Table 1.5-1
NPH Criteria for Safety SSCs

Natural Phenomenon	PC	PC-2	PC-3
Seismic	Performance Goal Annual Probability of Exceedance	$5x10^{-4}$	$1x10^{-4}$
	Required Minimum Annual Hazard Exceedance Probability	Note 1	$4x10^{-4}$
	Ground Acceleration	Note 1, 2	Note 3
Wind	Annual Hazard Exceedance Probability	$1x10^{-2}$	$1x10^{-3}$
	Three-Second Wind Speed, miles per hour (mph)	107	133
	Missile Criteria	Note 3	2x4 timber plank 15 pounds at 50 mph (horizontal); max height 30 ft
Tornado	Annual Hazard Exceedance Probability	Note 3	$2x10^{-5}$
	Three-Second Wind Speed, mph	Note 3	180
	APC	Note 3	70 pounds per square foot (psf) at 31 psf/second
	Missile Criteria	Note 3	-2x4 timber plank 15 pounds at 100 mph (horizontal); max height 150 ft; 70 mph (vertical) -3-inch diameter std steel pipe, 75 pounds at 50 mph (horizontal); max height 75 ft; 35 mph (vertical) -3,000-pound automobile at 19 mph rolls and tumbles
Flood	Annual Hazard Exceedance Probability	$5x10^{-4}$	$1x10^{-4}$
	Roof Design	Notes 4 and 5	
	Design-Basis Flood	Note 6	

1. PC-2 seismic loads: For the purposes of earthquake load design for PC-2 structures, the *International Building Code* (IBC) (Ref. 34) shall be used. The following parameters may be used in the absence of facility-specific data: S_S, 0.2 sec spectral response acceleration = 0.6g; S_1, 1.0 sec spectral response acceleration = 0.2g. In accordance with IBC Subsection 1615.2, design basis spectral accelerations based on the above parameters may be reduced to 80 percent of the calculated values. In general, the site class for SRS is D. A review by a qualified geotechnical engineer of the subsurface condition is recommended for the determination of the facility-specific site class and other seismic information given in this section. The importance factor I_E shall be 1.50 for PC-2, unless otherwise justified. E_m is applicable to structural elements and components where specifically required by IBC Sections 1613 to 1622 or by Chapters 18 through 23. E_m shall include the effect of the overstrength factor per IBC Section 1617.1.2.
2. PC-2/PC-3 seismic loads: Earthquake loads for PC-2 and PC-3 structures shall be determined in accordance with NNSA direction, as discussed in Section 1.5. The DBE seismic design has been increased to a PGA value of 0.20g to be consistent with the seismic design for the MFFF site, which is adjacent to the PDCF site (Refs. 35, 36, 37). Using the procedure specified in NRC RG 1.60 (Ref. 26), for a horizontal and vertical PGA of 0.20g, the enhanced horizontal and vertical earthquake spectra are shown in Tables 1.5-2 and 1.5-3, respectively.
3. There are no specific tornado shelter criteria that are applicable to PC-2 structures. Because tornado shelters are not part of the design of a PC-2 structure, personnel would be evacuated to a designated tornado shelter.
4. Rain load: Rain loads shall be obtained in accordance with the IBC. The minimum drainage system design shall be for a 25-year, 6-hour rainfall event (4.5 inches total accumulation in accordance with Ref. 38) at all PCs. Structural loading shall be determined in accordance with the PC return period. Engineering standard 01110 (Ref. 39) shall be used to quantify the rainfall event. The effects of ponding shall be determined and included as the load P.
5. Snow load: Snow loads shall be obtained in accordance with ASCE 7-02 (Ref. 40). The importance factor shall be 1.0 for PC-2 structures and 1.3 for PC-3 structures. The effects of ponding shall be determined and included as the load P.
6. Flood load: The structure shall be designed for the flooding and wave action consequences associated with flooding events with return periods of 2,000 years for PC-2 structures or 10,000 years for PC-3 structures, in accordance with DOE-STD-1020-2002 (Ref. 25). Loads resulting from flooding and wave action shall be considered for each SRS area in accordance with the flood hazard curves provided in Ref. 41.