§ 431.41 Communications plan.

(a) An applicant shall submit a plan providing vehicle safety operations personnel communications procedures during the mission. Procedures for effective issuance and communication of safety-critical information during the mission shall include hold/resume, go/
§431.43 Reusable launch vehicle mission operational requirements and restrictions.

(a) An applicant for RLV mission safety approval shall submit procedures—

(1) That ensure RLV mission risks do not exceed the criteria set forth in §431.35 for nominal and non-nominal operations;

(2) That ensure conformance with the system safety process and associated hazard identification and risk assessment required under §431.35(c);

(3) That ensure conformance with operational restrictions listed in paragraphs (c) through (e) of this section;

(4) To monitor and verify the status of RLV safety-critical systems sufficiently before enabling both launch and reentry flight to ensure public safety and during mission flight unless technically infeasible; and

(5) For human activation or initiation of a flight safety system that safely aborts the launch of an RLV if the vehicle is not operating within approved mission parameters and the vehicle poses risk to public health and safety and the safety of property in excess of acceptable flight risk as defined in §431.35.

(b) To satisfy risk criteria set forth in §431.35(b)(1), an applicant for RLV mission safety approval shall identify suitable and attainable locations for nominal landing and vehicle staging impact or landing, if any. An application shall identify such locations for a contingency abort if necessary to satisfy risk criteria contained in §431.35(b)(1) during launch of an RLV. A nominal landing, vehicle staging impact and contingency abort location are suitable for launch or reentry if—

(1) For any vehicle or vehicle stage, the area of the predicted three-sigma dispersion of the vehicle or vehicle stage can be wholly contained within the designated location; and

(2) The location is of sufficient size to contain landing impacts, including debris dispersion upon impact and any toxic release.

(c) For an RLV mission—

(1) A collision avoidance analysis shall be performed in order to maintain at least a 200-kilometer separation from any inhabitable orbiting object during launch and reentry. The analysis shall address:

(i) For launch, closures in a planned launch window for ascent to outer space or, for an orbital RLV, to initial orbit through at least one complete orbit;

(ii) For reentry, the reentry trajectory;

(iii) Expansions of the closure period by subtracting 15 seconds from the closure start-time and adding 15 seconds to the closure end-time for each sequential 90 minutes elapsed time period, or portion there of, beginning at the time the state vectors of the orbiting objects were determined;

(2) The projected instantaneous impact point (IIP) of the vehicle shall not have substantial dwell time over densely populated areas during any segment of mission flight;