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 noncompliance 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

stations that ensure a command signal will reach the onboard vehicle flight termination system from liftoff until the launch vehicle achieves orbit or can no longer reach a populated or other protected area.

Command destruct system means a portion of a flight termination system that includes all components on board a launch vehicle that receive a flight termination control signal and achieve destruction of the launch vehicle. A command destruct system includes all receiving antennas, receiver decoders, explosive initiating and transmission devices, safe and arm devices and ordnance necessary to achieving destruction of the launch vehicle upon receipt of a destruct command.

Conjunction on launch means the approach of a launch vehicle or any launch vehicle component or payload within 200 kilometers of a manned or mannable orbiting object—

(1) During the flight of an unguided suborbital rocket; or

(2) For an orbital launch vehicle during—

(i) The ascent to initial orbital insertion and through at least one complete orbit; and

(ii) Each subsequent orbital maneuver or burn from initial park orbit, or direct ascent to a higher or interplanetary orbit.

Countdown means the timed sequence of events that must take place to initiate flight of a launch vehicle.

Crossrange means the distance measured along a line whose direction is either 90 degrees clockwise (right crossrange) or counter-clockwise (left crossrange) to the projection of a launch vehicle's planned nominal velocity vector azimuth onto a horizontal plane tangent to the ellipsoidal Earth model at the launch vehicle's sub-vehicle point. The terms right crossrange and left crossrange may also be used to indicate direction.

Data loss flight time means the shortest elapsed thrusting time during which a launch vehicle flown with a flight safety system can move from its normal trajectory to a condition where it is possible for the launch vehicle to endanger the public.

Destruct means the act of terminating the flight of a launch vehicle flown with a flight safety system in a way that destroys the launch vehicle and disperses or expends all remaining propellant and renders remaining energy sources non-propulsive before the launch vehicle or any launch vehicle component or payload impacts the Earth's surface.

Downrange means the distance measured along a line whose direction is parallel to the projection of a launch vehicle's planned nominal velocity vector azimuth into a horizontal plane tangent to the ellipsoidal Earth model at the launch vehicle sub-vehicle point. The term downrange may also be used to indicate direction.

Drag impact point means a launch vehicle instantaneous impact point corrected for atmospheric drag.

Dwell time means—

(1) The period during which a launch vehicle instantaneous impact point is over a populated or other protected area; or

(2) The period during which an object is subjected to a test condition.

Explosive debris means solid propellant fragments or other pieces of a launch vehicle or payload that result from break up of the launch vehicle during flight and that explode upon impact with the Earth's surface and cause overpressure.

Fail-over means a method of ensuring continuous or near continuous operation of a command transmitter system by automatically switching from a primary transmitter to a secondary transmitter when a condition exists that indicates potential failure of the primary transmitter.

Family performance data means—

(1) Results of launch vehicle component and system tests that represent similar characteristics for a launch vehicle component or system; and

(2) Data that is continuously updated as additional samples of a given component or system are tested.

Flight safety limit means criteria to ensure a set of impact limit lines established for the flight of a launch vehicle flown with a flight safety system bound the area where debris with a ballistic coefficient of three or more is allowed to impact when a flight safety system functions.

Flight safety system means the system that provides a means of control during flight for preventing a hazard from a launch vehicle, including any payload hazard, from reaching any populated or other protected area in the event of a launch vehicle failure. A flight safety system includes:

(1) All hardware and software used to protect the public in the event of a launch vehicle failure; and

(2) The functions of any flight safety crew.

Flight safety crew means the personnel, designated by a launch operator, who operate flight safety system hardware and software to monitor the flight of a launch vehicle and make a flight termination decision.

Flight termination system means all components, onboard a launch vehicle, that provide the ability to end a launch vehicle's flight in a controlled manner. A flight termination system consists of all command destruct systems, inadvertent separation destruct systems, or other systems or components that are onboard a launch vehicle and used to terminate flight.

Gate means the portion of a flight safety limit boundary through which the tracking icon of a launch vehicle flown with a flight safety system may pass without flight termination.

In-family means a launch vehicle component or system test result that indicates that the component or system's performance conforms to the family performance data that was established by previous test results.

Inadvertent separation destruct system means an automatic destruct system that uses mechanical means to trigger the destruction of a launch vehicle stage.

Launch azimuth means the horizontal angular direction initially taken by a launch vehicle at liftoff, measured clockwise in degrees from true north.

Launch crew means all personnel who control the countdown and flight of a launch vehicle or who make irrevocable operational decisions that have the potential for impacting public safety. A launch crew includes members of the flight safety crew.

Launch processing means all preflight preparation of a launch vehicle at a launch site, including buildup of the launch vehicle, integration of the payload, and fueling.

Launch wait means a relatively short period of time when launch is not permitted in order to avoid a conjunction on launch or to safely accommodate temporary intrusion into a flight hazard area. A launch wait can occur within a launch window, can delay the start of a launch window, or terminate a launch window early.

Launch window means a period of time during which the flight of a launch vehicle may be initiated.

''Meets intent'' certification means a decision by a Federal launch range to accept a substitute means of satisfying a safety requirement where the substitute provides an equivalent level of safety to that of the original requirement.

Normal flight means the flight of a properly performing launch vehicle whose real-time instantaneous impact point does not deviate from the nominal instantaneous impact point by more than the sum of the wind effects and the three-sigma guidance and performance deviations in the uprange, downrange, left-crossrange, or right-crossrange directions.

Normal trajectory means a trajectory that describes normal flight.

Non-operating environment means an environment that a launch vehicle component experiences before flight and when not otherwise being subjected to acceptance tests. Non-operating environments include, but need not be limited to, storage, transportation, and installation.

Operating environment means an environment that a launch vehicle component will experience during acceptance testing, launch countdown, and flight. Operating environments include shock, vibration, thermal cycle, acceleration, humidity, and thermal vacuum.

Operating life means, for a flight safety system component, the period of time beginning with activation of the component or installation of the component on a launch vehicle, whichever is earlier, for which the component is capable of satisfying all its performance specifications through the end of flight.

Operation hazard means a hazard derived from an unsafe condition created

by a system or operating environment or by an unsafe act.

Out-of-family means a component or system test result where the component or system's performance does not conform to the family performance data that was established by previous test results and is an indication of a potential problem with the component or system requiring further investigation and possible corrective action.

Passive component means a flight termination system component that does not contain active electronic piece parts.

Performance specification means a statement prescribing the particulars of how a component or part is expected to perform in relation to the system that contains the component or part. A performance specification includes specific values for the range of operation, input, output, or other parameters that define the component's or part's expected performance.

Protected area means an area of land not controlled by a launch operator that:

(1) Is a populated area;

(2) Is environmentally sensitive; or

(3) Contains a vital national asset.

Safety-critical computer system function means any computer system function that, if not performed, if performed out of sequence, or if performed incorrectly, may directly or indirectly cause a public safety hazard.

Service life means, for a flight termination system component, the sum total of the component's storage life and operating life.

Storage life means, for a flight termination system component, the period of time after manufacturing of the component is complete until the component is activated or installed on a launch vehicle, whichever is earlier, during which the component may be subjected to storage environments and must remain capable of satisfying all its performance specifications.

Sub-vehicle point means the location on an ellipsoidal Earth model where the normal to the ellipsoid passes through the launch vehicle's center of gravity. The term is the same as the weapon system term ''sub-missile point.''

System hazard means a hazard associated with a system and generally exists even when no operation is occurring.

Tracking icon means the representation of a launch vehicle's instantaneous impact point, debris footprint, or other vehicle performance metric that is displayed to a flight safety crew during real-time tracking of the launch vehicle's flight.

Uprange means the distance measured along a line that is 180 degrees to the downrange direction. The term uprange may also be used to indicate direction.

Waiver means a decision that allows a launch operator to continue with a launch despite not satisfying a specific safety requirement and where the launch operator is not able to demonstrate an equivalent level of safety.

§ 417.5 [Reserved]

§ 417.7 Public safety responsibility.

A launch operator is responsible for ensuring the safe conduct of a licensed launch and for ensuring public safety and safety of property at all times during the conduct of a licensed launch.

§ 417.9 Launch site responsibility.

(a) A launch operator must ensure that launch processing at a launch site in the United States satisfies the requirements of this part. Launch processing at a launch site outside the United States may be subject to the requirements of the governing jurisdiction.

(b) For a launch from a launch site licensed under part 420 of this chapter, a launch operator must—

(1) Conduct its operations as required by any agreements that the launch site operator has with any Federal and local authorities under part 420 of this chapter; and

(2) Coordinate with the launch site operator and provide any information on its activities and potential hazards necessary for the launch site operator to determine how to protect any other launch operator, person, or property at the launch site as required by the launch site operator's obligations under § 420.55 of this chapter.

(c) For a launch from an exclusive-use site, where there is no licensed