, downtime, or event that will affect a single facility or launch pad	LCG
	Updated	Upon completion or date change	

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

51 U.S.C. 50910 et seq, *Commercial Space Launch Activities*

Joint Publication 3-14, *Joint Doctrine for Space Operations,* 10 April 18

AFPD 13-6, *Space Policy,* 13 Aug 13

AFI 33-360, *Publications and Forms Management,* 1 Dec 15

AFSPCI 13-611, *Satellite Reliability Engineering Assessment,* 16 May 18

AFSPCI 13-610, *Launch & Range Operations,* 14 May 18

Title 51 USC 50910, *Preemption of Scheduled Launches or Re-Entries,* 03 Jan 12

Prescribed Forms

There are no prescribed forms within this instruction.

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AD—Advanced Systems Directorate

AFSMO—AF Spectrum Management Office

AFSPC—Air Force Space Command

AFRIMS—Air Force Records Information Management System

AFSPCI—Air Force Space Command Instruction

AOC—Air Operations Center

CAC—Common Access Card

CC—Commander

CLSRB—Current Launch Schedule Review Board

COA—Course of Action

CSAT—Constellation Sustainment and Assessment Team

CSLA—Commercial Space Launch Activities

DoD—Department of Defense

EA—Encapsulated Assembly

ELS—Executable Launch Schedule

ELV—Expendable Launch Vehicle

ER—Eastern Range

FAA—Federal Aviation Administration

FOUO—For Official Use Only

FYDP—Future Years Defense Program

GEEB—Government Expendable Launch Vehicle (ELV) Executive Board

GIM—Government Integrated Meeting

HARP—Holiday Airspace Release Program

HQ—Headquarters

IAW—In Accordance With

ILC—Initial Launch Capability

LCG—Launch Group

LCR—Launch Change Request

LISN—Launch Information Support Network

LSDO—Launch Service Delivery Order

LSO—Launch Services Office

LSP—Launch Services Provider

LV—Launch Vehicle

LVOS—Launch Vehicle On Stand

MDA—Missile Defense Agency

MMO—Multi-Mission Manifesting Office

NASA—National Aeronautics and Space Administration

NASA LSP—National Aeronautics and Space Administration Launch Services Program

NIPRNET—Non-Secure Internet Protocol Router Network

NET—No Earlier Than

NLT—No Later Than

NMM—National Mission Model

NRO—National Reconnaissance Office

ODLS—Other Domestic Launch Schedule

OOC—Out-of-Cycle

PDC—Program Data Call

PLS—Planning Launch Schedule

PLSFL—Planning Launch Scheduling Factors List

POC—Point of Contact

POM—Program Objective Memorandum

PPBE—Planning, Programming, Budgeting, and Execution

PROPIN—Proprietary Information

RDS—Records Disposition Schedule

S/C—Spacecraft

SIPRNET—Secure Internet Protocol Router Network

SMC—Space and Missile Systems Center

SQ—Squadron

SSA—Significant Scheduling Action

SV—Space Vehicle

SV ILC—Space Vehicle Initial Launch Capability

SW—Space Wing

SW/CC—Space Wing Commander

T&E—Test & Evaluation

TBD—To Be Determined

TLD—Target Launch Date

URL—Uniform Resource Locator

USAF—United States Air Force

WR—Western Range

Terms

Accountable Launch Date—The accountable launch date is the launch date established 90 days before the launch.

Approved Launch Date—A launch date that has been approved by an approving official (i.e., Wing Commander, range owner, appropriate range scheduling office, or launch reporting agency).

Backup Mission—A mission that continues to process toward launch in a specified launch slot/opportunity. Backup missions may be elevated to primary mission status based on readiness and/or priority, as determined by the CLSRB.

Civil Launch—Launch activity indemnified/procured by a civil authority (e.g., NASA, NOAA, etc.) that do not occur under an FAA license. These are launches that a civil authority chooses to sponsor or cannot license as a result of being so substantially involved to effectively direct or control the launch (DOJ Decision on Licensing Under the Commercial Space Launch Act, 15 Nov 1990).

Comments—In LISN, a brief, but descriptive narrative of events impacting or that could impact milestone and/or launch date. Comments should not be repeated, but enhanced to give a running history of events. They should describe an event or update a previous event with what occurred, reason for change, extenuating circumstances, etc.

Commercial/FAA-licensed Launch—Activity licensed by the FAA. This includes activity required to prepare, conduct, or recover from a launch action (to include such activity as a static fire, engine test, booster assembly, NASA's Commercial Resupply Program, etc.) when requesting services, commodities, or resources from AFSPC under the provisions of 51 USC and/or 10 USC § 2276.

Current Launch Schedule Review Board (CLSRB)—A forum chaired by 14 AF/CC and attended by senior officers, program managers and commercial representatives from the launch community. The purpose of the CLSRB is to review resource, satellite and launch assessments, prioritize launches and approve the ELS and PLS. Fall CLSRB is to baseline the PLS for the PPBE and the Spring CLSRB is required to produce the LSDO.

Constellation Sustainment and Assessment Team (CSAT)—Semi-annual meetings to assess the health of satellites and constellations and make recommendations on satellite deployments, satellite locations, end of life, ground equipment/station availability, launch decisions, review the PLS and NMM, and any applicable funding considerations. Meetings are Chaired/Co-Chaired by 14 AF.

DoD Launch—Launch activity indemnified/procured by a DoD authority (e.g., AFSPC, RSLP, MUOS, etc) that do not occur under an FAA license. These are launches that a DoD authority chooses to sponsor or cannot license as a result of being so substantially involved to effectively direct or control the launch (DOJ Decision on Licensing Under the Commercial Space Launch Act, 15 Nov 1990).

DoD Priorities—A list of prioritized launch assignments produced from the DoD Priorities meeting. Final approved list will be provided to AFSPC A2/3/6S for utilization in developing a Launch Service Delivery Order.

DoD Priorities Meeting—A meeting chaired by 14AF/A3 with participation from HQ AFSPC A2/3/6S, SMC/LE, and Satellite Vehicle program stake holders to adjust, assign, and place launch assignments by priority in order of national importance, readiness, and operational requirements. Additionally, the forum will review potential restraints for any satellite vehicle, launch vehicle and resource assessments that could affect constellation sustainment. All priorities are considered in launch decisions made at the GIM and CLSRB.

Eastern Range (ER)—The ER is part of the National Launch Range facilities, operated by the 45th Space Wing, part of Air Force Space Command, and located at Patrick Air Force Base, Florida; the range includes the operational launch and base support facilities located at Cape Canaveral Air Force Station, Florida; owned or leased facilities on downrange sites such as Ascension; as well as the Jonathan-Dickson Missile Tracking Annex (Jupiter, Florida), and in the context of launch operations, the Atlantic Ocean. For reentries/flyback at the ER, the ER may be expanded to involve the land, sea and air space within the reach of the RV during its descent until it impacts or is recovered. Range management activities are concentrated at Patrick AFB, Florida. Launch vehicle and payload prelaunch and launch activities are concentrated at Cape Canaveral Air Force Station (CCAFS), Kennedy Space Center (KSC), and miscellaneous

outlying support locations. Launch activities conducted by ER personnel operating outside the geographical limits described above may occur under DoD or USAF direction or under the auspices of agreements made by these agencies. In such cases, the term ER is expanded to include prelaunch, recovery, launch area, recovery area and impact area. (AFSPCMAN 91-710V1 paragraph 1.3.1.)

Executable Launch Schedule—A subset of the PLS, consists of range approved, requested and TBD dates within 24 months. It does not conflict with any; 1) scheduled Range maintenance/recapitalization periods, 2) range modernization contract activity periods, 3) launch system pad maintenance periods, 4) scheduled Range test, or 5) scheduled launches from other pads or scheduled launches from the same pad within prescribed time centers.

Fleet Surveillance—Surveillance of commercial and civil activities for the purpose of maintaining awareness of issues that intersect or may intersect EELV flight worthiness or other government mission assurance requirements for certified EELV and New Entrant Launch Service Providers.

Flyback—Return of a booster during flight phase for recovery and potential reuse. Flyback is a segment of launch. For risk and approval the segment of flight associated with launch will be considered a contiguous element of the launch activity. Flyback is different from reentry, which requires return from a sustainable orbit.

General Mission Details—In LISN, this information includes the payload/mission name, launch vehicle, operations number, launch range and pad, POC, mission owner, status, No Earlier Than (NET)/NLT dates and launch window.

Government Expendable Launch Vehicle (ELV) Executive Board (GEEB)—An SMC/LE, NRO/OSL and NASA LSP jointly-chaired board whereby members coordinate respective launch requirements, priorities, programmatic issues affecting available launch opportunities and perspective on potential firing orders to inform development of possible integrated courses of action to be assessed at the Government Integrated Meeting and the CLSRB.

Government Integrated Meeting (GIM)—The GIM is chaired by 14 AF A3 with participation from HQ AFSPC A2/3/6S, SMC/LE, NRO/OSL and NASA LSP to make scheduling decisions as directed by 14 AF/CC and launch assignment queuing decisions for the CLSRB. The GIM is held just prior to the CLSRB to make scheduling decisions as directed by 14 AF/CC and queuing appropriate decisions for the CLSRB. Additionally, a GIM is held prior to each Out of Cycle CLSRB.

Launch Activity—Activity necessary to process, prepare, place, or attempt to place, a launch vehicle and its payload, if any, in a suborbital trajectory, in Earth orbit in outer space, or otherwise in outer space. This includes static fire, booster assembly, pre-launch readiness assessments, dress rehearsals, etc.

Launch Assessment—An evaluation of all launch constraints including launch throughput, launch vehicle readiness including ILC, launch pad availability, ground equipment availability, understanding all liens, plus resolution date and any applicable funding constraints. Launch assessment results are presented to the CLSRB.

Launch Change Request (LCR)—A formal request in LISN to change a launch date or mission status on the ELS, PLS, ODLS.

Launch Queue—The sequence of approved launches in the ELS as finalized by the CLSRB or a launch that has been subsequently added to the launch sequence by an approving official (i.e. Wing Commander).

Launch Requirement—The date (best fidelity possible) a mission must be launched to satisfy operational/test capability, programmatics, functional availability (per AFSPCI 13-611) or satellite assessment requirements.

Launch Service Delivery Order (LSDO)—Annual memorandum to communicate launch service and Multi-Mission Manifest procurement requirements to SMC/CC, with courtesy copies provided to 14 AF/CC and SMC Launch Enterprise Directorate.

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

Launch Success—Launch vehicle performed its required functions successfully.

Launch Vehicle Assessments—LV assessments evaluate the status of LVs. Assessment results are required at the GEEB leading to Government COA discussions at the GIM and CLSRB prior to finalizing the launch schedule.

Launch Vehicle (LV) Initial Launch Capability (ILC)—The earliest date an LV can be ready for launch, including nominal shipping and launch base processing time.

Milestones—Major events that must be accomplished prior to launch. Milestones may include, but are not limited to, Booster on Stand, SV Mate, etc.

Mission Assurance—An integrated engineering-level assessment of analysis, production, verification, validation, operation, maintenance, and problem resolution processes performed over the life cycle of a program by which an operator/user determines that there is an acceptable level of risk to employment of a system or end item to deliver an intended capability in an intended environment. The objective of the assurance process is to identify and mitigate design, production, test and operational deficiencies that could impact mission success.

National Mission Model (NMM)—A fiscal-year projection of forecasted USG-funded space launches and T&E launch missions requiring launch opportunities on the ER/WR and NSS missions launching from other domestic ranges. The NMM extends at least seven years beyond the PLS.

Other Domestic Launch Schedule (ODLS)—A launch schedule with orbital, suborbital and ballistic launches from any other US launch sites other than AFSPC's Eastern and Western Ranges.

Planning Launch Date—The best available date that a mission can be projected to launch. Planning dates do not constitute a commitment from the Air Force or DoD and do not expend necessary resources, commodities, and/or services. These dates do not require a Significant Scheduling Action to make adjustments to a planning launch date but do require concurrence from both the LSP and mission owner (commercial owners will be represented by LSP).

Planning Launch Schedule (PLS)—A fiscal-year-based, 48-month projection consisting of Approved, Requested, TBD, and Planning dates on the ER and WR for strategic scheduling purposes only. The first two years of the PLS are reported through weekly distribution. The third and fourth years are used for planning purposes and may contain proprietary information

and will not be distributed. Release outside of DoD channels or re-distribution in any way without the consent of AFSPC/A2/3/6SR is prohibited.

Planning Launch Schedule Factors List (PLSFL)—Provides scheduling guidelines for separations requirements between launches due to various booster, launch pad/facilities, range, and payload factors. The PLSFL is not a binding document; however, it provides a baseline to assist in scheduling and planning efforts.

Planning, Programming, Budgeting, and Execution (PPBE)—The PPBE process is the primary Resource Allocation Process (RAP) of DoD. It is an annual cyclical process to determine Department funding requirements and to allocate resources to satisfy those requirements.

Preemption—Preemption from access to a United States Government launch site, reentry site or launch property when a launch date commitment from the Government has been obtained for a launch under Title 51 USC 50910 et seq.

Range—The term "range," when used in a geographic sense, means a designated land or water area that is set aside, managed, and used for range activities of the Department of Defense. Such term includes the following: (A) Firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access, and exclusionary areas. (B) Airspace areas designated for military use in accordance with regulations and procedures prescribed by the Administrator of the Federal Aviation Administration. (10 USC § 101(e)(1)). In a non-geographic sense, "range" includes Eastern and/or Western Range assets.

Range Operations—Any procedure that requires the use of range resources (instrumentation, collision avoidance processes, weather systems, etc.). The execution of operations focused on efficient and coordinated employment of all range assets and processes to enable the safe and timely launch of payloads and test vehicles.

Re-entry—A return operation from a sustainable orbit.

Requested Launch Date—A date which was formally requested for range resources, however, has not been approved by Range authority.

Resource, Commodity, and Services Assessments—Resource, commodity and services are evaluated (i.e. Range, payload processing facility, GN2, safety). Limiting factors are reported on range, maintenance periods, down time, personnel, funding, satellite processing facilities, etc. SW/CC's will ensure assessment results will be provided to the GIM and CLSRB.

Satellite Assessment—Agencies with upcoming launch requirements convene prior to the CLSRB to review SV requirements, SV ILC date and associated confidence level, satellite location, ground equipment/station availability and any applicable funding considerations. Satellite assessment results are presented to the DoD Priorities Meeting/GIM/CLSRB.

Significant Scheduling Action (SSA)—A significant scheduling action is defined as a scheduling change affecting a mission on the ER/WR that does any of the following; 1) Adds a launch date not previously presented at the CLSRB; 2) Adds a maintenance period that precludes operations for 72 hours or more not previously presented at the CLSRB; 3) Moves an EELV/DoD launch date more than 10 days later from the accountable launch date confirmed 90 days prior to launch; 4) Changes the sequence of launches in the ELS; 5) Causes another

mission to slip more than 30-days from last published ELS; 6) Changes to previous approved flyback location; 7) Moves a launch date that results in a previously unplanned overflight and/or flyback of another SV and/or LV.

SMC-Procured Launch Service—Space Launch capability provided by a contractor to place a satellite into a specified orbit. The contractor retains ownership of all flight and ground hardware, engineering analyses, processes, and readiness decisions except as provided under contract.

Space Vehicle (SV) Initial Launch Capability (ILC)—The earliest date a SV can be ready for launch, including nominal shipping and launch base processing time.

Spacelift—The ability to deliver satellites, payloads, and material into space. Assured access to space includes spacelift operations and range operations. (JP 3-14)

Target Launch Date (TLD)—A date projecting ILC considering operational need, contractual constraints. SV ILC may precede TLD by months or possibly years depending upon priorities and launch manifest decisions.

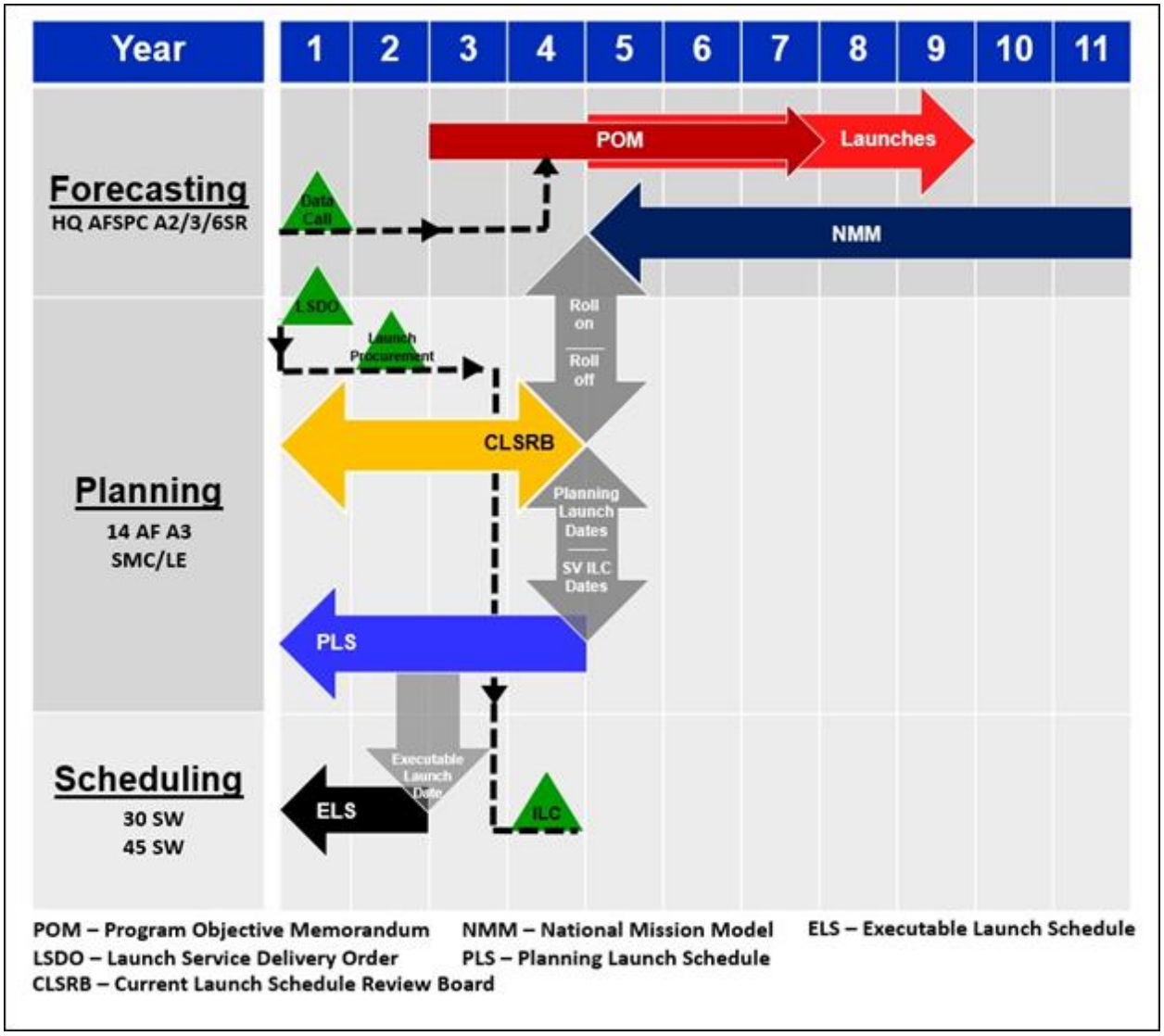
To Be Determined (TBD) Launch Date—A date which was approved on the ELS, PLS, or ODLS which can no longer meet the date. TBD launch dates do not require a Significant Scheduling Action to make adjustments to an TBD launch date but do require concurrence from both the LSP and mission owner (commercial owners will be represented by LSP). A TBD mission date can remain on the ELS for no more than 30 days at which time HQ AFSPC A2/3/6SR will assign a planning date effectively moving the mission off the ELS.

Western Range (WR)—The WR consists of the launch head at Vandenberg AFB (VAFB), California and extends along the West Coast of the continental US westward through the Pacific and Indian Oceans. For reentries/flybacks intended at the WR, the WR may be expanded to involve the land, sea and air space within the reach of the RV during its descent from orbit until it impacts or is recovered. Range management activities as well as launch and prelaunch processing activities are concentrated at VAFB in California. Launch and reentry activities conducted by WR personnel operating outside the geographical limits described above may occur under DoD or USAF direction or under the auspices of agreements made by those agencies. In such cases, the term WR is expanded to include these situations and apply, as required, to the specific mission, launch, recovery, launch area, recovery area and impact area.

Attachment 2

FORECASTING, PLANNING, SCHEDULING TIMELINE

Figure A2.1. Forecasting, Planning, Scheduling Timeline.



Attachment 3

LAUNCH CHANGE REQUEST (LCR) PROCESS

Figure A3.1. Launch Change Request (LCR) Process.