

(3) Provide flow charts or diagrams that show all hardware data busses, hardware interfaces, software interfaces, data flow, and power systems, and all operations of each safety-critical computer system function;

(4) Provide all logic diagrams and software designs;

(5) List all operator user manuals and documentation by title and date;

(6) Describe the computing system and software system safety process as required by §417.123(a).

(7) Provide all results of computing system and software hazard analyses as required by §417.123(c).

(8) Provide all plans and results of computing systems and software validation and verification as required by §417.123(d).

(9) Provide all plans for software development as required by §417.123(e).

§415.125 Unique safety policies, requirements and practices.

An applicant's safety review document must identify any public safety-related policy, requirement, or practice that is unique to the proposed launch, or series of launches, as required by §417.127 of this chapter. An applicant's safety review document must describe how each unique safety policy, requirement, or practice ensures the safety of the public.

§415.127 Flight safety system design and operation data.

(a) *General.* This part applies to an applicant launching an orbital or guided sub-orbital expendable launch vehicle that uses a flight safety system to protect public safety as required by §417.107(a) of this chapter. An applicant's safety review document must contain the flight safety system data identified by this section. The applicant must file all data required by this section no later than 18 months before bringing any launch vehicle to a proposed launch site.

(b) *Flight safety system description.* A safety review document must describe an applicant's flight safety system and its operation. Part 417, subpart D of this chapter and appendices D, E, and F of part 417 of this chapter contain the flight safety system and subsystems design and operational requirements.

(c) *Flight safety system diagram.* An applicant's safety review document must contain a block diagram that identifies all flight safety system subsystems. The diagram must include the following subsystems defined in part 417, subpart D of this chapter: flight termination system; command control system; tracking; telemetry; communications; flight safety data processing, display, and recording system; and flight safety official console.

(d) *Subsystem design information.* An applicant's safety review document must contain all of the following data that applies to each subsystem identified in the block diagram required by paragraph (c) of this section:

(1) *Subsystem description.* A physical description of each subsystem and its components, its operation, and interfaces with other systems or subsystems.

(2) *Subsystem diagram.* A physical and functional diagram of each subsystem, including interfaces with other systems and subsystems.

(3) *Component location.* Drawings showing the location of all subsystem components, and the details of the mounting arrangements, as installed on the vehicle, and at the launch site.

(4) *Electronic components.* A physical description of each subsystem electronic component, including operating parameters and functions at the system and piece-part level. An applicant must also provide the name of the manufacturer and any model number of each component and identify whether the component is custom designed and built or off-the-shelf-equipment.

(5) *Mechanical components.* An illustrated parts breakdown of all mechanically operated components for each subsystem, including the name of the manufacturer and any model number.

(6) *Subsystem compatibility.* A demonstration of the compatibility of the onboard launch vehicle flight termination system with the command control system.

(7) *Flight termination system component storage, operating, and service life.* A listing of all flight termination system components that have a critical storage, operating, or service life and a summary of the applicant's procedures for ensuring that each component does