

APPENDIX B OF PART 415—SAFETY
REVIEW DOCUMENT OUTLINE

This appendix contains the format and numbering scheme for a safety review document to be filed as part of an application for a launch license as required by subpart F of part 415. The applicable sections of parts 413, 415, and 417 of this chapter are referenced in the outline below.

SAFETY REVIEW DOCUMENT

- 1.0 Launch Description (§ 415.109)
 - 1.1 Launch Site Description
 - 1.2 Launch Vehicle Description
 - 1.3 Payload Description
 - 1.4 Trajectory
 - 1.5 Staging Events
 - 1.6 Vehicle Performance Graphs
- 2.0 Launch Operator Organization (§ 415.111)
 - 2.1 Launch Operator Organization (§ 415.111 and § 417.103 of this chapter)
 - 2.1.1 Organization Summary
 - 2.1.3 Organization Charts
 - 2.1.4 Office Descriptions and Safety Functions
- 3.0 Launch Personnel Certification Program (§ 415.113 and § 417.105 of this chapter)
 - 3.1 Program Summary
 - 3.2 Program Implementation Document(s)
 - 3.3 Table of Safety Critical Tasks Performed by Certified Personnel
- 4.0 Flight Safety (§ 415.115)
 - 4.1 Initial Flight Safety Analysis
 - 4.1.1 Flight Safety Sub-Analyses, Methods, and Assumptions
 - 4.1.2 Sample Calculation and Products
 - 4.1.3 Launch Specific Updates and Final Flight Safety Analysis Data
 - 4.2 Radionuclide Data (where applicable)
 - 4.3 Flight Safety Plan
 - 4.3.1 Flight Safety Personnel
 - 4.3.2 Flight Safety Rules
 - 4.3.3 Flight Safety System Summary and Preflight Tests
 - 4.3.4 Trajectory and Debris Dispersion Data
 - 4.3.5 Flight Hazard Areas and Safety Clear Zones
 - 4.3.6 Support Systems and Services
 - 4.3.7 Flight Safety Operations
 - 4.3.8 Unguided Suborbital Launch Vehicles (where applicable)
 - 4.1.1 Flight Safety Sub-Analyses, Methods, and Assumptions
 - 4.1.2 Sample Calculation and Products
 - 4.1.3 Launch Specific Updates and Final Flight Safety Analysis Data
 - 4.2 Radionuclide Data (where applicable)
 - 4.3 Flight Safety Plan
 - 4.3.1 Flight Safety Personnel
 - 4.3.2 Flight Safety Rules
 - 4.3.3 Flight Safety System Summary and Preflight Tests
 - 4.3.4 Trajectory and Debris Dispersion Data
 - 4.3.5 Flight Hazard Areas and Safety Clear Zones
 - 4.3.6 Support Systems and Services
 - 4.3.7 Flight Safety Operations
 - 4.3.8 Unguided Suborbital Launch Vehicles (where applicable)
- 5.0 Ground Safety (§ 415.117)
 - 5.1 Ground Safety Analysis Report
 - 5.2 Ground Safety Plan
- 6.0 Launch Plans (§ 415.119 and § 417.111 of this chapter)
 - 6.1 Launch Support Equipment and Instrumentation Plan
 - 6.2 Configuration Management and Control Plan
 - 6.3 Frequency Management Plan
 - 6.4 Flight Termination System Electronic Piece Parts Program Plan
 - 6.5 Accident Investigation Plan
 - 6.6 Local Agreements and Public Coordination Plan
- 6.7 Hazard Area Surveillance and Clearance Plan
- 6.8 Communications Plan
- 7.0 Launch Schedule (§ 415.121)
- 7.1 Launch Processing Schedule
- 8.0 Computing Systems and Software (§ 415.123)
 - 8.1 Hardware and Software Descriptions
 - 8.2 Flow Charts and Diagrams
 - 8.3 Logic Diagrams and Software Design Descriptions
 - 8.4 Operator User Manuals and Documentation
 - 8.5 Software Hazard Analyses
 - 8.6 Software Test Plans, Test Procedures, and Test Results
 - 8.7 Software Development Plan
 - 9.0 Unique Safety Policies, Requirements and Practices (§ 415.125)
 - 10.0 Flight Safety System Design and Operation Data (§ 415.127)
 - 10.1 Flight Safety System Description
 - 10.2 Flight Safety System Diagram
 - 10.3 Flight Safety System Subsystem Design Information
 - 10.4 Flight Safety System Analyses
 - 10.5 Flight Termination System Environmental Design
 - 10.6 Flight Safety System Compliance Matrix
 - 10.7 Flight Termination System Installation Procedures
 - 10.8 Tracking System Validation Procedures
 - 11.0 Flight Safety System Test Data (§ 415.129)
 - 11.1 Testing Compliance Matrix
 - 11.2 Test Program Overview and Schedule
 - 11.3 Flight Safety System Test Plans and Procedures
 - 11.4 Test Reports
 - 11.5 Reuse of Flight Termination System Components
 - 12.0 Flight Safety System Crew Data (§ 415.131)
 - 12.1 Position Descriptions
 - 12.2 Certification and Training Program Description
 - 13.0 Safety at End of Launch (§ 415.133)

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PART 417—LAUNCH SAFETY

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APPENDIX J TO PART 417—GROUND SAFETY ANALYSIS REPORT

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Subpart A—General and License Terms and Conditions

§417.1 General information.

- (a) *Scope.* This part sets forth—
 - (1) The responsibilities of a launch operator conducting a licensed launch of an expendable launch vehicle; and
 - (2) The requirements for maintaining a launch license obtained under part 415 of this chapter. Parts 413 and 415 of this chapter contain requirements for preparing a license application to conduct a launch, including information

reviewed by the FAA to conduct a policy, safety, payload, and environmental review, and a payload determination.

(b) *Applicability.* (1) The administrative requirements for filing material with the FAA in subpart A of this part apply to all licensed launches from a Federal launch range or a non-Federal launch site, except where noted.

(2) The safety requirements of subparts B through E of this part apply to all licensed launches of expendable launch vehicles. See paragraphs (d) and (e) of this section for exceptions to this provision.

(c) *“Meets intent”* certification. For a licensed launch from a Federal launch range, a launch operator need not demonstrate to the FAA that an alternative means of satisfying a requirement of this part provides an equivalent level of safety for a launch if written evidence demonstrates that a Federal launch range has, by the effective date of this part, granted a “meets intent certification,” including through “tailoring,” that applies to the requirement and that launch. See paragraph (f) of this section for exceptions to this provision. Written evidence includes:

- (1) Range flight plan approval,
- (2) Missile system pre-launch safety package,
- (3) Preliminary and final flight data packages,
- (4) A tailored version of EWR 127–1,
- (5) Range email to the FAA stating that the MIC was approved, or
- (6) Operation approval.

(d) *Waiver.* For a licensed launch from a Federal launch range, a requirement of this part does not apply to a launch if written evidence demonstrates that a Federal launch range has, by the effective date of this part, granted a waiver that allows non-compliance with the requirement for that launch. See paragraph (f) of this section for exceptions to this provision. Written evidence includes:

- (1) Range flight plan approval,
- (2) Missile system pre-launch safety package,
- (3) Preliminary and final flight data packages,
- (4) A tailored version of EWR 127–1,
- (5) Range email to the FAA stating that the waiver was approved, or

(6) Operation approval.

(e) *Grandfathering.* For a licensed launch from a Federal launch range, a requirement of this part does not apply to the launch if the Federal launch range’s grandfathering criteria allow noncompliance with the requirement for that launch. See paragraph (f) of this section for exceptions to this provision.

(f) *Exceptions to Federal launch range meets intent certifications, waivers, and grandfathering.* Even if a licensed launch from a Federal launch range satisfies paragraph (c), (d), or (e) of this section for a requirement of this part, the requirement applies and a launch operator must satisfy the requirement, obtain FAA approval of any alternative, or obtain FAA approval for any further noncompliance if—

(1) The launch operator modifies the launch vehicle’s operation or safety characteristics;

(2) The launch operator uses the launch vehicle, component, system, or subsystem in a new application;

(3) The FAA or the launch operator determines that a previously unforeseen or newly discovered safety hazard exists that is a source of significant risk to public safety; or

(4) The Federal launch range previously accepted a component, system, or subsystem, but did not then identify a noncompliance to a Federal launch range requirement.

(g) *Equivalent level of safety.* The requirements of this part apply to a launch operator and the launch operator’s launch unless the launch operator clearly and convincingly demonstrates that an alternative approach provides an equivalent level of safety.

§417.3 Definitions and acronyms.

For the purpose of this part,

Command control system means the portion of a flight safety system that includes all components needed to send a flight termination control signal to an onboard vehicle flight termination system. A command control system starts with any flight termination activation switch at a flight safety crew console and ends at each command-transmitting antenna. It includes all intermediate equipment, linkages, and software and any auxiliary transmitter