Administrative Changes to AFI 10-1202, *Space Test Program (STP) Management*

OPR: SAF/AQSL

References to OPNAVINST 3913.1A should be changed to OPNAVINST 3913.1B

References to “SNDL Chief of Naval Operations (N091, N63)” should be changed to “SNDL Chief of Naval Operations (N2N6, N84)”

References to “Commander Naval Space Command” should be removed

1 JUNE 2012

BY ORDER OF THE SECRETARIES OF THE AIR FORCE, THE ARMY, AND THE NAVY

AIR FORCE INSTRUCTION 10-1202 (I); AR 70-43; OPNAVINST 3913.1A

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Operations

SPACE TEST PROGRAM (STP) MANAGEMENT

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This instruction implements *Air Force Policy Directive AFPD 10-12 Space*. This instruction implements guidance on the Department of Defense (DoD) Space Test Program (STP), which was formally established in 1965, as well as the DoD Space Experiments Review Board (SERB; in this instruction, SERB refers to the DoD Board). It captures the revised management and funding policies, and reaffirmation of the Air Force as the Executive Agent for STP in the 2002 Deputy Secretary of Defense (DepSecDef) Memorandum, Space Test Program Management and Funding Policy. Additionally, it incorporates guidance to STP outlined in the 2004 Air Force Space Command (AFSPC) Memorandum, Auxiliary Payload Approval Policy and 2004 Space and Missile Systems Center (SMC) Memorandum, Implementation Plan for Rideshare Missions on EELV DoD Assets. Send comments and refer recommended changes to SAF/AQSL, 1060 Air Force Pentagon, Washington, DC 20330-1060. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363,

Management of Records and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at http:///.

(AFSPC) This supplement implements and extends the guidance of Air Force Instruction (AFI) 10-1202, *Space Test Program (STP) Management*. The AFI is published word-for-word without editorial review. This supplement describes more detailed roles and responsibilities and additional procedural requirements for use in conjunction with the basic AFI. It applies to all Headquarters Air Force Space Command (HQ AFSPC) organizations involved in auxiliary payload (APL) requirements, processing, operations and launch. This instruction applies to Air Force Reserve Command and to the Air National Guard. This supplement may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. 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. See AFI 33-360, *Publications and Forms Management*, Table 1.1 for a description of the authorities associated with the Tier numbers. 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. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS).

SUMMARY OF CHANGES

This publication substantially revises the combined *Air Force Instruction (AFI) 10-1202*, *Army Regulation (AR) 70-43*, and *Operational Naval Instruction (OPNAVINST) 3913.1A* (dated 1 April 1998). It incorporates revisions to the original management and funding policy as stated in the 2002 DepSecDef Memorandum. Additionally, it provides further guidance on SERB processes and membership. This publication adds the responsibility for STP management as it applies to DoD auxiliary payload rideshare opportunities, and for STP to execute non-SERB reimbursable missions as requested. It aligns with *Air Force Policy Directive (AFPD) 10-12*, *Space*, updates action agencies, and responsibilities, and adopts three DoD forms. This publication does not apply to the Air Force Reserve, Air National Guard (ANG), or Civil Air Patrol.

(AFSPC) This interim change revises the opening paragraph of this publication to be in compliance with AFI 33-360, *Publications and Forms Management.* The responsibilities of the HQ AFSPC Chief Scientist pertaining to the DoD SERB and Air Force SERB have been added. It also adds the responsibility for SMC/AD to provide administrative support to the HQ AFSPC Chief Scientist in preparation for the DoD and AF SERBs. A margin bar (|) indicates newly revised material.

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1. INTRODUCTION

1.1. **General.** OSD establishes overarching policy and assigns responsibilities and authorities for Space Test Program (STP) planning, programming, and acquisition within the DoD. As of the date of this publication, OSD has established the United States Air Force as Executive Agent (EA) for Space. The AF has designated SAF/AQS as the EA for the STP. Similarly, the AF has designated Air Force Space Command (AFSPC) responsibility for space launch. AFSPC provides policy and guidance for space launch operations conducted on both the Eastern and Western Ranges to include; roles and responsibilities, operational requirements, and launch scheduling and forecasting procedures.

1.2. **STP Authority.** The STP has been designated as the "front door" for all DoD auxiliary payloads (APLs) on DoD, civil and commercial launches, and for all non-DoD APLs seeking launch opportunities on DoD missions. The STP is the primary provider of mission design, spacecraft (SC) acquisition, integration, launch, and on-orbit operations for the DoD's Space research and development (R&D) community. Offices assigned responsibilities within the STP will guide potential sponsors and R&D Principal Investigators (PIs) in preparing and submitting spaceflight requests, and define the relationship among sponsors, PIs, and STP managers. Additionally, STP is the single manager for all DoD payloads on the Space Shuttle, the International Space Station (ISS), future manned and unmanned National Aeronautics and Space Administration (NASA) launch vehicles (LV), and all auxiliary payloads (APL) on Air Force Space Command (AFSPC) rideshare opportunities. STP may assist DoD APLs in securing rideshare opportunities on non-DoD flights.

1.3. **Space Experiments Review Board (SERB).** The multi-service Space Experiments Review Board (SERB) provides a formalized means to evaluate DoD sponsored payloads and experiments for consideration for subsidized spaceflight (fully or partially) through STP dedicated funding. This process includes; prioritization of R&D proposed experiments based primarily on DoD utility, and providing programmatic guidance to the STP for developing and managing proposed missions.

2. APPLICABILITY

2.1. This instruction applies to all DoD organizations that the STP supports, DoD organizations supporting the STP, and the STP Management Office (hereafter referred to as the STP Office). Federal agencies outside the DoD requesting support from the STP Office must abide by this instruction. DoD or other Federal agencies receiving support from the

STP Office may issue directives for STP procedures within their organizations; however those directives must not be less restrictive than this instruction. In cases of conflict, this instruction will have precedence.

3. ORGANIZATION, ROLES AND RESPONSIBILITIES

3.1. The STP Executive Agent (EA) will:

3.1.1. Implement OSD policy concerning STP.

3.1.2. Designate SERB members.

3.1.3. Provide the Program Element Monitor for STP.

3.1.4. Manage the overall DoD SERB process, chair the DoD SERB meetings, and approve and publish the resulting prioritized experiment list. A copy of the results will be provided to the DoD EA for Space.

3.1.5. Approve SERB Space Flight Plans (SFP) for missions that require an expenditure of more than $10M per Fiscal Year (FY) in STP funds or more than $10M annually in government provided launch or operations services. If after 15 working days after receipt of a SFP from the STP Office, the STP EA does not notify the STP Director of a reason to delay approval of the SFP, the STP Program Director or his/her designee may approve the SFP and send a copy of that approval to STP EA. (**Note:** The $10M annual threshold does not include funds provided by experimenter or customer provided funding).

3.1.6. Resolve, if required, disputes on priorities, experiment selection, or experiment duplication among Departments, Organizations, or Agencies.

3.2. **Air Force, Army, Navy, other DoD Agencies, and Organizations (involved with the STP process) will:**

3.2.1. Establish, as needed, a Service, Agency, or Organization focal point for approval of SERB proposals, which will provide a prioritized list of SERB proposed experiments to STP Executive Agent (STP EA) prior to each annual DoD SERB meeting. Each affected organizations should establish internal procedures for reviewing and approving SERB proposals prior to sending them to the DoD SERB.

3.2.1. **(AFSPC)** HQ AFSPC Strategic Requirements Division (HQ AFSPC/A5X) shall be the HQ AFSPC focal point for review and approval of AF SERB and DoD SERB proposed experiments. HQ AFSPC/A5X, supported by SMC, shall evaluate proposals with respect to AFSPC Science and Technology (S&T) needs and provide this evaluation to AF and DoD SERBs via designated AFSPC member of the AF and DoD SERBs.

3.2.2. Assign (specifically the Air Force, Army, and Navy) qualified personnel to the STP Office. Any support/manpower funding requirements for these positions are the responsibility of the providing organization.

3.2.3. Provide SERB members, as required.

3.2.4. Serve as Sponsors for experiments, as appropriate.

3.3. **Headquarters Air Force, Directorate of Space Operations and Integration (AF/A3/A5) will:**

3.3.1. Advocate for future mission needs and operational utility that STP-demonstrated technologies will lead to or enable.

3.3.2. Assist, if appropriate or requested, STP in satellite operations matters with other Air Force space programs, the NRO, Navy, and Army space programs.

3.4. **Air Force Space Command (AFSPC) will:**

3.4.1. Designate an office to track activities associated with STP. This office is responsible for:

3.4.1. **(AFSPC)** HQ AFSPC/A5R shall serve as Program Element Monitor for STP and is responsible for:

3.4.1.1. Defending the STP Program Objectives Memorandum (POM) submission developed in conjunction with the STP Office.

3.4.1.2. Coordinate with appropriate launch vehicle Program Element Monitor (PEM) to advocate for funding consistent with the an STP dedicated small launch class mission every two years and a medium launch class mission every four years.

3.4.1.3. Advocate for funding to provide adequate to take advantage of APL opportunities on AFSPC launches.

3.4.1.4. **(Added-AFSPC)** Performing S&T long-range planning supported by HQ AFSPC/ST, HQ AFSPC/A5X and SMC.

3.4.1.5. **(Added-AFSPC)** Coordinating AFSPC representation to AF and DoD SERBs.

3.4.1.6. **(Added-AFSPC)** Sponsoring HQ AFSPC/A5 APLs per section **3.7**.

3.4.1.7. **(Added-AFSPC)** Leading APL architecture requirements development, as needed.

3.4.1.8. **(Added-AFSPC)** Coordinate on HQ AFSPC Program Data Call inputs (mission launch requirements) and APL rideshare Courses of Action (COAs) affecting operational primary missions, launches or demonstrations.

3.4.2. Maintain an organizational element to manage the planning, engineering and operational functions necessary to execute SERB-approved programs. Currently, this organization is the Space and Missile Systems Center (SMC), Space Development and Test Wing (SDTW), Space Development Group (SDTW/SDDG). The STP Director leads the STP Office. Currently the STP Director is also dual-hatted as commander of the Space Development Group within SDTW.

3.4.3. Provide voting members to the DoD SERB (AFSPC and SMC).

3.4.3. **(AFSPC)** HQ AFSPC/ST or designated alternate will serve as the voting member of the DoD SERB. **(T-2).**

3.4.4. By way of the Air, Space, and Nuclear Operational Directorate (currently AFSPC/A3), grant approval for STP APL missions associated with AFSPC operational payloads when operationally, technically, financially, and contractually feasible.

3.4.5. **(Added-AFSPC)** In addition, HQ AFSPC/A3 will:

3.4.5.1. **(Added-AFSPC)** Provide appropriate AF APL sponsorship by program designation.

3.4.5.2. **(Added-AFSPC)** Forward mission requirements via Evolved Expendable Launch Vehicle (EELV) or non-EELV launch vehicle designation paths. EELV LV decisions are made by SMC Launch Systems Directorate (SMC/LR) via the EELV Configuration Control Board (CCB). Non-EELV LV decisions are made by Air Force Program Executive Officer – Space (AFPEO/SP, currently, SMC/CC).

3.4.5.3. **(Added-AFSPC)** Provide annual Program Data Call results to SMC Space Development and Test Directorate (SMC/SD) for COA development.

3.4.6. **(Added-AFSPC)** In addition, HQ AFSPC/A5 will:

3.4.6.1. **(Added-AFSPC)** Provide interface to the Air Force Science and Technology Program (A5X).

3.4.6.2. **(Added-AFSPC)** Coordinate HQ AFSPC representation to the SERB (A5X).

3.4.6.3. **(Added-AFSPC)** Sponsor HQ AFSPC/A5 APLs per **paragraph 3.7** (A5 Division sponsoring the APL).

3.4.6.4. **(Added-AFSPC)** Lead APL architecture requirements development (A5 Division Sponsoring the APL).

3.4.6.5. **(Added-AFSPC)** Provide coordination on HQ AFSPC Program Data Call and APL rideshare Courses of Action (COAs) affecting operational primary missions, launches or demonstrations.

3.4.7. **(Added-AFSPC)** In addition, HQ AFSPC/ST will:

3.4.7.1. **(Added-AFSPC)** Chair or designate an alternate to chair the Air Force SERB. **(T-2).**

3.4.8. **(Added-AFSPC)** In addition, SMC/AD will:

3.4.8.1. **(Added-AFSPC)** Provide technical evaluation of experiments (as requested) and administrative support to HQ AFSPC/ST in preparation for the AF and DoD SERBs. **(T-2).**

3.5. **Air Force Program Executive Officer – Space (AFPEO/SP, currently the SMC/CC) will:**

3.5.1. Manage and provide programmatic oversight for Air Force STP programs and monitor programmatic status of other STP programs throughout development and launch of STP missions.

3.5.2. Direct the STP Office to perform the necessary development, acquisition, program management, and planning to launch and operate STP missions from the DoD-approved SERB list.

3.5.3. Manage execution year funding and interface with appropriate Air Force organizations to ensure STP efforts are properly funded and executed.

3.5.4. Provide fiscal and programmatic direction to the STP Office and provide HQ AFSPC the information needed to plan, program, and budget for STP programs.

3.5.5. **(Added-AFSPC)** Identify previously programmed non-EELV LVs to fulfill primary and APL mission requirements.

3.6. **Space Test Program Office will:**

3.6.1. Provide mission design, spacecraft acquisition, integration, launch, and on-orbit operations for the maximum number of SERB experiments consistent with priority, opportunity, and available funding.

3.6.1. **(AFSPC)** Until further notice, STP Office responsibilities are executed by SMC/SD.

3.6.1.1. Manage programmatic, technical, schedule, cost, and mission operations risk for all missions executed by STP.

3.6.1.2. Perform tasks, as required, to maximize mission success to include compiling information, conducting studies and cost analyses, processing and executing SFPs, assigning payloads, integrating experiments into SC, obtaining LVs (as required) and services.

3.6.1.3. Advise the PI on preparation of SERB briefings, spaceflight requests, and experiment or payload requirements documentation.

3.6.1.4. Explore the potential for both dedicated missions and joint missions with the National Aeronautics and Space Administration (NASA), commercial, foreign, and other DoD organizations.

3.6.1.5. Coordinate between Sponsor, PI, and the host vehicle office for STP APLs (SERB and non-SERB) on the host LV or SV.

3.6.1.6. Collect, archives, and provides access to experiment final reports.

3.6.1.7. Ensure AFSPC/A3 is aware of APL risks and impacts to AFSPC primary missions and request operational approval.

3.6.1.8. **(Added-AFSPC)** Develop notional pairings of prime space vehicles (SVs) with APLs and groups of APLs and coordinate notional pairings with SMC/LR and HQ AFSPC/A3.

3.6.1.9. **(Added-AFSPC)** Provide preliminary LV configuration requirements for all potential LV opportunities (EELV and non-EELV).

3.6.1.10. **(Added-AFSPC)** Provide recommendations of which LV should be used; coordinate EELV recommendations with SMC/LR; and coordinate Orbital/Suborbital Program (OSP-3) with SMC/SD, Rocket Systems Launch Program (RSLP).

3.6.1.11. **(Added-AFSPC)** Project future APL demand.

3.6.2. Approve (STP Director, or designee) SFPs for: (1) SERB missions that require an expenditure of less than $10M in STP funds and (2) SFPs for reimbursable missions. SERB missions that exceed the $10M threshold are approved or disapproved by SAF/AQS, the STP EA.

3.6.3. Provide mission design, spacecraft acquisition, integration, launch, and on-orbit operations for reimbursable missions approved by the EA for STP.

3.6.4. Verify a Mission Director (MD) is appointed IAW established AFSPC launch operations requirements identified in AFSPCI 10-1208. For STP funded and dedicated launch operations, AFPEO/SP may delegate selection authority for an "STP Mission Director" to STP or SDTW.

3.6.5. Serve as the primary DoD program supporting human spaceflight payload integration and operations and, as such, act as the single manager for all DoD payloads on the Space Shuttle, ISS, and other human-rated spaceflights such as unmanned ISS service flights. This includes training flight crews and flight controllers for these operations needed to support STP missions.

3.6.6. Serve as the DoD focal point for all APL services on AFSPC missions. Coordinate between Sponsor, PI, and the host vehicle office for non-SERB APLs on the host LV or SV.

3.7. Sponsor will:

3.7.1. Act as the primary advocate for the technology or experiment to be flown. This includes ensuring that all parties understand the benefit of spaceflight to either the state of technology, information about the environment, or to other important areas. They shall make such information available upon request to ensure proper decision-making throughout the STP process.

3.7.2. Approve and submit experiment requests to the SERB or directly to STP for reimbursable missions. Any DoD organization may sponsor spaceflight experiments. Multiple DoD and non-DoD agencies may co-sponsor experiments. For SERB experiments, one organization is chosen to be the lead and will be in charge of all coordination with the process and STP via the Principal Investigator.

3.7.3. Designate a PI for each experiment proposed to the DoD SERB. Submit PI change notifications to the SERB in a timely fashion, including an updated *DD Form 1721-1*. The sponsor may change the PI without impacting the status or SERB ranking of the experiment.

3.7.4. Oversee the program, project, or task being supported by the STP Office, as well as the development, fabrication, qualification, and integration support (if applicable) of the APL spaceflight hardware.

3.7.5. Ensure sufficient funding (including Funding Certification Letter) and provide resources for experiment development, fabrication, testing, data reduction, and reporting.

3.7.6. Provide the experiment team to support the STP Office in its efforts to manifest, integrate, launch, and operate their experiment.

3.7.7. Assist in development and approval of the necessary documentation (per STP User's Guide) for mission planning, execution, and post-launch/flight.

3.8. **Principal Investigator (PI) will:**

3.8.1. Serve as the primary point of contact with the STP Office concerning an experiment's status and funding. (**Note:** An experiment may have more than one Sponsor; however, each experiment will have only one PI.)

3.8.2. Assist in experiment development, fabrication, testing, data reduction, and reporting.

3.8.3. Lead the experiment team to support the STP Office in its efforts to manifest, integrate, launch, and operate their experiment.

3.8.4. Get sponsor approval. Prepare (with advice from the STP Office) and submit spaceflight requests. Provide briefs to the SERB for experiments seeking to be subsidized by STP.

3.8.5. Assist development and approval of (and when required submit) the necessary mission planning (per STP User's Guide), execution, and post-launch/flight documentation.

3.8.6. Verify that the SERB, the appropriate services, COCOMs or space system program offices understand and acknowledge the contributions of the flight experiment as it improves the state of technology required to develop tomorrow's operational systems or the understanding of the space environment.

3.9. **(Added-AFSPC) Space and Missile Systems Center, Launch Systems Directorate (SMC/LR) will:**

3.9.1. **(Added-AFSPC)** Determine LV configuration requirements for EELV missions with APLs.

3.9.2. **(Added-AFSPC)** Execute EELV APL missions IAW AFSPCI 10-1208, *Spacelift Operations*.

4. MISSION PHASES (PROCESSES, ROLES, AND RESPONSIBILITIES)

4.1. **General.** The overall process for obtaining either subsidized or reimbursable space flight services for a DoD space experiment is detailed in this section. Experiments can fall into several categories or types dependent upon the support needed from STP. An experiment may be brought to STP in a variety of forms. It may be an instrument requiring integration to a SC or may be a complete SV. A variety of support may be desired to include launch, flight operations, data recovery, interactions with ground- or space-based assets, or other activities. STP will evaluate the specific experiment requirements and where feasible design a mission that best accomplishes its scientific objectives.

4.1.1. Launch resources may be manned or unmanned. Unmanned launches can be human-rated but are usually ELVs and can include sounding rockets and balloons. NASA executes human spaceflight. The STP Office serves as the primary DoD program supporting human spaceflight payload integration and operations and, as such, acts as the single manager for all DoD payloads on the Space Shuttle, ISS, and other human-rated spaceflights.

4.1.2. From an LV payload standpoint, an experiment can be the Primary SV or an Auxiliary Payload. APLs shall not adversely impact the primary SV.

4.1.3. STP missions may be categorized by the method of funding. If subsidized support from STP is required for accomplishing the objectives of a space experiment, the experiment must go through the SERB process.

4.1.3.1. SERB missions may be partially or completely subsidized through STP funds with the exception of the experiment development. In addition to subsidizing the cost of the mission, STP may be able to provide launch opportunities on dedicated launch vehicles provided to the program in accordance with the "DepSecDef STP Management and Funding Policy" goal of launching a Small Launch Vehicle-Class mission every two years and a Medium Launch Vehicle-Class mission every four years.

4.1.3.2. Reimbursable missions are fully funded by the payload sponsor and STP services may be negotiated directly with the STP Office. STP estimates for sponsor funding should fully account for any additional SDTW overhead costs, including additional manpower resources or facility upgrades if required.

4.1.4. **(Added-AFSPC)** APL rideshare coordination and designation is illustrated in **Figure 4.1**, which highlights the following responsibilities:

4.1.4.1. **(Added-AFSPC)** Various organizations/developers provide APL requirements to STP.

4.1.4.2. **(Added-AFSPC)** SMC/SD will collect all APL requirements, including APLs on the DoD SERB list, and prioritize non-SERB APL requirements with involvement from HQ AFSPC.

4.1.4.3. **(Added-AFSPC)** HQ AFSPC/A3 will collect mission launch requirements via annual Program Data Call per AFSPCI 10-1213, *Launch Scheduling and Forecasting Process*, and provide results to SMC and other appropriate SMC organizations.

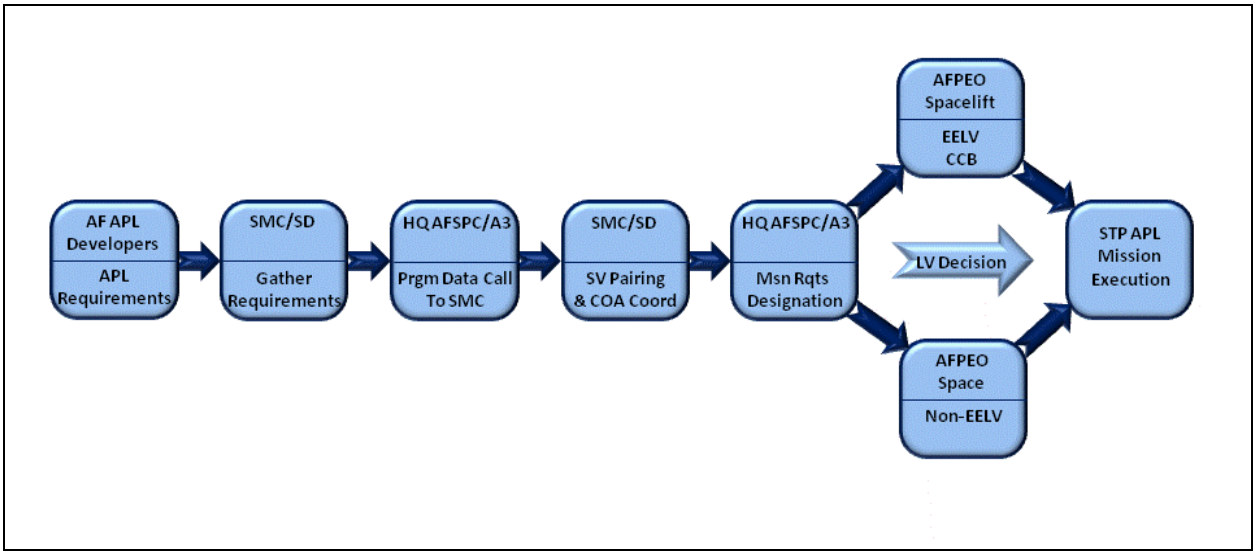
4.1.4.4. **(Added-AFSPC)** SMC/SD performs preliminary SV pairings to match APL requirements with Primary SV requirements, develops various COAs and coordinates COAs with HQ AFSPC/A3/A5 and other appropriate SMC organizations.

4.1.4.5. **(Added-AFSPC)** HQ AFSPC/A3 coordinates with HQ AFSPC/A5 and SMC/SD and provides mission and APL requirements designation memorandum for LV decision (EELV and non-EELV).

4.1.4.6. **(Added-AFSPC)** SMC/LR, at the EELV CCB, identifies EELV LVs to meet Primary and APL requirements.

4.1.4.7. **(Added-AFSPC)** AFPEO-SP identifies previously programmed non-EELV LVs to meet Primary mission and APL requirements.

Figure 4.1. (Added-AFSPC) APL Rideshare Coordination and Designation Flowchart



4.2. **Flight Requests.** Customers can request STP support via two methods: through the SERB or by agreement with STP for reimbursable services. Any Service, DoD Agency, or DoD Organization may propose experiments requesting STP support. **Note:** These organizations should establish internal procedures for reviewing and approving SERB proposals prior to sending them to the DoD SERB.

4.2.1. DoD SERB. The SERB process provides an equal opportunity for all DoD space R&D experiments to be considered for subsidized spaceflight. The review process ensures military relevance, reduces experiment duplication, and promotes cooperation among PIs.

4.2.1.1. Website. A website (**https://afkm.wpafb.af.mil**/) has been established that contains SERB data to include guidance, previous results/history, forms, sample briefs and instructions, ranking criteria, and associated links. Electronic copies of the *DD Form 1721 Space Test Program Flight Request*, *DD Form 1721*-1 *Space Test Program Flight Request (Executive Summary)*, and *DD Form 1721-2 Space Test Program After Action Report* can be downloaded from the site. Hereafter, this site will be referred to as the SERB Website.

4.2.1.2. SERB Meetings. The SERB meets yearly to review all requests for subsidized spaceflight, to create an experiment priority list, and to hear status reports from the STP Office on the progress of manifesting and flying SERB experiments. Approximately six months after this annual meeting, the SERB may meet for a mid-year review (outlined later). The SERB is organized and chaired by STP EA.

4.2.1.3. SERB Members. All members of the SERB are voting members.

4.2.1.3.1. The members (number of members per organization is in parenthesis) are the OSD (2), U.S. Strategic Command (USSTRATCOM (1)), Army (3), Air Force (3), Navy (3), the Defense Advanced Research Projects Agency (DARPA (1)), the Missile Defense Agency (MDA (1)), National Reconnaissance Office (NRO (1)), and NASA (1).

4.2.1.3.2. Recommendation for members to be added or removed will be proposed in a formal request to STP EA.

4.2.1.4. Funding to Support SERB Experiments.

4.2.1.4.1. The STP Office, within its annual budget, may fund for the integration, launch, and orbital support of SERB approved experiments. The STP Office will follow the guidelines set out within STP's Program Management Directive (PMD) and in the President's Budget Documentation to define restrictions or funding limitations. **Note:** The STP Office will not fund experiment development. This typically excludes costs of designing, fabricating, documenting and testing any experiment or set of experiments.

4.2.1.4.2. The STP Office will support all SERB approved experiments within its resource limitations. When feasible, the STP Office will identify and arrange for SERB experiment spaceflight opportunities based on cost-sharing agreements documented in the SFPs and Memorandum of Agreement (MOA). In the case of these arrangements, the participating Sponsors must pay the STP Office in a timely manner or risk having their experiment removed from the mission.

4.2.1.5. SERB Requests. To begin the process that may lead to STP spaceflight, the PI must present an experiment to the SERB along with a spaceflight request. This includes new experiments, experiments not currently approved for STP spaceflight, or an experiment currently manifested but requesting additional flights not previously approved. Specifically, any experiment seeking spaceflight that is not manifested on an STP launch must be briefed at each and every SERB until it is manifested. For an experiment to be considered for STP subsidized support, it must have:

4.2.1.5.1. A DoD Sponsor.

4.2.1.5.2. Potential military benefit either as a DoD or Federal Agency research, development, test, and evaluation activity.

4.2.1.5.3. A need for spaceflight to meet experiment objectives.

4.2.1.5.4. Funding to support experiment development, fabrication, and unique orbit operations (if necessary), and data analysis.

4.2.1.5.5. Submitted *DD Forms 1721 and 1721-1*, through the appropriate channels, to the appropriate STP EA Division. Electronic copies of the forms can be obtained at the SERB Website.

4.2.1.6. SERB Approval. At the end of the annual SERB meeting, the board develops a prioritized list based on criteria provided by STP EA (criteria can be found at the SERB Website). Military relevance will be the primary consideration in determining experiment priority. Military relevance can mean that an experiment is a direct test of a new military system or component, an investigation into the potential to enhance an existing military system or field a new system, or even an investigation of space phenomena that affects or might affect military activities. The SERB forwards its recommended prioritized list of experiments to STP EA for final approval. STP EA publishes the list and forwards it to the STP Office to serve as

guidance for spaceflight until a subsequent list is published. Once STP receives the SERB approved list, the Mission Design process begins.

4.2.1.7. Mid-Cycle SERB Review. Approximately six months after annual SERB meeting, a Mid-Cycle SERB review may be convened. The purpose of the review is to bring the SERB members up to date on the status and financial health of the experiments on the SERB list, and the progress the STP Office has made at manifesting and flying SERB experiments.

4.2.1.7.1. On a case-by-case basis, a PI may brief an experiment, at the Mid-Cycle SERB if he can demonstrate an immediate need for STP support prior to the next annual SERB. Acceptable examples of immediate need include: (a) flight opportunity would be missed if the experiment did not get on the list immediately or (b) there is a time-critical military need for the experiment.

4.2.1.7.2. The SERB may vote to add a new unranked experiment to the bottom of the SERB list. For this new experiment, the SERB will consider only the experiment's military relevance and quality, as a service ranking will not be available.

4.2.1.8. Changing an Experiment's Scope. Once an experiment has been presented to the DoD SERB and ranked, it must not significantly change its scope and objectives.

4.2.1.8.1. Sponsors or PIs may send minor updates directly to the STP Office with an information copy to STP EA.

4.2.1.8.2. If the Sponsors or PIs need to significantly change the scope or objectives of an experiment, or if the support requested from STP changes, then the Sponsor must update both *DD Forms 1721 and 1721-1*, send the forms through their departmental approval authority, and re-brief the experiment to the SERB for approval.

4.2.1.9. Experiment Retention Due to Flight Failure or Termination. If a SERB-ranked experiment was included on an approved SFP and that mission is terminated prior to flight or is unsuccessful in providing the experiment an opportunity to collect its data in flight, the experiment will be placed at the bottom of the current SERB priority list until the next DoD SERB meeting. The Sponsor must then brief the SERB to be considered for retention on the SERB list and future flight opportunities.

4.2.1.10. Additions to the SERB Approved List. Experiments may be added to the SERB approved list by STP EA resulting from the Mid-Cycle SERB or on rare occasions, out of cycle. To be added to the list, the experiment must have a Sponsor's written endorsement, approved *DD Forms 1721 and 1721-1*, and specific justification for adding the experiment prior to the next annual SERB meeting. Experiments will be added to the bottom of the approved list without a ranking.

4.2.2. Reimbursable Flight Requests (Non-SERB). The STP Office is authorized to support non-SERB government customers. STP will work with non-SERB customers as appropriate to identify collaborative opportunities to fly the reimbursable experiment with SERB experiments.

4.2.2.1. Request. Customers choosing not to compete for subsidized spaceflight through the SERB process can contact the STP Office directly with their spaceflight request. The STP Office will provide the customer with a cost Reimbursable Flight Request form (similar to the *DD Form 1721*) identifying the basic information required to evaluate flight opportunities. Upon completion and submittal of this information to the STP Office, the STP Office will generate a preliminary identification of flight options.

4.2.2.2. Funding. Once an initial identification of potential flight opportunities has been provided to the customer at no charge, the customer will be responsible for funding STP for all additional costs incurred to explore, manifest, and execute the non-SERB mission.

4.3. **Mission Design and Manifest.**

4.3.1. Ground Rules. An APL must not induce unreasonable cost, schedule, or performance risk to the primary payload or its mission. This requires coordination with and approval from the operational community, such as AFSPC/A3 for AFSPC primary missions.

4.3.1.1. The primary payload will determine mission profile, flight trajectory, and authority to determine deployment sequence for the primary payload in relation to the APLs.

4.3.1.2. A violation of the flight opportunity constraints as defined in the manifest package is grounds for de-manifesting.

4.3.2. General. Missions are selected based on flight opportunities, available funds, and payload priorities.

4.3.2.1. The STP Office develops missions around key experiments from the approved SERB list, reimbursable payloads, and guidance from STP EA. Missions will be formalized in a SFP Package. To establish a mission, additional data will be gathered and used to conduct studies. The studies will lead to selection of STP missions. A mission may be developed for a single-experiment payload or for multiple payloads based on what best serves DoD R&D goals. All factors are weighed in selecting the optimal mission. This process will ultimately lead to the selection of a flight configuration.

4.3.2.2. Funding Commitment. A funding commitment in the form of a letter or memorandum (not the Cost Reimbursable Agreement) is required of every PI and Sponsor (SERB and non-SERB) to verify the realism of the experiment. STP will not manifest SERB experiments without certification of support by the Sponsor. Furthermore, STP can de-manifest an experiment if it becomes evident the Sponsor does not have the funds needed to build and deliver the experiment (either as approved by the SERB or in the MOA between STP and a non-SERB customer). The STP EA will enforce reimbursement to STP by the Sponsor for any sunk/closure costs directly resulting from that Sponsor's inability to deliver a payload which negatively impacts the execution of the mission on which it was previously manifested.

4.3.3. Mission Designator. The STP Office will establish a unique mission designator that permanently identifies all STP-approved missions.

4.3.4. Mission Director (MD). MD appointment and responsibilities will be IAW established AFSPC procedures for AFSPC missions. For STP dedicated missions, AFPEO/SP will assign or delegate appointment of "STP MD" to STP Director or SDTW/CC.

4.3.5. Mission Studies. The STP Office gathers and compiles all flight request information from customers to serve as basis for planning and mission design. The STP Office will perform systems performance and cost analyses, and design studies to identify compatible experiments for a mission and to quickly identify suitable experiment complements for flight opportunities that may arise. The STP Office will work with the PIs to determine trade space in the experiment's requirements that might allow an experiment to be more readily manifested. Experiments will be grouped into compatible "bundles" or conceptual missions. In order to support these efforts, additional information beyond the *DD Forms 1721 and 1721-1* or Reimbursable Flight Request will be requested as required.

4.3.5.1. Unmanned Flights. PIs complete and return an Experiment Requirements Document (ERD). An example of an ERD can be found on the SERB website.

4.3.5.2. Manned Flights. PIs complete and return a Payload Requirements Document (PRD) for experiments flown on human spaceflight missions. This differs from a Payload Requirement Document (PLRD) which is included in the SFP Package for experiments flown on Expendable Launch Vehicles (ELV).

4.3.6. Flight Assignment. With the completion of the requirements documents, mission studies, and evaluations, the STP Office will oversee payload flight assignments (manifesting), including as required, designation of Primary SVs and APLs, LV selections and procurements, SC and support equipment procurements, payload integration, launch scheduling and services, flight operations preparation and orbital support, and data handling.

4.3.6.1. Launch scheduling and forecasting will be performed IAW established AFPSC procedures.

4.3.6.2. Because of fiscal constraints, flight assignment priorities will generally be given to the least expensive flight opportunity that will accomplish the majority of the experiment objectives.

4.3.6.3. STP will not be constrained to make flight assignments in strict adherence to the SERB rankings. Rather, all factors (funding, flight opportunities, priority, etc.) will be considered to design missions in the best interests of DoD. In some instances, this may result in a mission consisting of several lower ranked experiments rather than one or two high ranked experiments. Reimbursable mission activities will normally be scheduled on a non-interference flight assignment basis unless the STP Executive Agent determines that prioritizing the reimbursable payload above/along with the SERB-ranked payloads substantially benefits STP or DoD overall.

4.3.7. Auxiliary Payloads. STP is responsible for managing all unused capability for APLs on AFSPC missions. In this capacity, it will collect, screen, and propose manifest options to AFSPC leadership for approval of potential risk and operational impacts. In addition, STP may assist DoD APLs in securing rideshare opportunities on non-AFSPC missions. To support this, the STP Office will:

4.3.7.1. Evaluate all user requests (SERB and non-SERB) for APL launch opportunities. To aid in this effort, the Launch and Range Systems Wing will provide STP data of excess capability that may be available for secondary APLs on all EELV missions. The primary SV SPOs will provide STP with data of excess SC or SV capability available to host piggyback APLs.

4.3.7.2. Resolve conflicts for requested services, perform feasibility assessments, and propose a preliminary STP APL manifest.

4.3.7.3. Request technical and programmatic approval via the STP Director and the appropriate Primary SV and LV SPOs, as required.

4.3.7.4. Evaluate funding, identify the risks and impacts to the primary mission, and coordinate via the STP Director with the SMC Commander for APL mission risk approval.

4.3.7.5. Request via the STP Director final STP APL manifest approval from Headquarters AFSPC Director of Air, Space and Information Operations (AFSPC/A3) to launch an APL on a specified mission.

4.3.8. SFP Package. The SFP package provides guidance for conducting the mission and authority to expend STP resources. It will contain the SFP, MOA, and other requirements related documents per STP User's Guide.

4.3.8.1. SFP Package development. The STP Office prepares SFP Packages in accordance with its budget and ensures that mission plans, costs, schedule, and risks are defined and understood, and that STP resources are used in a cost-effective manner consistent with the interests of the DoD.

4.3.8.2. Multiple Flights and Re-flights. At STP's discretion, an SFP can encompass multiple flights. If experiment Sponsors would like to re-fly an experiment previously flown, the re-flight will be handled as a new experiment, and the Sponsors will be required to make a new spaceflight request.

4.3.8.3. Implementation. The STP Office will implement the SFP Package and may begin as soon as it is approved.

4.3.9. Reimbursement for Experiment Changes. The Sponsor must reimburse the STP Office for cost increases resulting from modified experiment requirements, damage to support hardware, or delays caused by the experiment. It is incumbent on the PI to inform the STP Office of changes so that an agreement between the STP Office and the Sponsor/PI can be negotiated. The STP Office shall not be liable for damage to, or loss of, experiment hardware due to accident or other events beyond its control.

4.3.9.1. Reimbursement for Experiment Withdrawal. The Sponsor must reimburse the STP Office for the cost of withdrawing from an approved SFP. The reimbursement requirements should be documented in the MOAs. The

reimbursement must cover the costs of mission termination or experiment de-manifesting as deemed appropriate by the STP Office. De-manifesting could mean replacing the withdrawn experiment with another experiment or mass simulator.

4.3.9.1.1. The withdrawing Sponsor must send a letter of intent to withdraw to the STP Executive Agent (cc: to the STP Office), signed at the appropriate staff level that can make funding decisions on behalf of the Service, Organization, or Agency component.

4.4. **SC Development, Test, and Integration.**

4.4.1. General. STP Office can use internal contracts or contracts of other agencies to acquire hardware (including advanced hardware for future spaceflight and payload support), SC and payload integration services, LVs, and mission data handling services, including ephemeris and SC health data. STP may utilize or support development of new lift capabilities or SC when this capability or support proves cost-effective.

4.4.2. Services. Management services provided by the STP Office to the PI will include:

4.4.2.1. Program management and systems engineering to ensure information is provided to all organizations involved in the program.

4.4.2.2. Risk management, including flight safety management for an individual mission or among multiple mission elements or SC.

4.4.2.3. Planning and management of the integration and test of the experiment with the SC or launch system.

4.4.2.4. Coordinating among Sponsors, PIs, SC, and LV managers.

4.4.2.5. Documentation that identifies a standard set of hardware, capabilities, and services for manned and unmanned missions.

4.4.3. Interface Control

4.4.3.1. Payload Integration Meetings. The STP Office organizes meetings to ensure that crucial activities such as design, fabrication, testing, spaceflight qualification, safety, and integration of the payload are proceeding on schedule. STP provides assistance by helping resolve problems, guiding the resolution of compromises among experiment requirements, and getting timely and detailed information from all of the participants who must cooperate to make a spaceflight successful. PIs are expected to support the STP contractor's design reviews. The STP Office will support the experiment contractor's design reviews as required.

4.4.3.2. Interface Design Freeze. While the STP Office aims to accommodate experiment changes that offer better performance, it must establish an interface design freeze date that all agencies contributing to the spaceflight must recognize. Agencies that cannot meet an interface design freeze date (according to the Interface Control Document (ICD)) must pay any additional costs caused by the delay or SC design changes.

4.5. **Launch.**

4.5.1. The STP Office manages SV-to-LV integration for launches on which STP has provided the LV. Responsibilities for integration on launches not owned by STP will be specified in the MOAs between the STP Office and those organizations carrying STP payloads. The PI will support the experiment at the launch site as required during pre- and post-flight operations. The STP Office normally provides:

4.5.2. Risk management, to include minimizing risk to the experiment by managing launch interfaces and launch-related risks, and providing flight safety management among mission elements (e.g.; multiple SC deployed from a single LV) and with resident space objects (RSOs).

4.5.3. Support services and equipment on the LV.

4.5.4. Pre-launch system checkout.

4.5.5. Payload test and storage facilities at the launch site.

4.5.6. Launch services.

4.6. **On-Orbit Support.**

4.6.1. The responsibility for orbital support is specified in the associated MOAs found in the SFP Package.

4.6.1.1. SERB Experiments. The STP Office may support on-orbit operations for SERB payloads for up to one year. Standard one-year operations includes normal on-orbit checkout and activation of the SC and experiment (up to 30 days after launch), followed by collection of a full year of seasonal data, if required. On a case-by-case basis, SERB experiments that require on-orbit operations beyond one year may have support extended by approval of the STP Director. Extended operations agreements should be documented in a new or amended MOA. The experiment Sponsor will provide status updates to the STP Office during extended operations. Should a third party request extended on-orbit operations of a particular experiment, this arrangement will be documented in a new MOA between the STP Office and the requesting organization. The requesting organization will be wholly responsible for the costs of the extended support. The STP Director will serve as the satellite control authority (SCA) for all complete SC STP sponsors for flight through the first year of operations consistent with STP funding. The STP Director may delegate all or part of SCA authority on a case-by-case basis as necessary to ensure safe operations.

4.6.1.2. Reimbursable Experiments. On-orbit support for reimbursable (non-SERB) customers will be tailored to the needs of the customer.

4.6.2. When the STP Office procures or arranges orbital support for SERB payloads, it also:

4.6.2.1. Provides risk management to include minimizing risk to the experiment through conservative flight planning and scheduling, maximizing on-orbit opportunities for the PI to perform experiment operations, and providing flight safety and orbital safety management among mission elements (e.g., multiple SC deployed from an LV) and with RSOs.

4.6.2.2. Trains flight crews and flight controllers for manned missions (e.g. Shuttle and ISS payloads) as required.

4.6.2.3. Provides experimental data, ephemeris, and appropriate SC data to the experiment PI or Sponsor for up to one year (or other approved period) of operation.

4.6.3. The STP Office may arrange for orbital operations support for SERB experiments and reimbursable STP missions via a variety of methods including utilization of SMC SDTW ground segment resources, commercial providers, or development of new capabilities. The method will be selected based upon its ability to achieve mission objectives and provide best value to the DoD.

4.6.4. The Sponsor or PI:

4.6.4.1. Supports STP and the operations team in initialization, checkout, flight controller and flight crew training as applicable, routine operations, and anomaly resolution involving their experiment.

4.6.4.2. Reduces, analyzes, interprets, and disseminates data.

4.6.4.3. Provides funds for orbital operations beyond 1 year if extended operations are desired. In accordance with paragraph **3.7.1.1**

4.7. **Post-Launch and Post-Flight.**

4.7.1. Post Launch Assessment. The STP Office, Sponsors, and PIs meet after each launch to exchange data and experience, offer recommendations, and document lessons learned.

4.7.2. .After Action Reports.

4.7.2.1. SERB payloads. After a spaceflight, Sponsors and PIs must document results by sending *DD Form 17212* (or a similar results-orientated report) to the STP Office within six months of the completion of the one-year STP mission. For shorter missions such as one-week Shuttle missions, the report is due six months after receiving mission data. As a courtesy, PIs will also provide copies of all papers and reports associated with the experiment to STP for retention in the STP Library. The *1721-2* can be obtained on the SERB Website.

4.7.2.2. Reimbursable payloads. Not required, but are encouraged.

4.7.3. Data Exchange Meetings. Data Exchange Meetings are held periodically to update STP, SAF, and the DoD community on the results of SERB experiments. When convenient, STP Data Exchange meetings will be held in conjunction with a major professional aerospace conference. This allows STP to disseminate information about their programs, and PIs can publish their work in a recognized professional proceeding.

5. PROGRAMMATIC

5.1. **Management Reports.**

5.1.1. The STP Office must prepare the following reports to inform STP EA of STP activities:

5.1.1.1. Program Status Reports. The STP Office prepares STP status reports as required by the Program Management Directive (PMD)

5.1.1.2. Launch Activity. The STP office notifies STP EA immediately of any change in SERB STP mission launch dates and provides launch reports to STP EA, as the PMD requires.

5.1.1.3. Funding Status. The STP Office provides reports to STP EA on funding status for all SERB STP missions as changes occur per the PMD.

5.2. **History File.** The STP Office is directed to maintain an STP Library that includes copies of all approved *DD Forms 1721, 17211 and 1721-2*, list of experiments flown, launch history, costs, and pictures. The STP Office will maintain any other information needed to properly provide a historical file for the STP program.

5.3. **Security.** STP is an unclassified program and does not publish an overall security guide. However, STP works with appropriate classified payload offices and their respective security guides when dealing with classified data or payloads.

5.4. **Safety.** Sponsors and PIs must consult applicable DoD, AF, AFSPC, and NASA safety regulations early in the experiment design phase with help from the STP Office. Sponsors and PIs must provide the technical documentation required to confirm that the experiment meets safety criteria.

5.5. **Radio Frequency License.**

5.5.1. For SERB missions which STP acquires the SC, the STP Office arranges for radio frequency licensing for the entire system, including the SC, experiments, and ground sites. The PIs support this effort by providing necessary information in a timely manner.

5.5.2. When the SERB experiment consists of a complete SC requesting only launch or operations support from STP, the experiment Sponsor must arrange for radio frequency licensing. This is still true even if STP arranges with the Sponsor to manifest another experiment onboard the SC as a piggyback.

5.5.3. When the SERB experiment is a piggyback on a non-STP host SV then the organization responsible for the host SV arranges for the frequency license for the SV. If the piggyback SERB experiment uses a communications link separate from the SV then the PI must arrange for the frequency license for their experiment.

5.5.4. For non-SERB payloads, the Sponsor/customer is responsible for all radio frequency allocation coordination and approval.

5.6. **Information Release.** SMC, Office of Public Affairs (SMC/PA) provides the policies and procedures for releasing public information about STP launches. PIs, Sponsors, support program offices, and LV offices must comply with applicable MOAs for release of all information associated with an STP program. MOAs will comply with all appropriate operational security and freedom of information act requirements.

6. PRESCRIBED AND ADOPTED FORMS

6.1. **Changes.** Refer recommended changes and questions about this publication to SAF/AQSL using AF IMT 847, Recommendation for Change of Publication**.**

Philip Breedlove, Lt Gen, USAF
DCS, Operations, Plans, and Requirements
Thomas H. Killon

Deputy Assistant Secretary of the Army for
Research and Technology
Nevin P. Carr Jr.
Rear Admiral, U.S. Navy, Director Test and
Evaluation and Technology Requirements

(AFSPC)

STEPHEN T. DENKER, Major General, USAF
Director of Air, Space
and Cyberspace Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

(Added-AFSPC) AFI 10-1202, *Space Test Program (STP) Management*, 15 November 2010

AFPD 10-12, *Space*, 1 Feb 1996

AFI 33-360, *Publications and Forms Management*, 18 May 2006

(Added-AFSPC) AFMAN 33-363, Management of Records, 1 March 2008

(Added-AFSPC) AFSPCI 10-1208, Spacelift Operations, 1 October 2008

(Added-AFSPC) AFSPCI 10-1213, Launch Scheduling and Forecasting Process, 10 September 2010

(Added-AFSPC) AFSPCI 13-1213, Launch Scheduling and Forecasting Process, 18 September 2013

DoDD 5101.2, *DoD Executive Agent for Space*, 3 Jun 2003

DepSecDef Memorandum, *Space Test Program Management and Funding Policy*, 8 Jul 2002.

National Security Space Acquisition Policy 03-01, *Guidance for DoD Space System Acquisition Process*, 27 Dec 2004

SMC SDTW, *Space Test Program (STP) User's Guide*, Nov 2004

Department of Defense Space Experiments Review Board Website,

https://afkm.wpafb.af.mil/

Abbreviations and Acronyms

AFI— Air Force Instruction

AFPD— Air Force Policy Directive

AFSPC— Air Force Space Command

APL— Auxiliary Payload

AR— Army Regulation

(Added-AFSPC) CCB—Configuration Control Board

(Added-AFSPC) COA—Course of Action

DARPA— Defense Advanced Research Projects Agency

DepSecDef— Deputy Secretary of Defense

DoD— Department of Defense

EELV— Evolved Expendable Launch Vehicle

ELV— Expendable Launch Vehicle

ERD— Experiment Requirements Document

FOA— Flight Opportunity Agreement

ICD— Interface Control Document

ISS— International Space Station

LV— Launch Vehicle

MDA— Missile Defense Agency

MOA— Memorandum of Agreement

NASA— National Aeronautics and Space Administration

NRO— National Reconnaissance Office

OPNAVINST— Operational Naval Instruction

OSD— Office of the Secretary of Defense

PI— Principal Investigator

PLRD— Payload Requirements Document (for ELV flights)

PMD— Program Management Directive

PMRWP— Preliminary Mission Risk White Paper

POCWP— Preliminary Operations Concept White Paper

PRD— Payload Requirements Document (for human spaceflight)

R&D— Research and Development

(Added-AFSPC) RSLP—Rocket Systems Launch Program

RSO— Resident Space Object

(Added-AFSPC) S&T—Science and Technology

SAF/US— Under Secretary of the Air Force

SAF/AQS— Office of the Assistant Secretary (Acquisition), Director of Space Acquisition

SC— Spacecraft

SERB— Space Experiments Review Board (in this instruction refers to DoD SERB)

SFP— Space Flight Plan

SMC— Space and Missile Systems Center

SMC SDTW— Space and Missile Systems Center, Space Development and Test Wing

SPO— System Program Office

STP— Space Test Program

STP EA— Space Test Program Executive Agent

SV— Space Vehicle

TRD— Technical Requirements Document

USSTRATCOM— United States Strategic Command

Terms

Auxiliary Payload— A payload utilizing mission capability not required by the primary mission. An APL may be of two types: secondary or piggyback.

Experiment— A scientific, technological, or developmental investigation or test. An experiment may include several instrument packages from the same or different sponsoring agencies.

Launch Vehicle— An aerospace vehicle that places SV into space. A LV can be expendable (e.g.; Pegasus) or reusable (e.g.; Space Shuttle).

Memorandum of Agreement (MOA)— The MOA will identify responsibilities and funding obligations of each organization for the planned mission and for termination of the agreement. It will be based on a standard STP format. The STP Office will prepare and sign (STP Program Director, or designee) an MOA with each of the experiment sponsors prior to the submittal of a SFP package. In addition, MOAs may be written between STP and a government SV, LV, or operations support provider.

Payload— A load that a launch vehicle places into space. This term can be used to describe all or part of the entire collection of experiments, SCs, and SVs.

Piggyback APL— An instrument or operation that makes use of excess capability of a host SV or LV for power, data downlink, pointing, etc. It is not deployed as a free-flier.

Piggyback payload— Experimental SV or experiment/instrument that accomplishes its mission while remaining attached to a host SV or LV.

Primary payload— A SV that defines the primary objective of a launch and usually drives the launch requirements.

Primary Space Vehicle— The SV that supports the primary objective of a launch and usually drives the launch requirements.

Principal Investigator— Serve as the primary point of contact with the STP Office concerning an experiment's status and funding. (**Note:** An experiment may have more than one Sponsor; however each experiment will have only one PI.).

Research— All effort directed toward increased knowledge of natural phenomena and environment and toward the solution of problems in all fields of science. This includes basic and applied research

Secondary APL— A complete SV that makes use of excess LV lift capability. It is deployed as a free-flying SV typically after the Primary SV is deployed.

Secondary payload— Experimental SV that shares a LV with a Primary payload and separates from the LV and/or primary payload.

Spacecraft— A satellite bus with subsystems that is capable of carrying one or more experiments.

Space Flight Plan— A 1-2 page document that gives a brief overview of the mission, and authorizes the expenditure of STP dedicated resources. It contains at least the following: LV and

date, experiment complement, orbit, SC and support equipment, and STP cost per fiscal year for SC development, payload integration, the LV, and launch and orbital support.

Space Flight Plan Package— A collection of documents deemed necessary for the manifest of an STP mission. STP User's Guide provides specific documents to be included in the SFP Package.

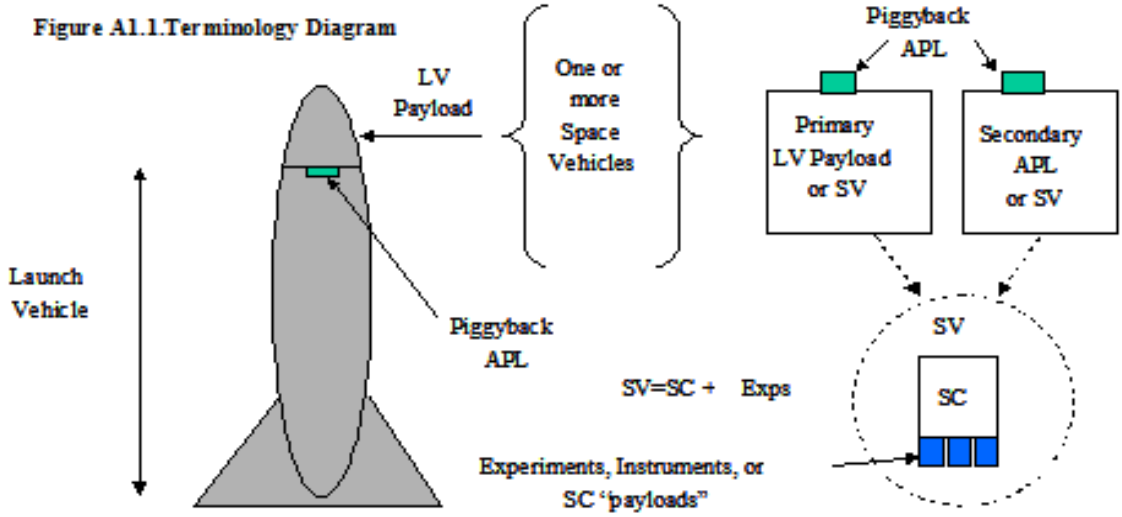
Space Vehicle— A vehicle consisting of a SC with integrated experiments including all instruments and mission elements.

Sponsor— The agency responsible for oversight of an experiment to include approving it for SERB presentation or, in the case of reimbursable, STP assistance.

STP— considers and employs a variety of spaceflight modes, including opportunities on the Space Shuttle, ISS, and other military, civil, and commercial missions. For those experiments that cannot be accommodated by auxiliary opportunities, STP may provide a dedicated SC and launch opportunity on an expendable launch vehicle (ELV) based on availability and funding.

Technology— The application of science or scientific method or material to achieve an objective. These are tested through experiments.

Figure A1.1.Terminology Diagram



Active Army: D
USAR: None
ARNG: None
Navy:
SNDL Chief of Naval Operations (N091, N63)
Chief of Naval Research (OCNR 4000)
Naval Research Laboratory (NRL 1000, 7000, 8000)
Commander, Naval Space Command (Code VN00T)
Stocked:
(SNDL FKM22)
NAVPUBFORMCEN
5801 Tabor Ave
Philadelphia PA 19120-5099 (100)