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RG-1 – SPACECREW OPERATIONS

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Chapter 1

GENERAL INFORMATION

1.1. General. This manual provides broad guidance for operation of the RG-1 WS for United States Space Force (USSF) Orbital Warfare (OW) crewmembers in accordance with AFI 13-602V3. The intent of this volume is to establish guidance that applies to the day-to-day management of space operations, to include crew force readiness and cannot address every situation. Mission success depends upon a unit's readiness and ability to perform U.S. SPACE COMMAND (USSPACECOM) requested capabilities.

1.2. Scope. This manual was developed to help define operation of the RG-1 WS. It is applicable to all spacecrew elements performing operations on the RG-1 WS in support of the USSF or USSPACECOM. Applicability includes USSF and United States Air Force (USAF) uniformed members, Department of War (DoW) civilian personnel, civilian contractors (as applicable per contract documentation), Qualification Training (QT) instructors, allied mission partners (as applicable per international agreement), and other selected personnel performing or instructing Combat Mission Ready (CMR) space operations duties on the RG-1 WS. An RG-1 spacecrew consists of officers and enlisted service members who conduct OW operations. A detailed depiction of RG-1 WS crew positions is identified in this manual.

1.3. Waivers. Units requiring a waiver will submit a new DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*, and route it to the appropriate level. **(T-2)**

1.3.1. CFC/CC delegated T-2 waiver authority to CFC/CD in the CFC/CC *Delegations and Withholding of Authorities Memo* (18 Nov 25).

1.3.2. The following organizations will provide coordination in Section II of the DAF Form 679.

1.3.2.1. Force Generation Squadron Commander (FGS/CC)

1.3.2.2. Mission Delta Commander (MD/CC)

1.3.2.3. CFC/S35Z

1.3.2.4. CFC/S73

1.3.3. Place a copy of approved waivers in the individual's training folder in the current records management system, Patriot Excalibur (PEX), or its successor programs. PEX can be accessed at **https://legacy.omni.af.mil/ePex/Login**

1.3.4. For more detailed guidance, reference DAF Manual (DAFMAN) 90-161, *Publishing Processes and Procedures,* or contact CFC/S735T and S735V for questions on the waiver coordination process.

1.4. Certifying Official. The certifying official is responsible for ensuring a crew member has demonstrated sufficient proficiency to perform all tasks assigned to the newly appointed position (e.g., crew position, instructor, evaluator).

1.4.1. The certifying official is the final signatory of certifications in PEX (e.g., evaluation AF Form 8, *Certificate of Aircrew Qualification*).

1.4.2. Certifying official responsibilities reside with the FGS/CC. FGS/CC certifying authority can only be delegated to the Senior Enlisted Leader, Deputy Commander, or incoming Combat Squadron Commander. Any designee must back-brief the FGS/CC as soon as possible.

1.5. Governing Guidance. Commanders at every level are responsible for ensuring the personnel under their command are qualified and certified to perform the RG-1 mission in a contested, degraded, and operationally limited (CDO) environment. The FGS/CC will ensure compliance with the operational aspects of this instruction and the following instructions specific to OW: **(T-2)**

1.5.1. CCDR instructions and associated USSF Components directives.

1.5.1.1. Space Forces Space (S4S) standards direct staff and all Tactical Control units on normal, recurring tasks within mission/subject area annexes.

1.5.1.2. S4S standards are effective upon S4S Commander approval until superseded or rescinded. The signature on the S4S standards cover sheet applies to the S4S standards and all annexes.

1.5.2. Operational tasking orders (e.g. Joint Space Tasking Order (JSTO).

1.5.2.1. Operational tasking orders will take precedence over local Special Instructions (SPINS).

1.5.2.2. In the case of a guidance conflict, operational SPINS will take priority over the component standards. **(T-2)**

1.5.3. Orders from Commander, USSPACECOM that direct presentation of forces and execution of operations in support of CCDR authority.

1.5.3.1. Planning Orders (PLANORD). PLANORDs are planning directives that provide essential planning guidance and direct the development, adaptation, or refinement of a plan or order.

1.5.3.2. Deployment Orders (DEPORD). DEPORDs are directives from the Secretary of Defense, issued by the Chairman of the Joint Chiefs of Staff, that authorizes the transfer of forces between Combatant Commanders (CCDRs), Services, and DoD agencies. DEPORDs specify the authorities the gaining CCDR will exercise over the specific forces to be transferred.

1.5.3.3. Operations Orders (OPORD). OPORDs are directives issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation.

1.5.3.4. Execution Orders (EXORD). EXORDs are directives to implement an approved Concept of Operations. Only the President and Secretary of Defense have the authority to approve and direct the initiation of military operations. The Chairman of the Joint Chiefs of Staff, by the authority of and at the direction of the President or Secretary of Defense, may subsequently issue an EXORD to initiate military operations. Supported and supporting commanders and subordinate Joint Force Components use an EXORD to implement the approved Concept of Operations.

Chapter 2

ROLES AND RESPONSIBILITES

2.1. Roles and Responsibilities. Commanders at every level are responsible for ensuring the readiness of the organizations under their command to safely and effectively perform the RG-1 mission in a CDO environment.

2.2. Mission Delta 9 Commander (MD 9/CC). The MD 9/CC roles and responsibilities are IAW AFI13-602V3 and include:

2.2.1. Develop and implement a debrief process and ensure incorporation of Weapons and Tactics Programs into unit training and evaluation programs.

2.2.2. Review all new or modified OW systems, publications, procedures, and processes for impacts on operations.

2.2.2.1. Ensure documentation is accurate and approved prior to implementation.

2.2.2.2. Ensure applicable training and evaluation products and materials are accurate and approved prior to implementation.

2.2.3. Submit requested changes to the Mission Delta 9 Chief of Standardization and Evaluation (Stan/Eval) for review and disposition in the recurring Standardization and Evaluation Board (SEB).

2.2.4. Define and refine robust intelligence requirements (i.e., Priority Intelligence Requirements and Essential Elements of Information) in order to meet operational and training needs in the face of a CDO environment for space operations. Submit requests for information to 97 Tactical Intelligence Squadron (TIS) to ensure crews have current intelligence for operations.

2.2.5. Approve minimum crew reporting standards to meet Space Force Generation (SPAFORGEN) requirements.

2.2.5.1. Coordinate between CFC/S73 and other MD/CCs to establish reporting requirements for committing operators as “Employed-in-Place” (EiP) or available to CCDRs during the Commit phase of SPAFORGEN.

2.2.5.2. Establish minimum Mission Planning Element (MPE) and Mission Support Element (MSE) reporting standards as part of the SPAFORGEN cycle.

2.3. Force Generation Squadron Commanders (FGS/CC). FGS/CCs will:

2.3.1. Generate combat ready space warfighters to ensure successful execution of OW missions to assure freedom of maneuver in and access to space for all friendly forces operating within their assigned battlespace to generate CMR space power.

2.3.2. Executes all duties IAW AFI 1-2, *Commander’s Responsibilities*.

2.3.3. Serves as certifying official for all CMR positions.

2.3.4. Serves as the approving authority for all CMR personnel and those who transition to or from non-current or decertified status.

2.3.5. Review all new or modified systems, publications, procedures, and processes for impacts on operations.

2.3.6. Ensure operations-related documentation is accurate and approved prior to implementation.

2.3.7. Maintain a force of line instructors and evaluators to conduct Training and Evaluations. Where applicable, line instructors and evaluators will be members of the force element presented through Space Force Generation (SPAFORGEN).

2.3.8. Ensure applicable training and evaluation products and materials are accurate and approved prior to implementation.

2.3.9. FGS/CC should develop local training events to ensure spacecrew members are qualified to perform duty following successful completion of QT, Recurring Training (RT), or Upgrade Training (UT).

2.3.10. Define and refine robust intelligence requirements (i.e., Priority Intelligence Requirements and Essential Elements of Information) in order to meet operational and training needs in the face of a CDO environment for space operations. Submit requests for information to Intelligence, Surveillance, and Reconnaissance (ISR) detachment to ensure crews have current intelligence for operations.

2.3.11. Present required number of operators and crews based on unique mission requirements and approved waivers IAW AFI 10-401, *Operations Planning and Execution*.

2.3.12. Establish unit-specific mission planning guidance addressing mission essential tasks (MET) and ensure an appropriate level of mission planning, compliant with MD 9 requirements.

2.4. Combat Squadron 9-1 (CS 9-1) Leadership. The CS 9-1 Leadership consists of a Combat Squadron Commander (CS/CC) and Combat Squadron Enlisted Leader (CS/EL), where the former is a Space Operations Officer and the latter is a Space Operations NCO.

2.4.1. CS 9-1/CC. The CS 9-1/CC is responsible for CS 9-1 Operations as 1 SOPS members are presented to CS 9-1 and S4S. They are responsible for managing the eight presented crews in the SPAFORGEN commit cycle in their operation of the RG-1 WS to accomplish HHQ tasks. The CS 9-1/CC will:

2.4.1.1. Ensure CS 9-1 crews are prepared to assume shift.

2.4.1.2. Maintain communication with the National Space Defense Center (NSDC).

2.4.2. CS 9-1/EL. The CS 9-1/EL is a superintendent assistant to the CS/CC in leading eight crews for the operation of the RG-1 WS. The CS/EL will:

2.4.2.1. Ensure CS 9-1 crews are prepared to assume shift.

2.4.2.2. Maintain the crew schedule.

2.4.2.3. Update the CS/CC on any coming or ongoing maintenance actions.

2.5. CS 9-1 Spacecrew. The CS 9-1 Spacecrew consists of CS 9-1 members in their commit cycle of SPAFORGEN operating the RG-1 WS. Spacecrew positions and associated roles and responsibilities are listed as the following:

2.5.1. Crew Commander (Crew/CC). The on-duty Crew/CC regardless of rank, is responsible for the operation of the RG-1 WS. The Crew/CC will:

2.5.1.1. Ensure operations are planned, briefed, executed, and debriefed IAW the following: Joint Publication (JP) 5-0, *Joint Planning*; Space Doctrine Publication (SDP) 5-0, *Planning*.

2.5.1.2. Ensure crew members are trained and certified IAW applicable Space Force Instructions (SPFI) prior to performing spacecrew duties.

2.5.1.3. Perform Space Operations Center management, mission safety, mission execution/verification, mission reporting, anomaly resolution, status reporting, and mission protection actions.

2.5.1.4. Perform spacecrew actions consisting of positional changeover briefings, shift logging (see **paragraph 5.6**), maintenance actions, debrief construction, sanitization actions, and use of operational tools to accomplish the RG-1 mission.

2.5.1.5. Be prepared to support execution of a Space Operations Center Transition.

2.5.2. Crew Chief (CCH). The on-duty CCH is an enlisted member responsible for disseminating orders from the Crew/CC to the individual crew members and satellite plan development for the RG-1 WS. The CCH will:

2.5.2.1. Perform spacecrew actions consisting of positional changeover briefings, shift logging (see **paragraph 5.6**), maintenance actions, debrief construction, sanitization actions, and use of operational tools to accomplish the RG-1 mission.

2.5.2.2. Perform mission activity procedures in support of RG-1 mission execution, to include Mission Planning, Contact Planning, Maintenance Planning, mission safety actions, anomaly resolution actions, Space Vehicle Telemetry playback, system activity schedule releases, and absolute time schedule data review.

2.5.2.3. Be prepared to support execution of a Space Operations Center Transition.

2.5.3. Satellite Vehicle Operator (SVO). The on-duty SVOs consist of two to three enlisted members responsible for executing satellite command and control for the RG-1 WS. **(T-2)** The SVO will:

2.5.3.1. Perform spacecrew actions consisting of positional changeover briefings, shift logging (see **paragraph 5.6**), maintenance actions, debrief construction, sanitization actions, and use of operational tools to accomplish the RG-1 mission.

2.5.3.2. Perform RG-1 normal activity procedures, consisting of MAESTRO operations, telemetry monitoring, relative time sequence monitoring, automated time sequence modification, mission data downlink, telemetry downlink, script manipulation, space vehicle telemetry playback, and space situational awareness task execution.

2.5.3.3. Be prepared to support execution of a Space Operations Center Transition.

2.5.3.4. Perform scheduled maintenance procedures, communication procedures, and anomaly procedures for the RG-1 WS.

2.5.4. Intelligence Operator. The on-duty Intelligence Operator consists of an enlisted 5IO/5I3 SFSC service member who manages intelligence activities, produces reports, and interprets data to include threat assessments in order to (IOT) inform the spacecrew.

2.5.4.1. Monitors intelligence activities, reports, and data posing risk of condition changes in the USSPACECOM Area of Responsibility (AOR).

2.5.4.2. Report intelligence community-sourced details and activity on suspected threats to the Crew Commander and Mission Planning Cell during spaccrew changeover and when detected changes occur that impact the spacecrew's comprehensive understanding of the space situation.

2.5.4.3. Fulfill requests for information from the spacecrew and Mission Planning Cell using intelligence community-sourced data with associated levels of confidence and likelihood.

2.5.5. Cyberspace Warfare (CW) Operator. The on-duty CW Operator consists of an enlisted 5C SFSC service member who provides current, dynamic, and tactically relevant cyber-related intelligence to the spacecrew. **(T-3)** The CW Operator will:

2.5.5.1. Provide Cyber Warning Intelligence and Attack Sensing and Warning for the Crew Commander during crew changeover briefings or when cyberspace warnings emerge.

2.5.5.2. Monitor RG-1 ground system software for emergent threats impacting mission execution.

2.5.5.3. Report suspected and current detected impacts to the RG-1 ground system infrastructure to the Crew Commander upon detection of threat and continue to provide ongoing reports for verification of cyberspace threats and their expected severity of impact.

2.6. Mission Planning Element (MPE). The MPE consists of CS 9-1 members that are certified in the Mission Planner position. The MPE members are tasked when committed in SPAFORGEN cycles to construct Mission Planning Cells (MPC) responsible for developing tactical mission plans for CS 9-1 to utilize the RG-1 WS to accomplish HHQ tasks.

2.6.1. Element Leader, MPE. Leads mission planning for all CS 9-1 Rendezvous Proximity Operations (RPO) and Space Domain Awareness (SDA) missions. Develops Mission Planner skills, reviews Spaceboss Briefs and Debriefs, and communicates MPE needs to the 1 SOPS CS/CC and NSDC. Submits quarterly/annual/individual awards for MPE members, attends squadron admin/ops meetings, and ensures operational readiness of all MPE members.

2.6.2. Enlisted Leader, MPE. Ensures element readiness and provides Non-Commissioned Officer (NCO) developmental leadership to Company Grade Officers (CGOs). Maintains accountability, readiness, and account tracking. Assists the MPE Element Leader with squadron admin/ops meetings and drafting quarterly/annual/individual awards.

2.6.3. Campaign Planner. Oversees the long-term campaign of each RG-1 vehicle. Generates 3-week outlooks for NSDC, prepares weekly Near-Term slides, and advocates for MPE needs to the NSDC. The Campaign Planner builds the MPE Team Schedule to assign Mission Planners to tasked missions and communicates element capabilities/limitations to inform NSDC tasking decisions.

2.6.4. Mission Planner. Plans and executes RPO missions to achieve HHQ requirements. Interfaces with tasking/exploitation agencies to integrate guidance and develop tactics. Implements satellite maneuvers and ensures RG-1 flight safety.

2.6.5. Civilian Support Mission Planner. Included as a "Mission Planner" on the MPE A-Side. Provides continuity to entire element for the planning and execution of RPO missions. Actively supports tasked missions and fulfills all responsibilities included in "Mission Planner."

2.7. Tactics and Training Element (TTE). The TTE consists of three sections, listed as Qualification Training (QT), Readiness, and Tactics. These three sections of the element are led by a two-member element leadership team.

2.7.1. TTE Leadership.

2.7.1.1. TTE Director. A Space Operations Officer that is a graduate of the United States Air Force Weapons School (USAFWS).

2.7.1.1.1. Leads, advises, and supports members in Qualification Training, Readiness, Tactics, Testing, Exercises, Integration, and Debrief. Supports the MPE in mission planning and debrief as a Weapons Officer and Tactics Mentor.

2.7.1.1.2. Ensures the TTE trains METs to accomplish combat effects or close kill chains at the application level of learning or to the highest extent possible based on simulator limitations.

2.7.1.1.3. Ensures the TTE trains RG-1 WS TTPs to deny threats and operated through adversary-imposed degradations to RG-1 systems at the application level of learning or to the highest extent possible based on simulator limitations.

2.7.1.1.4. Identifies and prepares candidates for the Space Superiority and Space Warfighters Weapons Instructor Courses (WIC).

2.7.1.1.5. Ensures the development of a plan for all QT, CT, and AT tasks and SPAFORGEN Training Topics IAW ISD.

2.7.1.1.6. Conducts Element administrative duties (Officer Performance Reports, Enlisted Performance Reports, Award nominations, Decorations, Supervisor duties, etc.).

2.7.1.2. TTE Chief. The TTE Chief will be an NCO Space Systems Operator that is a graduate of the USAFWS unless no graduate is assigned.

2.7.1.2.1. Assists the TTE Director in leading, advising, and supporting Qualification Training, Readiness, Tactics, Testing, Exercises, Integration, and Debrief. Supports the MPE in mission planning and debrief as a Chief Tactics Mentor.

2.7.1.2.2. Identifies and prepares candidates for the Space Superiority and Space Warfighters Weapons Instructor Courses (WIC).

2.7.1.2.3. Conducts Element Administrative duties (Enlisted Performance Reports, Award nominations, Decorations, Supervisor duties, etc.).

2.7.2. Qualification Training (QT) Section.

2.7.2.1. Section Lead, QT.

2.7.2.1.1. Ensures QT tasks are linked to METs, Operations Plans (OPLANs,) USSPACECOM directives, and all other mission requirements.

2.7.2.1.2. Coordinates with certified evaluators to schedule qualification evaluations.

2.7.2.1.3. Recommends Line Instructor candidates to the Squadron Commander.

2.7.2.1.4. Facilitates system user account creations and documentation for all QT enrolled students.

2.7.2.1.5. Provides oversight to Line Instructor personnel and training resource scheduling preparation actions for each QT class.

2.7.2.1.6. Ensures instructor cadre meets requirements and executes training as required to maintain their instructor qualification.

2.7.2.1.7. Ensure QT trains CS 9-1 members the ability to recognize and react when the Weapons System is under threat, for all threats at the application level of learning or to the highest extent possible based on simulator limitations.

2.7.2.1.8. Preserves the function of Senior Instructors, Senior Evaluators, Curriculum development, and Procedures and Error Tracking.

2.7.2.1.9. Organizes and facilitates Training Review Boards IAW Delta 9 policy.

2.7.2.1.10. Conducts Section Administrative Duties.

2.7.2.2. Crew Commander Course Manager/Instructor.

2.7.2.2.1. Develops and utilizes an Initial Plan of Instruction (IPOI) for Crew/CC trainees. Creates, maintains, and annually reviews Lesson Plans IAW the IPOI. Crew/CC Instructors will instruct the Crew/CC course using said Lesson Plans IAW the IPOI. Ensure students are trained in all MTL tasks for the Crew/CC position. Records student course progress and recommends them for evaluation. Ensures training to the highest level possible when using simulators.

2.7.2.3. Mission Planner Course Manager.

2.7.2.3.1. Develops and utilizes an Initial Plan of Instruction (IPOI) for Mission Planner trainees. Creates, maintains, and annually reviews Lesson Plans IAW the IPOI. Ensures students are trained on all MTL tasks for the Mission Planner role. Ensures training to the highest level possible when using simulators.

2.7.2.4. Mission Planner Course Instructor. Instructs the Mission Planner course using Lesson Plans IAW the IPOI. Trains students in all tasks in the MTL for the Mission Planner role. Records course progress for students and recommends them for evaluation.

2.7.2.5. CCH Course Manager. Develops and utilizes an Initial Plan of Instruction (IPOI) for CCH trainees. Creates, maintains, and annually reviews Lesson Plans IAW the IPOI. Ensures students are trained in all MTL tasks for the CCH position. Ensures training to the highest level possible when using simulators.

2.7.2.6. CCH Course Instructor. Instructs the CCH course using Lesson Plans IAW the IPOI. Trains students on all tasks in the MTL for the CCH position. Records course progress for students and recommends them for evaluation.

2.7.2.7. SVO Course Manager. Develops and utilizes an Initial Plan of Instruction (IPOI) for SVO trainees. Creates, maintains, and annually reviews Lesson Plans IAW the IPOI. Ensure students are trained in all MTL tasks for the SVO position. Ensures training to the highest level possible when using simulators.

2.7.2.8. SVO Course Instructor. Instructs the SVO course using Lesson Plans IAW the IPOI. Trains students on all tasks in the MTL for the SVO position. Records course progress for students and recommends them for evaluation.

2.7.2.9. Student Management. An additional duty assigned to a member within the TTE failing under the QT Section.

2.7.2.9.1. Coordinates sponsors for welcoming new members and facilitating in-processing procedures for arriving to 1 SOPS.

2.7.2.9.2. Initiates security paperwork processes IAW QT Section Leader and arranges security in-processing for new accessions.

2.7.2.9.3. Arranges acquisition of dorm residences for new students and supervises students until they enter a course for a CS 9-1 spacecrew position.

2.7.2.9.4. Seeks and manages opportunities for new accessions to support career development, such as but not limited to volunteer events, college education, visits and tours, and intelligence briefings when possible.

2.7.3. **Readiness Section.**

2.7.3.1. Section Lead, Readiness. A Space Operations Officer that is designated as the incoming CS/CC. Selection as the Readiness Section Officer-in-Charge (OIC) follows a process of interview, screening, and nomination by the FGS/CC and FGS/CD. The Readiness Section OIC will:

2.7.3.1.1. Prepare and Ready forces for presentation to CS 9-1 within SPAFORGEN cycles.

2.7.3.1.2. Draft requirements for Advance Training (AT) within the RSP Tasking Memorandum (RTM) for their mission area that are informed by threat assessments, Combatant Command Unit Preparation Messages (UPM), exercises derived from the Service Exercise Plan, and IAW SPFI 13-602, Volume 1, *Ready Spacecrew Program, Training*.

2.7.3.1.3. Schedule instructors and training resources prior to each AT class.

2.7.3.1.4. Be responsible for reporting Squadron Readiness in the Defense Readiness Reporting System - Strategic (DRRS-S) on behalf of the FGS/CC.

2.7.3.1.5. Ensure positions within the Readiness Section are accomplishing their tasks for generating readiness for CS 9-1.

2.7.3.1.6. Perform administrative duties for the Readiness Section (e.g. Officer Performance Reports, Enlisted Performance Reports, Award nominations, Decorations, Supervisor duties, etc.).

2.7.3.2. Advance Training (AT) Course Manager

2.7.3.2.1. Leads the AT program, preparing CS 9-1 crew members with the knowledge and experience to execute RG-1 WS procedures and evolving tactics to overcome adversary threat systems in a CDO environment.

2.7.3.2.2. Conducts review of Combat Mission Ready (CMR) qualified personnel IAW training currency requirements and notifies supervisors of required training.

2.7.3.2.3. Performs Crew Force Management functions to include Crew Information File (CIF) management to ensure qualified and current operators are recommended for spaceccrew operations.

2.7.3.3. AT Course Instructor

2.7.3.3.1. Prepares crew members with the knowledge and experience to execute weapon system procedures and evolving tactics to overcome adversary threat systems in a CDO environment.

2.7.3.3.2. Instructs AT for crews in the prepare and ready phases, integrating across Combat Forces Command by teaching advanced concepts and facilitating a mission planning scenario for the crews to solve a USSPACECOM problem set using their weapons system.

2.7.3.4. Space Base Delta (SBD) 41 Liaison.

2.7.3.4.1. Primary point of contact for reporting to Civil Engineering (CE) Squadrons for Module (MOD) internal facility maintenance.

2.7.3.4.2. Leads Emergency Program and conducts Emergency Preparedness.

2.7.4. **Tactics Section.**

2.7.4.1. Section Lead, Tactics. A Space Operations Officer that serves as the Weapons and Tactics Flight Commander.

2.7.4.1.1. Leads tactics section in TACDEV IAW AFSPCI 10-260, *Tactics Development Program.*

2.7.4.1.2. Manages the production and revision of the 1SOPS Tactical Standard Operating Procedures (TACSOPs).

2.7.4.1.3. Conducts section administrative duties (e.g. Officer Performance Reports, Enlisted Performance Reports, Award nominations, Decorations, Supervisor duties, etc.).

2.7.4.2. Advanced Instructor, Non-Commissioned Officer-in-Charge (NCOIC) Tactics. An NCO graduate of the USAFWS. Position will be a USAFWS graduate unless no graduate is assigned. Serves as the Weapons and Tactics Flight Chief.

2.7.4.2.1. Leads tactics section in TACDEV IAW AFSPCI 10-260.

2.7.4.2.2. Manages the production and revision of the 1SOPS Tactical Standard Operating Procedures (TACSOPs).

2.7.4.2.3. Identifies and prepares candidates for the Space Superiority and Space Warfighters Weapons Instructor Courses (WIC).

2.7.4.2.4. Conducts section administrative duties (e.g. Enlisted Performance Reports, Award nominations, Decorations, Supervisor duties, etc.).

2.7.4.3. Tactics Development (TACDEV).

2.7.4.3.1. Leads unit involvement in the Tactics Development (TACDEV) Program IAW DAFMAN 11-260, *Tactics Development Program*.

2.7.4.3.2. Responsible for coordinating and documenting testing of the RG-1 WS in support of future TACDEV.

2.7.4.4. Exercises and Integration.

2.7.4.4.1. Coordinates 1SOPS engagement in Large Force Exercises (LFEs) through coordination with the AT Course Manager and Readiness Section Leader to nominate members in the prepare and ready phases to attend LFEs.

2.7.4.4.2. Maintains a calendar of exercises and integration opportunities.

2.7.4.4.3. Serves as the primary office for coordinating integration across the CFC in support of AT curriculum.

Chapter 3

TACTICAL MISSION PLANNING AND EMPLOYMENT

3.1. RG-1 Mission Planning Process. RG-1 surveillance and characterization missions are conducted by CS 9-1 IAW the RG-1 Mission Planning Process. This process is applied to each RG-1 SV in sequential cycles as satellites in the constellation rotate their commitment to various tasked characterization missions. The RG-1 Mission Planning process is listed as follows:

3.1.1. Long-Term Planning. The MPE Campaign Planner is responsible for the forecast and scheduling of RG-1 missions, including the selection of MPE personnel for planning the given mission. Long-Term Planning initiates three weeks prior to a tasked mission date. Long-Term Planning will consist of:

3.1.1.1. RG-1 Satellite Vehicle (SV) and Target RSO pairing. The MPE Campaign planner will nominate the RG-1 SV for use in a tasked mission based on astrometry and capabilities.

3.1.1.2. Mission Feasibility. The MPE Campaign Planner will determine if the mission is feasible based on fuel expenditure estimates and the contemporary mission tempo for the RG-1 constellation.

3.1.1.3. Assignment of Personnel. The MPE Campaign Planner will identify and select MPE personnel to assume the role of Mission Planners for the tasked mission. This selection accounts for the members' personal schedule and possibility of 24/7 surge support.

3.1.1.4. Determining Acceptable Level of Risk (ALR) assigned from the National Space Defense Center (NSDC) J35 and distill orders from the NDSC J35 RG-1 TASKORD.

3.1.2. Mid-Term Planning. Mission Planners selected by the MPE Campaign Planner are responsible for Mid-Term Planning. Mid-Term Planning initiates two weeks prior to a tasked mission date and will consist of:

3.1.2.1. Investigating Pattern of Life (PoL) for tasked RSO for collection, to include patterns of east-west and north-south maneuvers, longitudinal positions occupied, RSO counter-reconnaissance tactics, techniques, and procedures (TTPs), and availability of Space Domain Awareness (SDA) support.

3.1.2.2. Neighborhood Analysis of nearby RSOs within +/- 0.5 of longitude.

3.1.2.3. Internal Risk Assessment for mission execution.

3.1.2.4. Reviewing past Mission Debriefs for Learning Points and Lessons Learned.

3.1.3. Short-Term Planning. Mission Planners are responsible for Short-Term Planning. Short-Term Planning initiates one week prior to a tasked mission date and will consist of:

3.1.3.1. Ingress Maneuver Planning. Mission Planners will calculate an RG-1 maneuver plan for initial ingress towards the tasked RSO for characterization and choose a free-flight duration that is feasible, preserves safety of flight for the RG-1 SV, and accomplishes the tasking. Ingress maneuvers will adhere to the ALR for the tasked mission and not endanger the RG-1 vehicle.

3.1.3.2. Point of Closest Approach (POCA) Assessment. Mission Planners will assess the POCA for their planned ingress trajectory with the tasked RSO.

3.1.3.3. Satellite Control Network (SCN) Site Scheduling. Mission Planners will develop a satellite contact plan and coordinate with CS 9-1 spacecrews to submit site scheduling to support telemetry, tracking, and commanding (TT&C) with the RG-1 SV during the tasked mission.

3.1.3.4. Phasing Maneuver Planning and Execution. Mission Planners will calculate, plan, and execute phasing maneuvers to optimize fuel expenditure and set the mission time and date for RG-1 payload employment.

3.1.3.5. Space Domain Awareness (SDA) Support. Mission Planners will coordinate with the 18 Space Defense Squadron/Detachment 1 for the construction of an Integrated Sensor Support Plan (ISSP) to task the Space Surveillance Network (SSN) for space situational awareness during the mission.

3.1.4. Spaceboss Brief. Mission Planners will schedule and deliver the Spaceboss brief to request approval to execute their plan. The Spaceboss is identified as the member holding the final approval authority for the execution of an RG-1 mission plan. The Spaceboss Brief takes place NLT three days prior to a tasked mission date.

3.1.4.1. The approval authorities for RG-1 characterization missions resides with positions based on the ALR assigned for a given mission and are listed as follows:

3.1.4.1.1. ALR: Low/Moderate – CS 9-1/CC

3.1.4.1.2. ALR: Significant – NSDC J3 / NSDC Director

3.1.4.2. The Spaceboss brief will consist of the following:

3.1.4.2.1. Situation. Identifies the political and military situation and the operational environment, the friendly and adversary order of battle, pertinent system capabilities, maintenance, and weather impacts. Identifies Intelligence assessment on the adversary's objectives, intent, and Most-Likely and Most-Dangerous Courses of Action (ML/MDCOAs).

3.1.4.2.2. Mission. Identifies HHQ tasking, Commander's Intent, and Supported Command Requirements. Constraints, Restraints, and ALR. MPE developed Objectives and Tasks.

3.1.4.2.3. Execution. Identifies overarching plan and phasing, detailed walkthrough of Black-Line Plan (BLP), Contingency Plan walkthroughs, and portrayal of key decision points and risks. Key decision points for RG-1 Mission Plans may consist of maneuver decision times such as Ingress, Trim, or Egress maneuvers or Go/No-Go criteria.

3.1.4.2.4. Administration and Logistics. Identifies facilities, supporting personnel, and spacecrew members available and assigned to the tasked mission. Identifies appropriate level of expendables (such as fuel). Any maintenance and weather considerations not already discussed are captured in the Administration and Logistics section.

3.1.4.2.5. Command and Control. Identifies and outlines contract relationships with other organizations and contingencies that were not already discussed. Illustrates a

communications plan and command relationship authorities during the mission execution.

3.1.4.2.6. Spaceboss Approval. The final section of the Spaceboss brief is the request for approval from the Mission Planners to the Spaceboss to execute their planned mission. At the conclusion, the Spaceboss has the authority to relay the following options:

3.1.4.2.6.1. Approval (Go). Mission Planners acknowledge approval and execute the plan as briefed to the Spaceboss. A Mission-Type Order (MTO) is signed by the approval authority and provided to the spacecrews for mission execution.

3.1.4.2.6.2. Approval with Mandatory Corrections. Mission Planners acknowledge approval with mandatory corrections from the approval authority, while also acknowledging execution of the plan is entirely contingent on accomplishing all corrections. An MTO including mandatory corrections is signed by the approval authority and provided to spacecrews for mission execution.

3.1.4.2.6.3. Denial (No Go). Mission Planners acknowledge plan denial and immediately inform the spacecrew of a cancelled mission. Mission Planners will directly enter the Debrief process to identify problems within their plan that resulted in denial and create Lessons Learned and Learning Points when applicable.

3.1.5. Mission Execution. The CS 9-1 Spacecrew and Mission Planners are responsible for mission execution, with the Crew Commander holding the position of Mission Commander. The Mission Execution consists of:

3.1.5.1. Mission Planner surge to support crews. Mission Planners assigned to the tasked mission will follow a schedule to support mission execution. This schedule may either be on-call or in a cycle structure for Mission Planners to be present with the crew on the RG-1 operations floor. Surge schedules will adhere to Personnel Safety and Crew Rest Requirements (see **paragraph 4.1**.).

3.1.5.2. Execution of the Ingress Maneuver. The Crew Commander has the final authority for the execution of the Ingress Maneuver initiating the close approach between the RG-1 SV and RSO.

3.1.5.3. Orbit Determination Updates. During execution, the spacecrew will perform Orbit Determination updates on the tasked RSO at a cadence outlined in the approved mission plan. Orbit Determination Updates may also be performed by the spacecrew on RG-1 SVs provided the case deems necessary to accomplish mission tasks and objectives.

3.1.5.4. Monitor Ingress Flight Profile. The spacecrew will monitor the RG-1 SV's ingress flight profile IOT prepare for possible adjustments to accomplish mission tasks and objectives or conduct a safety-of-flight maneuver. The Crew Commander has the final authority for the execution of a trim maneuver after the ingress maneuver or a safety-of-flight maneuver.

3.1.5.5. Payload Activation. The RG-1 SV activates its payload to accomplish tasked objectives.

3.1.5.6. Egress Maneuver. The Egress Maneuver is conducted to return the RG-1 SV to its base orbit following the free-flight trajectory for its characterization mission. The Crew Commander has the final authority for the execution of the Egress maneuver.

3.1.6. Mission Reporting. The 97 TIS personnel are responsible for Mission Reporting within 24 hours following the end of an RG-1 characterization mission. The Crew Commander will assist the 97 TIS with gathering data from reconstruction to support mission reporting. The 97 TIS will produce a Mission Report (MISREP) containing the following parameters:

3.1.6.1. Time of Closest Approach (TOCA).

3.1.6.2. Point of Closest Approach (POCA).

3.1.6.3. RG-1 Solar Phase Angle.

3.1.6.4. RG-1 Orbit State Vector used for engagement.

3.1.6.5. Target RSO Orbit State Vector used for engagement (at Ingress).

3.1.6.6. Target RSO Orbit State Vector used for trim maneuver (if applicable).

3.1.7. Mission Debrief. The Mission Planners assigned to an RG-1 mission are responsible for conducting the debrief process and scheduling a time and location to provide the debrief presentation within seven days of mission completion. The Mission Planners will conduct the debrief process ICW the TTE Director and/or TTE Enlisted Leader.

3.1.7.1. A Mission Debrief will consist of event reconstruction, mission effectiveness assessment, debrief focal point (DFP) development, contributing factors, root cause analysis, lessons learned, learning points, and potentially lessons observed. Products of the debrief consist of lessons learned and learning points. **(T-2)**

3.1.7.2. FGSs will make every effort to include all personnel involved in the mission or event in the debrief. The debrief is conducted by the Mission Planning Cell members that were assigned to the mission along with space crew members that executed the mission. **(T-2)**

3.1.7.3. Crew Commanders are responsible for tracking currency for their crew members by reviewing products from the debrief and document accomplishment in PEX.

3.1.7.4. Lessons Learned will be documented in the CFC approved Lessons Learned Information System. **(T-2)**

3.1.7.5. Line Instructors will incorporate applicable lessons learned and learning points into training and Tactics, Techniques, and Procedures (TTP) development to ensure continuous improvement of the mission. **(T-2)**

3.2. Tactical Mission Briefing. The Crew Commander will be provided with Mission-Type Orders (MTO) after the mission plan has been approved for execution and will ensure delivery of the mission plan to all members on crew. All crewmembers must attend tactical mission briefs unless previously coordinated with the CS/CC or designated representative. Any questions or concerns that arise by the crew should be addressed prior to mission execution. The purpose for all mission briefings is to ensure the entire crew is well informed and prepared to execute the mission at hand. **(T-2)**

3.2.1. All tactical mission briefings will include as a minimum:

3.2.1.1. Administrative Overview. Current version of products (i.e. TASKORD, SPINS, Pass Plan, Communication Card). Timeline of execution and debrief time and location.

3.2.1.2. Situation. Intelligence Assessment consisting of Red Order of Battle (applicable threats, quantity, and laydown), Factor Threats, Most Likely and Most Dangerous Courses of Action for Red and expected enemy responses. Friendly force status to include physical and operational environment.

3.2.1.3. Mission. Commander's Intent, End State, Accepted Level of Risk (ALR). Mission and Package Objectives for the Combat Squadron 9-1 Crew in Mission.

3.2.1.4. Execution. Overview of the mission plan and specifics of CS 9-1 plans. Constraints, Restraints, and Rules of Engagement. Crew Resource Management overview to include roles and responsibilities of crew members, division of labor to accomplish mission objectives, and critical decision points in execution. Brief Contingencies linked to events that trigger actions to follow procedures to return to accomplishing the Commander's Intent.

3.2.1.5. Administration and Logistics. Specified expectations of information sets that are required to be logged during mission execution by all crew positions. Overview of authorities throughout each phase of execution for total crew comprehension on expedited combat-relevant decision flow.

3.2.1.6. Command and Control. Communication, Contracts, and Command Relationships review (some or all as applicable).

3.2.1.7. Security Reminder. Set level for classification of execution on the operations floor as well as any associated chatrooms or phone lines used for communication.

3.2.2. Crew members not attending the mission brief will receive, at a minimum, an overview of the mission objectives, their roles and responsibilities, current Crew Information File (CIF) read file, and Emergency Procedures prior to beginning the mission.

3.2.3. Positional Changeover Brief. For operational needs, the crew may be required to brief an oncoming crewmember. When required, a positional changeover briefing with the oncoming crewmember will be delivered IAW checklist(s) and applicable directives.

3.2.4. Follow-On Mission Briefs. Missions with a larger iterative series of actions that require approval for execution, or in the case the originally planned, briefed, and executed mission is cancelled/aborted, a follow-on brief will take place for approval of mission execution.

3.3. RG-1 Surveillance and Characterization. The RG-1 spacecrew will execute surveillance and characterization missions to accomplish objectives while securing and defending the weapons system. **(T-2)**

3.3.1. RG-1 crews perform the following Orbital Warfare mission tasks:

3.3.1.1. Find, Fix, and Track. Spacerews will locate resident space objects (RSOs) and develop space and time coordinate metrics on tasked RSOs.

3.3.1.2. Identify. Spacecrews will associate ambiguous and unambiguous indicators to determine the identity of a track-of-interest (TOI). The TOI will be correlated to a known object or be used to confirm a previous correlation.

3.3.1.3. Characterize. Spacecrews will generate information used to determine the class, type, and/or capability of a tasked TOI.

3.3.1.4. Disseminate. Crews will disseminate data to the SDA community and mission partners.

3.4. Tactical Mission Debrief. Spacecrews, led by their Crew Commander, will conduct a tactical debrief after any high interest events, training and evaluation events, any event previously mission planned and executed, any deviations from standards, and when directed by FGS/CC, FGS/CD, or CS/CC. Spacecrews will conduct Tactical Mission Debriefs in ICW the TTE Director and/or TTE Enlisted Leader. **(T-2)**

Chapter 4

SAFETY OF OPERATIONS

4.1. Personnel Safety and Crew Rest Requirements. To ensure mission success and personnel safety, spacecrew members under nominal operations will have the opportunity for eight (8) hours of uninterrupted crew rest prior to assuming an operational shift. **(T-2)** Uninterrupted crew rest is defined as a period of time where a member or group of members on a spacecrew have no obligated task expectations on behalf of the unit. The purpose of crew rest is to provide members with the opportunity of dormancy to ensure they are ready to assume committed operations.

4.1.1. Crew Rest is defined as a condition that allows an individual the opportunity for eight hours of uninterrupted rest prior to assuming an operational shift. Each crew member is individually responsible for ensuring they obtain sufficient sleep during crew rest periods.

4.1.2. Nominal Duty Period is 8-12 hours with the addition of changeover briefings.

4.1.3. The FGS/CC may extend the Duty Period up to 14 hours to compensate for unplanned mission delays, provided the mission requirements justify the increased risk.

4.1.4. The CS/CC on behalf of the FGS/CC may extend the Duty Period up to 16 hours to compensate for unforeseen emergencies (e.g., snowed in, accident, injury).

4.1.5. Extended Duty Periods must be annotated in the Mission Log, at a minimum detailing authorizing agent and crew members affected. **(T-2)**

4.1.6. Crew rest is compulsory for any crew member prior to performing any crew duty on any mission system. **(T-2)**

4.1.7. Only operations crew members performing crew duties are entitled to crew rest. A member scheduled for a proficiency shift or a member that is providing coverage for another previously scheduled member is also entitled to a crew rest period.

4.1.8. Required crew rest for rotation of shifts (e.g. transition from daytime shifts to overnight shifts) is a minimum of 24 hours.

4.1.9. Crew members are prohibited from consuming alcohol within a twelve (12) hour window before assuming crew duties. **(T-2)**

4.1.10. Crew members are prohibited from using or being under the influence of medication (e.g. prescribed zolpidem, opioids, benzodiazepines) that can hinder operational performance during the mission. **(T-2)**

4.2. Crew Changeover. Units will create a changeover checklist, PowerPoint slides and/or a written whiteboard changeover brief, and policy to ensure standardization between crews and all information is passed as needed. Crew changeovers can be incorporated with the FGS, and a changeover brief will occur at the beginning and end of every shift. **(T-2)**

4.3. Risk Management. Risk Management is assessed using the CS 9-1 Risk Decision Matrix. MPC and spacecrew members will refer to the internal risk decision matrix for measuring and capturing risk to force and risk to mission for a given RG-1 mission. **(T-3)**

4.4. Patriot Excalibur Go/No-Go Criteria.

4.4.1. The FGS/CC will provide written guidance via CIF in PEX. **(T-2)** Crew members will not operate on the RG-1 WS until Go/No-Go procedures have been accomplished and verified. **(T-2)**

4.4.2. It is the responsibility of the Crew Commander to ensure Go/No-Go verifications are being conducted by every member on the spacecrew prior to assuming every shift. **(T-2)**

4.4.3. The Go/No-Go process will at a minimum verify the following: **(T-2)**

4.4.3.1. Currency and proficiency. **(T-2)**

4.4.3.2. Compliance and acknowledgement of CIF items. **(T-2)**

4.4.3.3. Completion of Individual risk assessments. **(T-2)**

4.4.4. All Crew Commanders will conduct checks on PEX for Go/No-Go criteria covering the succeeding 72 hours and prior to entering pass period. This consists of validating Go/No-Go criteria for their crew working in the next sequential scheduled shifts and alerting the CS 9-1/CC and CS 9-1/EL of members not meeting Go criteria. Status of current or ongoing CIFs as well as PEX No-Go criteria being met that must be remedied will be briefed by the Crew Commander during changeover briefings. **(T-2)**

4.5. Operations Review Boards (ORB). It is highly recommended that FGSs conduct an ORB to determine the cause of any abnormal system response IAW AFI 13-602V3. **(T-2)**

4.5.1. Abnormal system responses requiring an ORB include but are not limited to adversary action negatively impacting a system, major system degradation, indications of erroneous system response, procedures with significant mission impact, and significant events where the cause cannot be determined by initial assessment or when corrective action is beyond minimal retraining or minor procedural changes. Spacecrew member deviations from real-world operations significant enough to drive mission impacts or result in system degradations may also drive ORBs. **(T-2)**

4.5.2. The ORB convening authority is the responsible FGS/CC (in coordination with the TTE) performing combat operations. Inform the MD 9/CC when convening an ORB. **(T-2)**

4.5.3. If the abnormal system response potentially impacts operations outside the Mission Delta, the convening authority will also provide a memorandum to HQ CFC Deputy Commander for Operations, HQ CFC/S73, and HQ CFC Safety Office. **(T-2)**

4.5.4. ORB composition is at the discretion of the convening authority. A safety representative, as defined in AFI 91-202_SPOCSUP, *The US Air Force Mishap Prevention Program*, is a mandatory participant for all ORBs. The safety representative may determine whether their participation is not required after the initial convening of the ORB.

4.5.5. At the conclusion of an ORB, the FGS/CC will produce an initial report. Refer to **paragraph 5.10** for details on ORB documentation and reporting. **(T-2)**

4.6. Maintenance Operations Center (MOC). System malfunctions involving either the ground or space segments require a notification to the MOC. The MOC will dispatch members of the 9 STS or other organizations to solve the anomaly and will provide updates to the CS and FGS. Once the anomaly is resolved, an after-action report is completed and the anomaly is closed.

4.7. Crew Procedures for Contingency Operations and Emergencies. The FGS determines actions for the spacecrew response to RG-1 contingency operations and emergency procedures.

4.7.1. Abnormal/Contingency Operations. RG-1 satellite vehicles operating in a configuration that are either different from what is deliberately planned or different from nominal modes create the condition for spacecrews to be conducting abnormal or contingency operations.

4.7.1.1. TOs and SOPs will capture necessary steps for spacecrews to operate the RG-1 WS in a contingency operations posture and procedures for returning the RG-1 WS to a nominal operations posture.

4.7.1.2. Spacecrew tasks to conduct abnormal or contingency operations will be documented in the Master Task List (MTL). Spacecrew members will train on abnormal and contingency procedure tasks and become certified to execute these tasks by a certified evaluator in the TTE.

4.7.2. Emergency Procedures. Situations that place the spacecrew personnel in danger and responses to such situations will be documented in the Emergency Procedures Job-Aid (JA) binder, placed on the operations floor within adequate proximity for access by the Crew Commander or Crew Chief.

4.7.3. TOs, SOPs, and procedures in the Emergency Procedures JA Binder will capture necessary steps for spacecrews to execute emergency procedures in response to emergency situations. The Emergency Procedures JA Binder will be appropriately classified such that it may enter and exit secure facilities. The binder will include diagrams for evacuation of the operations floor to specified primary and secondary locations, locations of fire extinguishers, phone communication details to include guidelines of prose for contacting leadership, HHQ, and the 50th Civil Engineering Squadron.

Chapter 5

OPERATIONS DOCUMENTATION

5.1. General. Operational space systems are operated IAW published technical data and operations procedures. Technical Orders (TO), Operating Instructions (OI), and Tactics, Techniques and Procedures (TTP) should be designed to work in concert with one another to achieve mission success while ensuring safety and proper operation of the system. TTPs may also supplement steps within procedures with situation-specific recommendations. TOs, SOPs, and TTPs should be designed to work in concert with one another to achieve mission success while ensuring safety and proper operation of the RG-1 WS. **(T-2)**

5.1.1. TOs and SOPs will capture necessary steps to ensure proper operation of the WS within acceptable safety and system limits. **(T-2)**

5.1.2. TTPs will capture non-prescriptive guidance to identify best practices and recommended actions to employ the WS in a wide range of situations and adversary actions. **(T-2)**

5.1.3. TTPs will not violate TOs or published WS limitations but may recommend the use of specific procedures or combinations of procedures. **(T-2)**

5.1.4. Mission Delta Stan/Eval, Weapons & Tactics, and contractor support will develop and implement TOs, SOPs, and TTPs to ensure operational and equipment safety and integrity. **(T-2)**

5.1.5. For procedures affecting more than one Mission Delta, the MD 9/CC retains the ultimate responsibility of ensuring procedures are sound before operational use within the FGS. **(T-2)**

5.2. Technical Orders (TOs). Operational systems will be operated IAW published technical information and operations procedures. Changes to TOs will be accomplished IAW TO 00-5-1-WA-1, *AF Technical Order System*. **(T-2)**. TOs include all manuals developed or acquired for organic operation, maintenance, inspection, modification or management of centrally acquired and managed USSF systems and end items.

5.2.1. Systems are operated IAW published TOs, where available. TOs will be maintained IAW TO 00-5-1-WA-1, *AF Technical Order System,* and other applicable TOs available at **https://etims.cce.af.mil/ETIMS/index**. **(T-2)**

5.2.2. Units may develop operations manuals and local procedures (e.g., SOPs) to supplement TOs as necessary. Locally developed guidance will not conflict with nor violate the TO**.** Local procedures will be developed as OIs as specified below. **(T-2)**

5.3. Standard Operating Procedures (SOP). SOPs are a set of step-by-step instructions to ensure safe and effective WS employment.

5.3.1. When contractor-developed procedures are produced and delivered, FGS TTE will assess any procedural impacts and prepare implementation guidance. **(T-2)**

5.3.2. FGSs will validate operations procedures using off-line systems, ranges, or simulators to the maximum extent possible prior to operational use. **(T-2)**

5.3.3. The FGS/CC will determine the appropriate level of validation and training required before a new or changed procedure is implemented for operations. **(T-2)**

5.3.4. SOPs will be identified as permanent or temporary. Rescind TP (e.g., Interim Operations Supplement) once they are no longer required. **(T-2)**

5.3.5. The coordination and implementation process for new or updated procedures will ensure technical accuracy, adherence to established standards, and training requirements. Changes to procedures are categorized according to the urgency for their implementation. The three categories of changes are emergency, urgent, and routine, as defined in TO 00-5-1-WA-1 and AFI 13-602V3. **(T-2)**

5.3.6. MD 9 Chief of Stan/Eval will review SOPs at least annually to ensure accuracy, currency and applicability. Approved procedure changes will count as a review for that procedure. Senior Line Evaluators will identify updates driving training product changes to the line instructors and operations support. **(T-2)**

5.3.7. All Permanent Procedures and relevant crew aids in the applicable work center or issued to all personnel performing duties in the operations center are maintained on a system of appropriate classification. **(T-2)**

5.3.8. No new or changed procedures will be used for operations until properly approved, coordinated and trained, as required. **(T-2)**

5.3.9. CIFs, Interim Operations Supplements, and Difference Training (DT) completion will be documented and signed off by crew members in PEX.

5.3.10. Crew Commanders will use system auditing tools to validate crewmember completion of required documentation signoff. **(T-2)**

5.3.11. Development of SOPs. Units operating systems without formally published technical information will develop SOPs to ensure proper WS employment. Contractor-developed procedures are produced and delivered according to the specifications in the governing contract. The implementation Mission Delta will review these contractor documents to assess any procedural impacts. **(T-2)**

5.3.11.1. SOPs will be formatted IAW TO 00-5-1-WA-1 or DAFMAN 90-161, paragraph 4.5. **(T-2)**

5.3.11.2. Instructions are updated as needed to keep pace with changes to the system and operational employment. The coordination and implementation process of new and/or updated procedures ensures technical accuracy and adherence to established standards and training requirements. Any changes to instructions are categorized according to the urgency for their implementation. The three categories of changes are emergency, urgent and routine.

5.3.11.3. Units will review OIs and SOPs at least annually to ensure accuracy, currency, and applicability. Any changes to OIs or SOPs will first be reviewed by the FGS/CC prior to approval by the applicable Mission Delta Chief of Stan/Eval. This review will be documented and maintained for two years in PEX. **(T-2)**

5.3.11.4. All permanent instructions are maintained in the appropriate work center or issued to all personnel performing duties in the work center. No new or changed

instructions will be used for operations until properly approved, coordinated (according to category), and spacecrew trained as required. **(T-2)**

5.3.11.5. Units will forward a copy of all approved permanent instructions and related training material to the Mission Delta 9 training entity for incorporation into QT. **(T-2)**

5.3.11.6. Supplemental instructions are used to amplify and/or augment existing permanent procedures or TOs without altering them. Units using supplemental instructions will develop and implement a process for coordination, approval, and periodic review prior to use. **(T-2)**

5.3.11.7. Create and publish CIF to ensure operators are aware.

5.4. Tactics, Techniques, and Procedures (TTPs). IAW AFSPCI 10-260, operations personnel will incorporate and apply TTPs while conducting mission operations to effectively posture and defend the WS and employ it to maximum effectiveness based on current situation, tasking, priorities, limitations, and constraints. **(T-2)** Deltas will execute the complete Weapons and Tactics model. This includes Threat Assessments, threat-based exercises and training events, Weapons and Tactics conferences, Tactics Review Boards, a Tactics Improvement Process and operational testing; for the purpose of improving Operations Capability (OPSCAP) in a CDO environment. **(T-2)**

5.4.1. Spacecrews are expected to develop and improve TTPs in the course of training, exercises, and operations.

5.4.2. When conditions permit, these TTPs will be documented, submitted as Tactical Improvement Proposals IAW DAFMAN 11-260 and reviewed by system experts prior to operational use. The nature of operations may require spacecrews to implement new tactics prior to full coordination or testing to keep a system safe or to accomplish the mission in the face of adversary action or unanticipated scenarios. **(T-2)**

5.4.3. Spacecrews who execute untested or undocumented TTPs must always adhere to sound risk management principles, known system limitations, and established ROEs. **(T-2)**

5.4.4. Spacecrew members will maintain vigilance and an appropriate state of readiness to respond to threats and unforeseen events. **(T-2)**

5.4.5. HQ USSF, FLDCOMs, and Deltas will execute the complete Weapons and Tactics model as outlined in DAFMAN 11-415, *Weapons and Tactics Programs,* and AFSPCI 10-260. This includes Threat Assessments, Realistic Training Review Boards, threat-based exercises and training events, Weapons and Tactics Conferences, Tactics Review Boards, a Tactics Development Process, and operational testing; all for the purpose of improving combat capability. **(T-2)**

5.5. Unit-Developed Checklists.

5.5.1. Locally developed checklists will be used and will, at a minimum, include: **(T-2)**

5.5.1.1. Warnings and Caution messages as required by the unit.

5.5.1.2. Position-specific weapon or mission employment information as required by the unit. **(T-3)**

5.5.2. The Senior Line Instructor, Senior Line Evaluator, TTE, and CS/CC will review the locally developed checklists and crew aids prior to FGS/CC approval. **(T-2)**

5.5.3. FGS/CC will approve locally developed checklists and crew aids. **(T-2)**

5.5.4. Line Evaluators will maintain the list of current and authorized checklists, crew aids, and other information as necessary in the CIF library. **(T-2)**

5.5.5. Units will create a changeover checklist IAW **paragraph 4.2** of this manual. **(T-2)**

5.5.6. Temporary Procedures (TP).

5.5.6.1. TPs are short-term, non-standard changes to operating procedures (e.g., WS testing). TPs are valid for 45 days and may be extended up to 90 days. TPs will be approved by the Mission Delta Chief of Stan/Eval prior to implementation. **(T-2)** In an emergency, TPs may be approved by the FGS/CC or FGS/CD and then followed up with the Mission Delta Chief of Stan/Eval within five business days.

5.5.6.2. TP will be removed following TO publication and/or update. **(T-2)**

5.5.6.3. Create and publish CIF to ensure operators are aware.

5.5.7. Supplemental Procedures. Procedures containing instructions for use in conjunction with data contained in their parent TOs and are not stand-alone publications.

5.5.8. Crew Aids. For details on locally prepared crew aids, reference TO 00-5-1-WA-1. **(T-2)**

5.6. Operations Crew Log.

5.6.1. The Crew Commander is responsible for documenting significant events/crew actions required for the Crew Log. As a minimum, required items are: **(T-2)**

5.6.1.1. Any missions or orders, to include mission phase transitions, mission milestones, key decisions made, and reports submitted to HHQ related to mission execution.

5.6.1.2. On-coming crew (i.e. Alpha, Bravo, etc.) and Crew Commander name.

5.6.1.3. Shift change times.

5.6.1.4. Period of Interest/Vulnerability Window.

5.6.1.5. CFC/CC notes and/or communication.

5.6.1.6. CIFs.

5.6.1.7. WS status, degradations, or abnormal system response (e.g., network sensor down).

5.6.1.8. Changes or deviations to Mission Materials (e.g., TTP updates, new SOPs).

5.6.1.9. Changes to Crew Duty Periods.

5.6.1.10. Updates or notifications from CFC, Combined Space Operations Center (CSpOC), or National Space Defense Center (NSDC).

5.6.1.11. Significant communications as determined by the Crew Commander such as between the CS 9-1 spacecrew and mission partners or the HHQ tasking authority.

5.6.2. On-shift Crew Commanders will review the Crew Log with on-coming Crew Commander during shift-change to ensure turn-over of key events or information. **(T-2)**

5.6.3. Operational units will have a Continuity of Operations plan and Primary, Alternate, Contingency, Emergency plan in place to maintain the Crew Log to account for operations during outage periods. **(T-2)**

5.6.4. Crew Logs should be electronic, updated by each spacecrew position on shift, compliant with AFI 33-322, and maintained for a minimum of five years. **(T-2)**

5.7. Initial Operations for New or Upgraded Systems. Prior to system operational test activities and/or initial operations, the responsible FGS/CC will ensure operations, training, standardization, evaluation, and crew force management programs are developed and managed to provide adequate support to the new or upgraded system operations. **(T-2)**

5.7.1. Space Systems Command (SSC) individuals may be used to conduct operations on new or upgraded systems prior to operational use.

5.7.2. SSC individuals will be identified, documented, and trained as specified in applicable SPFIs. **(T-2)**

5.8. Problem Reports (PRs)/Deficiency Reporting Documentation. Submit PRs for the RG-1 WS to applicable System Engineers. Submit PRs to the Problem Review Board according to DoDI5000.89_DAFI99-103, *Capabilities-Based Test and Evaluation.* Write Deficiency Reports (DRs) for development resources from the Problem Review Board which are assessed in the Government Deficiency Review Board (GDRB). DRs will be coordinated and graded IAW T.O. 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution.* **(T-2)**

5.9. WS Modification. Permanent modifications that change the configuration of an asset or software for operational effectiveness, suitability, survivability, safety, service life extension, and/or reduce ownership costs of a fielded WS, subsystem, or item are submitted on AF Form 1067, *Modification Proposal,* found in **Attachment 3** of DAFI 63-101/20-101, *Integrated Life Cycle Management,* and the AF/A5R *Requirements Development Guidebook* and may require an additional amount of developmental testing/operational testing prior to fielding. **(T-2)**

5.10. ORB Report Process. When an ORB has been finalized, the FGS/CC will generate an initial report. **(T-2)**

5.10.1. The following information should be in an official memorandum format: **(T-2)**

5.10.1.1. Date the ORB convened and topic.

5.10.1.2. Personnel participating in the ORB (include rank, name, duty title, telephone number, and email address).

5.10.1.3. If the safety representative determines their involvement is unnecessary, document the 6ame and other required information of the individual making the determination and in 6arentheses state “determined safety involvement not necessary.”

5.10.1.4. Sequence of events (e.g., time, location). Use mission crew or duty positions instead of 6ames.

5.10.1.5. Include a brief description of event impact on the primary or secondary mission.

5.10.1.6. Explain the root cause(s) of the incident.

5.10.1.7. Recommendations, Lessons Learned, and Action Items.

5.10.1.8. Include a broad summary of the cause(s) of the incident.

5.10.2. The CS/CC will provide status updates on all action items to the ORB convening authority every 30 days after submission of initial report until closed. **(T-2)** The CS/CC may combine updates from multiple ORBs into one report and forward by the end of each month until closed.

5.10.3. The ORB team will fully protect against the release of any information pertaining to the ORB and its outcomes. Treat all information pertaining to ORBs with the same rigor as safety investigations. **(T-2)**

5.10.3.1. Information will be considered preliminary until the approval of the ORB report by the appropriate convening authority. **(T-2)**

5.10.3.2. Unless the ORB is convened by a Joint Commander, members of the investigative team will not convey preliminary information, conclusions, or assessments outside of the FLDCOM. **(T-2)**

5.10.4. During the ORB process, requests for information will go to the MD 9/CC and HQ CFC/S33, HQ CFC/S35Z and HQ CFC/S735. **(T-2)**

5.10.5. If the ORB investigation leads to discovery of reportable criteria, the ORB convening authority will immediately notify the MD 9/CC. **(T-2)**

5.10.6. Crew Information Files (CIF). CIFs are intended to inform operators of updates on a temporary basis and should not be used as permanent procedures. CIFs should be established when a unit deems necessary based on changes in HHQ guidance, updated crew aids, checklists, or any other information certified operators may need to perform the mission effectively. **(T-2)**

Chapter 6

CREW COMPOSITION AND CONSTRUCT

6.1. General. The crew force consists of active-duty members which provide force elements aligned according to the USSF SPAFORGEN model IAW SPFI 10-401. Nominal RG-1 spacecrew force structure is based on a roving crew construct for each operational unit. Units conduct operations in a combat-to-dwell rotation utilizing 8-hour missions to ensure forces perform operational missions (combat) and are provided with the necessary force development, administration, training, and preparation for those operational missions (dwell). **(T-2)**

6.2. CS 9-1 Spacecrew. All crew constructs supporting the RG-1 WS operations fulfills requirements to operate the OW mission in a CDO environment.

6.2.1. Crew Commander (Crew/CC). The Crew Commander is a Space Operations Officer (13SXA) responsible for the operation of the RG-1 WS.

6.2.2. Crew Chief (CCH). The Crew Chief is an Enlisted Space Systems Operator (5S) responsible for disseminating orders from the Crew Commander to the individual crew members and satellite plan development for the RG-1 WS.

6.2.3. Satellite Vehicle Operator (SVO). The SVOs consist of two to three Enlisted Space Systems Operator (5S) service members responsible for executing satellite command and control for the RG-1 WS.

6.2.4. Intelligence Operator. The Intelligence Operator consists of an Enlisted Intelligence (5I) or Commissioned Intelligence (14N) service member who manages intelligence activities, produces reports, and interprets data to include threat assessments IOT inform the spacecrew.

6.2.5. Cyberspace Warfare (CW) Operator. The CW Operator consists of an Enlisted Cyberspace Operator (5C) who provides current, dynamic, and tactically relevant cyber-related intelligence to the spacecrew.

6.3. Mission Planning Element (MPE). The MPE consists of Tactician(s) and Planner(s) that are certified in the Mission Planner position. The MPE nominates its members to construct Mission Planning Cells (MPC) responsible for development of mission plans for use of the RG-1 WS to accomplish HHQ tasks.

6.3.1. Element Leader, MPE. A space operations officer who leads mission planning for all CS 9-1 RPO and SDA missions.

6.3.2. Enlisted Leader, MPE**.** An enlisted space systems operator that ensures MPE readiness and provides NCO developmental leadership to CGOs.

6.3.3. Campaign Planner. A space operations officer who oversees the long-term campaign of each RG-1 vehicle.

6.3.4. Mission Planner. A space operations officer or an enlisted space systems operator who plans and executes RPO missions to achieve HHQ requirements.

6.3.5. Civilian Support Mission Planner. A civilian role that is included as a “Mission Planner” on the MPE A-Side.

Chapter 7

COMBAT READINESS VERIFICATION

7.1. General. Spacecrew Combat Readiness Verifications (CRV) are an opportunity for FGS/CC to verify overall readiness, proficiency and adherence to standards for entire spacecrews with a focus on determining their ability to plan, brief, execute and debrief their assigned combat missions against realistic near-term threats using approved Tactics, Techniques and Procedures (TTP).

7.2. Unit CRV. Units with Combatant Command assigned missions will conduct CRVs prior to entering their combat or deployment cycle. **(T-2)**

7.2.1. Space, intel, and cyber members will participate in CRVs.

7.2.2. Units may leverage exercises (e.g., Flag Exercises) to fulfill CRV requirements provided appropriate task coverage meets CRV standards.

7.2.3. The CRV focuses on expected operations and adversary threats for the upcoming combat cycle, as outlined by tactical and/or operational intelligence assessments.

7.2.4. CRV scripts and other supporting materials are coordinated with MD 9/S9 staff to ensure standardization across the mission area.

7.2.5. CRV Administration. CRVs are administered by instructors and/or evaluators. Other knowledgeable individuals (i.e., Weapons and Tactics, intelligence, engineers) may participate in the CRV. **(T-2)**

7.2.6. MD 9/S5 is responsible for synchronizing efforts across squadrons to meet criteria and in accordance with FGS/CC guidance.

7.2.7. Based on FGS/CC guidance and intent, and in coordination with Senior Intelligence Officer, the TTE Director is responsible for ensuring the CRV is relevant, realistic, representative of the current threat, and mission focused.

7.2.8. The TTE Director briefs the FGS/CC on the spacecrews' readiness to enter the combat rotation and recommend necessary actions to improve readiness. The FGS/CC directs additional training or supplemental evaluations based on the severity of the discrepancies as required to correct spacecrew readiness to conduct assigned missions. A copy of the finalized CRV report will be forwarded to Crew force Management. **(T-2)**

7.2.9. The FGS/CC reports a "Ready" or "Not-Ready" assessment of the unit's readiness to enter the combat rotation to the MD 9/CC.

7.2.10. FGS/CC reports "Not Ready" if fewer than the minimum required spacecrews or functions successfully complete the CRV. FGS/CCs making a recommendation other than "Ready" specifies assessed risk and mitigation actions.

7.2.11. Tasks and missions accomplished during the CRV may be counted toward individual currencies and readiness, but the CRV is tracked as a unit requirement.

7.2.12. Tasks observed by instructor/evaluators during the CRV may be counted toward individual currencies and readiness.

7.2.13. The FGS/CC responsible for the combat cycle is the waiver authority to allow an individual who has not satisfactorily completed a CRV to enter their combat cycle.

7.2.14. The MD 9/CC or TTE Director is the waiver authority to allow entire crews or functions which have not satisfactorily completed a CRV to enter the combat cycle.

7.2.15. The CRV can be a scripted scenario conducted on the real-world operations system or simulator.

7.2.16. The CRV script will focus on expected operations and adversary threats likely to occur during the upcoming combat cycle (e.g., test trials, adversary exercises, etc.).

7.2.17. The CRV will include verifying a crew's ability to mission plan for the scripted scenario and debrief post-scenario.

7.3. Delta CRV. Units within MD 9 will conduct a delta-level CRV during the SPAFORGEN Ready Phase. **(T-2)**

7.3.1. Delta CRVs will be done at least once per combat cycle.

7.3.2. Delta CRVs will be done IAW SPOCGM2025-10-01, *Space Force Generation.*

JARED A. HOFFMAN, Col, USSF
Asst. Deputy Commander, Operations, Plans,
Training and Force Development

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 1-2, *Commander's Responsibilities*, 15 September 2025

AFI 10-401, *Operations Planning and Execution*, 19 July 2024

AFI 13-602V3, *Spacecrew Operations*, 6 September 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFI 91-202_SPOCSUP, *The US Air Force Mishap Prevention Program*, 15 October 2021

AFSPCI 10-260, *Tactics Development Program*, 23 February 2016

DAFI 63-101/20-101, *Integrated Life Cycle Management*, 16 February 2024

DAFMAN 11-260, *Tactics Development Program*, 17 March 2023

DAFMAN 90-161, *Publishing Processes and Procedures*, 18 October 2023

DoDI 5000.89_DAFI99-103, *Capabilities-Based Test and Evaluation*, 9 December 2021

JP 5-0, *Joint Planning*, 1 December 2020

SDP 5-0, *Planning*, 20 December 2020

SPFI 13-602V1, *Ready Spacecrew Program, Training*, 10 June 2026

TO 00-5-1-WA-1, *AF Technical Order System,*19 November 2024

Prescribed Forms

None

Adopted Forms

AF Form 8*, Certificate of Aircrew Qualification*

AF Form 1067, *Modification Proposal*

DAF Form 679*, Department of the Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Product*

Abbreviations and Acronyms

AFI—Air Force Instruction

ALR—Accepted Level of Risk

CC—Commander

CCDR—Combatant Commander

CD—Deputy Commander

CDO—Contested, Degraded, and Operationally-Limited

CFC—Combat Forces Command

CGO—Company Grade Officer

CIF—Crew Information File

CMR—Combat Mission Ready

CS—Combat Squadron

CSpOC—Combined Space Operations Center

CW—Cyberspace Warfare

DAF—Department of the Air Force

DAFMAN—Department of the Air Force Manual

DEPORD—Deployment Orders

DFP—Debrief Focal Point

DoW—Department of War

DRRS-S—Defense Readiness Reporting System - Strategic

DT—Difference Training

EiP—Employed-in-Place

EXORD—Execution Orders

FGS—Force Generation Squadron

FLDCOM—Field Command

HHQ—Higher Headquarters

HQ—Headquarters

IOT—In Order To

ISR—Intelligence, Surveillance, and Reconnaissance

ISSP—Integrated Sensor Support Plan

JA—Job Aid

JP—Joint Publication

JSTO—Joint Space Tasking Order

LFE—Large Force Exercise

MD—Mission Delta

MET—Mission Essential Task

MOD—Module

MPE—Mission Planning Element

MSE—Mission Support Element

MTO—Mission Type Order

NCOIC—Non-Commissioned Officer-in-Charge

NCO—Non-Commissioned Officer

NSDC—National Space Defense Center

OIC—Officer-in-Charge

OPORD—Operations Orders

OPR—Office of Primary Responsibility

OPSCAP—Operations Capability

ORB—Operations Review Board

OW—Orbital Warfare

PEX—Patriot Excalibur

PLANORD—Planning Orders

QT—Qualification Training

RG-1—Reconnaissance GEO-1

ROE—Rules of Engagement

RPO—Rendezvous Proximity Operations

RSP—Ready Spacecrew Program

RTM—RSP Tasking Memorandum

S4S—Space Forces Space

SBD—Space Base Delta

SCN—Satellite Control Network

SDA—Space Domain Awareness

SDP—Space Doctrine Publication

SEB—Standardization and Evaluation Board

SOP—Standard Operating Procedure

SPAFORGEN—Space Force Generation

SPFI—Space Force Instruction

SPINS—Special Instructions

SSC—Space Systems Command

SSN—Space Surveillance Network

Stan/Eval—Standardization and Evaluations

TACDEV—Tactical Development

TACSOP—Tactical Standard Operating Procedures

TIS—Tactical Intelligence Squadron

TOI—Track of Interest

TP—Temporary Procedures

TT&C—Telemetry, Tracking, and Commanding

TTP—Tactics, Techniques, and Procedures

UPM—Unit Preparation Message

USAF—United States Air Force

USAFWS—United States Air Force Weapons School

USSF—United States Space Force

USSPACECOM—United States Space Command

UT—Upgrade Training

WS—Weapon System

Office Symbols

CFC/S35Z—Combat Forces Command Space Control Division

CFC/S73—Combat Forces Command Training and Readiness

CFC/S735T—Combat Forces Command Training Branch

CFC/S735V—Combat Forces Command Stan/Eval Branch