

**BY ORDER OF THE COMMANDER
SPACE SYSTEMS COMMAND**

**SPACE SYSTEMS COMMAND MANUAL
91-710, VOLUME 4**

27 DECEMBER 2022

Safety



**RANGE SAFETY USER
REQUIREMENTS MANUAL -
AIRBORNE FLIGHT SAFETY SYSTEM
DESIGN, TEST, AND
DOCUMENTATION REQUIREMENTS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This manual implements AFI 91-202, *The U.S. Air Force Mishap Prevention Program*, and is consistent with DoDD 3100.10, *Space Policy*; DoDD 3200.11, *Major Range and Test Facility Base (MRTFB)*; DoDD 3230.3, *DoD Support for Commercial Space Launch Activities*; DoDI 3200.18, *Management and Operation of the Major Range and Test Facility Base*, AAFP 91-1, *Nuclear Weapons and Systems Surety*; AAFP 91-2, *Safety Programs*; AAFP 63-1, *Integrated Life Cycle Management*, and the *Memorandum of Agreement between the Department of the Air Force and the Federal Aviation Administration for Launch and Reentry Activity on Department of the Air Force Ranges and Installations*. This volume establishes the design and test requirements for the airborne flight safety system (FSS) and the associated ground support equipment (GSE) for vehicles launched from Space Systems Command (SSC) ranges, including the Eastern Range (ER) and the Western Range (WR). It is to be used in concert with Range Commanders Council (RCC) 319, *Flight Termination Systems Standard (RCC 319)*. Each chapter of this document corresponds to chapters within RCC 319; however, paragraph numbers have been renumbered to align with Air Force publication guidance. This volume adopts the requirements of RCC 319, as supplemented herein. GSE covered by Volume 4 and RCC-319 includes test and support equipment provided by the range user directly related to flight hardware such as code/Mission Data Load (MDL) loading devices and automated acceptance test procedure (ATP)/qualification test procedure (QTP) test equipment. The FSS safety approval process is defined along with the documentation requirements

each Range User is expected to provide. Range Safety refers to the appropriate Space Launch Delta 45 (SLD 45) and/or Space Launch Delta 30 (SLD 30) Safety Office representatives.

This volume applies to all Range Users conducting or supporting operations on the SSC ranges. Range Users include the DoD, non-DoD US government agencies, civilian launch operators, foreign government agencies and other foreign entities that use SSC range facilities and test equipment; conduct prelaunch and launch operations, including payloads, to orbital insertion or impact/landing; and/or require on-orbit; reentry/reusable vehicles or other related support. Commercial users intending to provide launch services from one of the ranges shall have a license or license application in process from the Department of Transportation's Federal Aviation Administration (FAA) or have a DoD sponsorship and be accepted by the DoD to use the ER or WR. Foreign government organizations or other foreign entities shall be sponsored by an appropriate US government organization or be a customer of a Range User. This volume does not apply to the Air National Guard or Air Force Reserve Command units.

In accordance with SSCI 91-701, *The Space Systems Command Launch and Range Safety Program*, all tailored versions of SSCMAN 91-710 are approved by the Space Launch Delta (SLD) Commander.

The authorities to waive SLD/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. Waiver authority of non-tiered requirements may not be delegated below the Space Launch Delta Commander level unless specifically stated in this publication. See DAFMAN 90-161, *Publishing Processes and Procedures*, and any SSC supplements 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. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed IAW the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer to SSCMAN 91-710, Volume 1, Attachment 6 for submitting/recommended supplemented changes and questions to HQ SSC Directorate of Safety (HQ SSC/SE) using the Range Safety approved change request form or DAF Form 847, *Recommendation for Change of Publication*. Route the change request form through the appropriate functional chain of command.

This publication may be supplemented, but all supplements must be approved by HQ SSC/SE prior to certification and approval for publishing. Each range may incorporate range-unique or program-unique requirements into documents other than a supplement, such as an operating instruction, which is only required to be coordinated internally within the local Range Safety organization structure and approved at the local level by the Chief of Safety.

Note: SSCMAN 91-710, Volume 7, contains a glossary of references, acronyms and abbreviations, and terms for use with all the volumes.

SUMMARY OF CHANGES

This document has been updated primarily to reflect organizational changes associated with the establishment of SSC as a USSF Field Command (FLDCOM), and the re-alignment of launch and

range safety program management from the former Air Force Space Command publication to an SSC publication.

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Chapter 1

INTRODUCTION

1.1. Applicability.

1.1.1. The requirements of RCC 319-19 (or subsequent versions) shall apply, as supplemented by new/modified requirements contained in the paragraphs of this publication.

1.1.2. RCC paragraphs that have been removed and replaced are annotated as “(R/R).”

1.1.3. RCC paragraphs that are a new, numbered paragraph are annotated as “(Added).”

Chapter 2

SUPPLEMENTAL INFORMATION TO RCC 319

2.1. Acceptability.

2.1.1. [Added to RCC 319, as new paragraph 1.4.3] Adherence to the requirements stated in this document should produce an airborne system that can be flown at any MRTFB without modification or retest provided the flight vehicle and environment are identical to those used for the initial qualification.

2.1.2. [Added to RCC 319, as new paragraph 1.4.4] Adherence to the design requirements, including untailed bordered paragraphs, stated in this volume, plus testing in the specified manner, produces a hardware design that can be flown at any range without modification or retest provided the flight vehicle and environment are essentially identical to those used for the initial qualification. If modification is made to the qualified flight vehicle or Flight Termination System (FTS)/Flight Safety System (FSS) design, a review by the Range Safety Office of each affected launch range is mandatory and determines whether additional testing or FTS/FSS design modification is required before any flight of the modified vehicle.

2.2. FTS Frequencies.

2.2.1. [R/R RCC 319, paragraph 1.6.3.a.] General: Frequencies 421, 425, and 429.5 MHz are common FTS frequencies for SLD 30 and SLD 45. However, there are operational constraints for use of these frequencies: 421 MHz (primary), 425 MHz (backup/alternate), or 429.5 MHz (test and maintenance). The use of any specific frequency, especially those other than the primary 421 MHz, must be pre-coordinated with the affected Range Operations Squadron spectrum manager to ensure frequency deconfliction with other missions in the region.

2.3. Tailoring.

2.3.1. [R/R RCC 319, paragraph 1.8.a.] It is the responsibility of the Range User to ensure that the tailoring encompasses all of the participating ranges. Ranges that were not involved in the original tailoring of the requirements have the right to restore the requirements of this volume for any program wishing to conduct flight tests or operations at these ranges.

2.3.2. [Added to RCC 319, as new paragraph 1.8.e.] The tailoring processes in SSCMAN 91-710, Volume 1 shall also be followed.

2.4. Waivers and Equivalent Level of Safety Certifications.

2.4.1. [R/R RCC 319, paragraph 1.9.2] The Range User shall submit adequate justification for waivers and equivalent level of safety (ELS) certifications from these requirements to those ranges originally involved. Additionally, at SSC ranges, the waiver and ELS processes in SSCMAN 91-710, Volume 1 shall be followed. All waivers shall be approved by all Range Safety Offices involved. Ranges that were not involved in the original process have the right to restore the requirements of this volume for any program wishing to conduct flight tests or operations at these ranges.

2.5. Responsibilities and Authorities.

2.5.1. [Added to RCC 319, paragraph 1.11.1.] **Note:** The Range User may be required to provide a flight-configured flight termination receiver (FTR) for compatibility test between the range transmitters and the FSS components on launch vehicles.

2.6. FTS Functional Requirements.

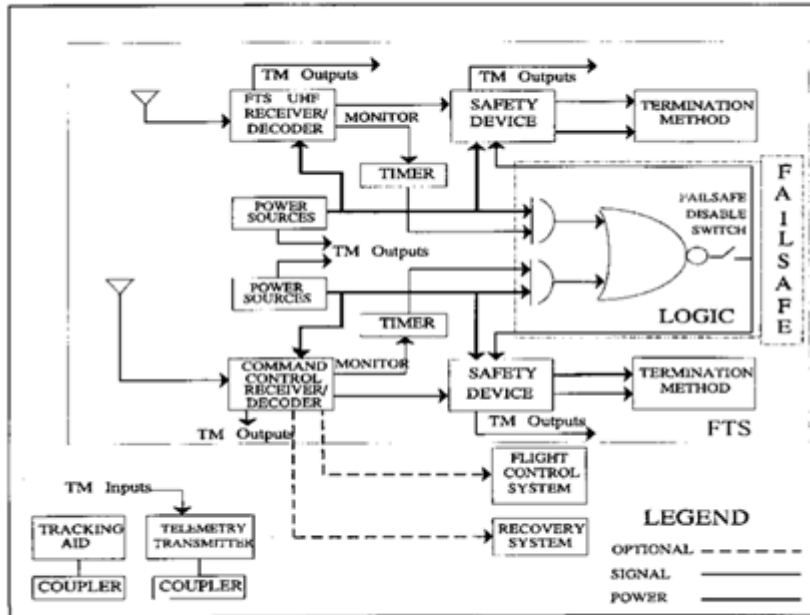
2.6.1. [Added to RCC 319, paragraph 3.1.3.b.] The reentry flight safety system, through ground command or other range safety approved method, shall maintain positive control of the RV from de-orbit initiation of a planned, contingency, or emergency abort flight condition and throughout the full period of Range Safety responsibility as identified in Flight Analysis chapter in SSCMAN 91-710, Volume 2.

2.6.2. [R/R RCC 319, paragraph 3.1.3.e.] In order to protect the public in the event of a vehicle failure, FTS components shall be designed to survive and function properly in the vehicle-induced maximum predicted environment (MPE), plus a margin, over the entire timeframe of the mission. The MPE shall, at a minimum, consider shock, vibration, thermal range, rate of heating, space-based radiation, corona effects, vacuum, and acoustics.

2.7. FTS Design.

2.7.1. [R/R RCC 319, paragraph 3.2.4.b.] Remotely Piloted Vehicles (RPVs) and full-scale aerial target aircraft shall incorporate an FTS that provides the control needed to protect the public in the event of a vehicle failure. The typical FTS for these vehicles is shown in **Figure 2.1**.

Figure 2.1. Typical FSS with FTS for RPVs, Sub- and Full-Scale Aerial Targets, and RLVs.



2.7.2. [Added to RCC 319, as new paragraph 3.2.10.c.] Ordnance shelf/service life extensions, limited to specific lots, can be considered on a case-by-case basis.

2.7.2.1. [Added to RCC 319, as new paragraph 3.2.10.c.(1)] Lot service life extension requests of up to six months may be approved as Equivalent Level of Safety (ELS) based on the data provided with the request (i.e., history of ordnance, performance, available test history, etc.). This determination will be made on a case-by-case basis.

2.7.2.2. [Added to RCC 319, as new paragraph 3.2.10.c.(2)] Lot extensions beyond six months, but less than a year, may be approved as an ELS based on a lot service life extension test with fewer test units than required. This determination will be made on a case-by-case basis.

2.7.2.3. [Added to RCC 319, as new paragraph 3.2.10.c.(3)] Lot extension requests beyond six months (without re-test) may only be approved as a waiver. This determination will be made on a case-by-case basis. If service life testing is a viable option, a waiver will not be granted.

2.8. Environmental Design.

2.8.1. [Added to RCC 319, as new paragraph 3.3.14.] Triboelectrification Mitigation Launch vehicles shall be treated for surface electrification if the flight path will go through any clouds above the -10°C level up to the altitude at which the vehicle's velocity exceeds 3,000 ft/sec. A vehicle is considered "treated" for surface electrification if:

2.8.1.1. [Added to RCC 319, as new paragraph 3.3.14.a.] All surfaces of the vehicle susceptible to precipitation particle impact have been treated to assure:

2.8.1.1.1. [Added to RCC 319, as new paragraph 3.3.14.a.(1)] That the surface resistivity is less than 10^9 ohms/square; and

2.8.1.1.2. [Added to RCC 319, as new paragraph 3.3.14.a.(2)] That all conductors on surface (including dielectric surfaces that have been treated with conductive coatings) are bonded to the vehicle by a resistance that is less than 10^5 ohms; or

2.8.1.2. [Added to RCC 319, as new paragraph 3.3.14.b.] It has been shown by test or analysis that electrostatic discharges (ESDs) on the surface of the vehicle caused by triboelectrification by ice particle impact will not be hazardous to the launch vehicle or the mission. The correct unit for surface resistivity is ohms/square. This means that any square area of any size measured in any units has the same resistance in ohms when the measurement is made from an electrode extending the length of one side of the square to an electrode extending the length of the opposite side of the square. The area-independence is literally valid only for squares; it is not true for other shapes such as rectangles and circles.

2.9. Prelaunch System and Subsystem Level Tests.

2.9.1. [R/R RCC 319, paragraph 5.3.4.a.(1).3.] If the flight is delayed and the FTS configuration is not broken or modified, the 3-day requirement may be extended on a case-by-case basis. A re-test is mandatory after 14 days of launch opportunity (L-3-day end-to-end test + 17 days) or whenever the conditions in RCC 319, Paragraph 5.3.4.a.2.a apply.

2.10. Post-Mission Data Analysis.

2.10.1. [R/R RCC 319, paragraph 5.6.1] The Range User shall review all in-flight telemetry to validate all FTS parameters met their performance requirements. In-flight anomalies, to include Maximum Predicted Environment (MPE) violations, shall be reported immediately to Range Safety. Anomalies refers to not only FTS hardware, but also Mission/Vehicle hardware with commonality to FTS.

2.10.2. [R/R RCC 319, paragraph 5.6.3.a.] In the event of an in-flight failure resulting in FTS action, an investigation shall be initiated. Range Safety representatives shall participate in the investigation and be given sufficient notice to support all activities. Range Safety representatives shall be given all required data to determine if the FTS functioned as required. Flight approval for future flights will not be granted until it has been determined that the FTS functioned correctly.

2.10.3. [Added to RCC 319, as new paragraph 5.6.4] Components that have failed on one program could affect FTS approval on another program using the same or similar design. Range Users are highly encouraged to share FTS safety data with other Range Users to the maximum extent allowable. In the interest of public safety, nonproprietary data shall be separated from proprietary data, where allowable, so as to allow sharing of lessons learned. Nondisclosure agreements shall be used when necessary to facilitate data sharing between non-government entities.

2.11. Prelaunch Data Analysis.

2.11.1. [Added to RCC 319, as new paragraph 5.7.1] The Range User shall review all FTS data taken during prelaunch operations and compare it to Acceptance Test data, with unacceptable deviation reported to Range Safety.

2.11.2. [Added to RCC 319, as new paragraph 5.7.2] The Range User shall review all FTS data taken during prelaunch operations and compare it to data taken on previous missions, with out-of-family occurrences reported to Range Safety. This includes any umbilical data taken during the terminal count.

2.12. System Reliability.

2.12.1. [R/R RCC 319, paragraph 7.2]. System Reliability.

2.12.2. [Added to RCC 319, as new paragraph 7.2.1.] The FTS shall undergo an analysis that demonstrates the predicted reliability of the system. The predicted design reliability shall be a minimum of 0.999 at the 95% confidence level.

2.12.3. [Added to RCC 319, as new paragraph 7.2.1.a.] A reliability number shall be calculated for each mode of flight termination, e.g., command destruct, autodestruct, etc. The reliability number shall be the composite of both strings in a redundant system, not individual strings.

2.12.4. [Added to RCC 319, as new paragraph 7.2.1.b.] A reliability number shall be calculated for inadvertent safing of the FTS. The reliability number shall be the composite of losing both strings in a redundant system, not individual strings.

2.12.5. [Added to RCC 319, as new paragraph 7.2.1.c.] Reliability numbers shall account for factors external to the FTS, such as the interface between the launch vehicle/payload systems and the FTS.

2.13. Failure Analysis.

2.13.1. [R/R RCC 319, paragraph 7.11]. Any failure/anomaly occurring in an FTS or any identical component shall be reported. A failure analysis shall be performed. The failure analysis shall identify the cause of the failure, the mechanism of the failure, and isolate the failure to the smallest replaceable item or items and ensure that there are no generic design, workmanship, or process problems with other flight components of similar configuration. In accordance with RCC 319, Paragraph 8.1.2 a formal report containing a description of the failure, an analysis of the failure, and planned corrective actions shall be submitted to Range Safety within 30 calendar days of the failure analysis completion regardless of when or where the failure occurred.

2.14. FTS Procedures and Plans.

2.14.1. [Added to RCC 319, as new paragraph 8.1.3]. FTS Procedures and Plans.

2.14.2. [Added to RCC 319, as new paragraph 8.1.3.a.] FTS Installation and Checkout Procedures: A Range User shall establish and implement written procedures to ensure that all FTS components are installed on a launch vehicle according to the qualified FTS design. The procedures shall ensure the following:

2.14.3. [Added to RCC 319, as new paragraph 8.1.3.a.(1)] Procedure Content: Detailed procedures for checkout, calibration, and installation of all components of the FTS and its associated ground checkout equipment shall contain, or incorporate by reference, test procedures for each system or piece of equipment to be used for a launch. The procedures shall include the following information:

2.14.3.1. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(a)] The pass/fail criteria for each system or piece of equipment to be used for a launch.

2.14.3.2. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(b)] A description of each task to be performed, each facility to be used, and each hazard involved.

2.14.3.3. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(c)] A checklist of tools and equipment required.

2.14.3.4. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(d)] A list of personnel required for performing each task.

2.14.3.5. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(e)] Step-by-step directions written with sufficient detail for a qualified person to perform each task.

2.14.3.6. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(f)] Identification of any tolerances that shall be met during the installation.

2.14.3.7. [Added to RCC 319, as new paragraph 8.1.3.a.(1)(g)] Steps for inspection of installed FTS components, including quality assurance oversight procedures.

2.14.4. [Added to RCC 319, as new paragraph 8.1.3.a.(2)] Procedure Submittal and Revision.

2.14.4.1. [Added to RCC 319, as new paragraph 8.1.3.a.(2)(a)] The required procedures shall be developed by the Range User and submitted to Range Safety for review and approval no later than 45 calendar days before the need date. **Note:** Previously used procedures may be submitted 30 calendar days before the need date.

2.14.4.2. [Added to RCC 319, as new paragraph 8.1.3.a.(2)(b)] Once approved, these procedures shall not be revised. **Note:** Revisions to any part of an approved procedure require that the procedure be resubmitted to Range Safety for review and approval.

2.14.4.3. [Added to RCC 319, as new paragraph 8.1.3.a.(2)(c)] A list of all procedures shall be incorporated as an appendix to the Flight Termination System Report (FTSR).

2.14.5. [Added to RCC 319, as new paragraph 8.1.3.a.(3)] Procedure Personnel Requirements.

2.14.5.1. [Added to RCC 319, as new paragraph 8.1.3.a.(3)(a)] Use calibrated tools to install ordnance when a specific standoff distance is necessary to ensure that the ordnance has the desired effect on the material it is designed to cut or otherwise destroy.

2.14.5.2. [Added to RCC 319, as new paragraph 8.1.3.a.(3)(b)] The Range User shall ensure each person involved is qualified for each task that person is to perform.

2.14.5.3. [Added to RCC 319, as new paragraph 8.1.3.a.(3)(c)] The engineer or quality assurance personnel overseeing an FTS installation procedure shall signify that the procedure is accomplished and record the outcome and any data verifying successful installation.

2.14.6. [Added to RCC 319, as new paragraph 8.1.3.a.(4)] FTS Prelaunch Test Results: The following test results for each launch shall be submitted to Range Safety in a timely manner to facilitate a launch-ready status:

2.14.6.1. [Added to RCC 319, as new paragraph 8.1.3.a.(4)(a)] One copy of the range prelaunch test results shall be submitted to Range Safety for each FTS component specified by serial number no later than 30 calendar days before launch.

2.14.6.2. [Added to RCC 319, as new paragraph 8.1.3.a.(4)(b)] Any additional data that Range Safety deems necessary shall be submitted on a case-by-case basis.

2.14.7. [Added to RCC 319, as new paragraph 8.1.3.a.(5)] Countdown Plan: A countdown plan shall describe the personnel and equipment that shall be in place, the conditions that shall be met, and the timed sequence of events that shall take place to initiate flight of a launch vehicle while ensuring public safety. A countdown plan shall:

2.14.7.1. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(a)] Cover the period of time when launch support personnel are to be at their designated stations through initiation of flight. **Note:** The period of time that a countdown plan covers may vary with launch vehicle configuration, the complexity of the supporting infrastructure, and complexity of vehicle processing leading to a flight attempt.

2.14.7.2. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(b)] Include procedures for handling anomalies that occur during a countdown and events and conditions that may result in a constraint to initiation of flight.

2.14.7.3. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(b)] Include procedures for delaying or holding a launch when necessary to allow for corrective actions, to await improved conditions, or to accommodate a launch wait.

2.14.7.4. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(c)] Describe a process for resolving issues that arise during a countdown and identify each person responsible for approving corrective actions.

2.14.7.5. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(d)] Include a written countdown checklist that provides a formal decision process leading to flight initiation.

2.14.7.6. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)] A countdown checklist shall include the preflight tests of an FSS required and shall contain, but need not be limited to, the following:

2.14.7.6.1. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(i)] Identification of operations and specific actions completed and verifications performed that there are no constraints to flight and that all launch safety rules and launch commit criteria are satisfied.

2.14.7.6.2. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(ii)] Time of each event.

2.14.7.6.3. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(iii)] Identification of personnel responsible for each operation or specific action, including reporting to the launch conductor.

- 2.14.7.6.4. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(iv)] Identification of communication channel to be used for reporting each event.
- 2.14.7.6.5. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(v)] Identification of communication and event reporting protocols.
- 2.14.7.6.6. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(vi)] Polling of personnel who oversee all safety critical systems and operations to verify their readiness to proceed with the launch.
- 2.14.7.6.7. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(vii)] Provisions for recording the status of countdown events.
- 2.14.7.6.8. [Added to RCC 319, as new paragraph 8.1.3.a.(5)(e)(viii)] Identify primary and backup communications circuits for critical positions.
- 2.14.8. [Added to RCC 319, as new paragraph 8.1.3.a.(6)] Launch Abort or Delay Recovery and Recycle Plan: The launch countdown plan shall have a procedure for recovering from a launch abort or launch delay that results during a launch countdown and recycling for the next launch attempt following procedures that provide for public safety. The plan shall:
- 2.14.8.1. [Added to RCC 319, as new paragraph 8.1.3.a.(6)(a)] Contain, or incorporate by reference, all procedures for recovery from a launch abort or delay, e.g., hangfire, misfire, etc.
- 2.14.8.2. [Added to RCC 319, as new paragraph 8.1.3.a.(6)(b)] Identify the conditions that shall exist in order to make another launch attempt.
- 2.14.8.3. [Added to RCC 319, as new paragraph 8.1.3.a.(6)(c)] Include a schedule depicting the flow of tasks and events in relation to when the abort or delay occurred and the new planned launch time.
- 2.14.8.4. (Added to RCC 319, as new paragraph 8.1.3.a.(6)(d)] Identify all technical and readiness reviews scheduled to be conducted during the recovery period.
- 2.14.8.5. (Added to RCC 319, as new paragraph 8.1.3.a.(6)(e)] Identify the interfaces and supporting entities needed to support recovery operations.
- 2.14.9. (Added to RCC 319, as new paragraph 8.1.3.a.(7)] Communications Plan: A communications plan shall be developed that ensures clear concise communications between personnel involved in launch processing, countdown, and flight.
- 2.14.9.1. (Added to RCC 319, as new paragraph 8.1.3.a.(7)(a)] A communications plan shall list and describe all forms of communication that ensure public safety and any voice and data circuits required to allow real-time interface among launch control and safety personnel for each task during the conduct of hazardous operations, launch processing, countdown, and flight. This includes communications to locations outside of the launch site boundaries when those communications are necessary for public safety and includes those communications that are part of any FSS.
- 2.14.9.2. [Added to RCC 319, as new paragraph 8.1.3.a.(7)(b)] A communications plan shall delineate clear lines of communication and unimpeded flow of reporting and direction. The plan shall define precise and formal communication protocols using well defined terminology and acronyms that can be clearly understood over a voice network.

2.14.9.3. [Added to RCC 319, as new paragraph 8.1.3.a.(7)(c)] The communications plan shall identify communication system reliability and backup circuits.

PAUL J. MEJASICH, NH-04, DAFC
Director of Safety

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

See SSCMAN 91-710, Volume 7, *Range Safety User Requirements Manual - Glossary of References and Supporting Information*, which contains the references, forms, abbreviations, acronyms, office symbols, and terms used within all volumes of the 91-710 publication.