

10.8 NUCLEAR RADIATION

Materials containing natural or man-made radioisotopes (in any quantity, including trace amounts), shall not be used in any Orbiter or payload subsystem, unless prior approval is received from NASA-JSC.

10.9 (Reserved)

10.10 CARGO BAY FERRY FLIGHT ENVIRONMENTS

During Ferry Flight Operations, the payload within the cargo bay will be exposed to ambient conditions which will not be controlled or monitored. Payloads normally will not be powered nor any heating or cooling systems activated. The following Ferry Flight Environment conditions within the cargo bay shall be generally considered as extreme conditions to which a payload may be exposed. For payloads which require a conditioned environment during surface operations, purge cooling/heating can be made available at selected sites. Payloads having special thermal requirements for either surface or flight operations shall specify such requirements in the applicable PIP.

The maximum number of Shuttle Carrier Aircraft (SCA) landings that the payload can experience is 10.

10.10.1 Pressure

Pressure shall be as follows:

Surface	12.36 to 15.23 psia
16,000 Feet Pressure Altitude	8.00 psia minimum

10.10.2 Temperature

Temperatures shall be as follows:

Surface - Uncontrolled: *	+10 ^o F to +125 ^o F
Surface - Conditioned: **	+48 ^o F to +100 ^o F at 165 lb/min. flow
Altitude: ***	+35 ^o F to +80 ^o F

- * The temperature extremes apply only for ferry flights between primary or secondary landing sites and are the extremes of the diurnal variations for cold and hot conditions, respectively.
- ** Conditioned purge air at the specified temperature range and flow can be made available at selected sites. The temperature range to be provided shall be negotiated, based on shared cargo considerations.
- *** Obtained by altitude adjustment. Maximum duration of any flight segment is 4 hours.

10.10.3 Humidity

The relative humidity for both surface and altitude conditions may range between 2 percent and 98 percent.

10.10.4 Dynamic Induced Environments

Dynamic loads, acoustic noise, and vibration induced environments for ferry flight conditions other than carrier aircraft landings are less critical as compared to the Shuttle launch and landing. For carrier aircraft landings at high sink rates, the payload components being ferried may experience load factors on the same order as launch and landing. If such a "hard landing"

occurs the STS will conduct analyses to determine the severity of the loading environment.

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