5.0 Site Parameters

The information in this section of the reference ABWR DCD, including all tables and figures, is incorporated by reference with the following departure and site-specific supplement.

STP DEP T1 5.0-1 (Table 5.0)

Table 5.0 ABWR Site Parameters

Maximum Ground Water Level:

61.0 cm below grade

Maximum Flood (or Tsunami) Level:

~~*30.5 cm below grade* **1478.3**~~ **1219.2 cm above MSL**
Nominal plant grade of 1036.3 cm MSL
Flood Level = ~~442.0~~ 182.9 cm above nominal plant grade

Precipitation (for Roof Design):
- Maximum rainfall rate: ~~*49.3*~~ **50.3** cm/h(3)
- Maximum snow load: 2.394 kPa

Ambient Design Temperature:
1% Exceedance Values

- Maximum: 37.8°C(8) dry bulb
  ~~*25°C*~~ **26.3°C**(8) wet bulb (coincident)
  ~~*26.7°C*~~ **27.3°C** wet bulb (non-coincident)
- Minimum:–23.3°C(8)

0% Exceedance Values (Historical Limit)

- Maximum: 46.1°C dry bulb
  26.7°C wet bulb (coincident)
  ~~*27.2°C*~~ **31.3°C** wet bulb (non-coincident)(9)
- Minimum: –40°C

Exclusion Area Boundary (EAB): An area whose boundary has a Chi/Q less than or equal to 1.37×10^{-3} s/m^3.

Extreme Wind: Basic Wind Speed:

177 km/h(1)/197 km/h(2)

Tornado

- Maximum tornado wind speed: 483 km/h
- Maximum pressure drop: 13.827 kPaD
- Missile spectra: Spectrum I(4)

Soil Properties:
- Minimum static bearing capacity: 718.20 kPa(5)
- Minimum shear wave velocity: 305 m/s(6)
- Liquefaction potential: None at plant site resulting from site specific SSE ground motion

Seismology:
- SSE response spectra: See Figures 5.0a and 5.0b(7)

Meteorological Dispersion (Chi/Q):
- Maximum 2-hour 95% EAB 1.37×10^{-3} s/m^3
- Maximum 2-hour 95% LPZ 4.11×10^{-4} s/m^3
- Maximum annual average (8760 hour) LPZ 1.17×10^{-6} s/m^3

Table 5.0 ABWR Site Parameters

[1] 50-year recurrence interval; value to be utilized for design of non-safety-related structures only.

[2] 100-year recurrence interval; value to be utilized for design for safety-related structures only.

[3] Maximum value for 1 hour over 2.6 km^2 probable maximum precipitation (PMP) with ratio of 5 minutes to 1 hour PMP of 0.32. Maximum short-term rate: ~~15.7~~ **16.3** cm/5 min.

[4] Spectrum I missiles consist of a massive high kinetic energy missile which deforms on impact, a rigid missile to test penetration resistance, and a small rigid missile of a size sufficient to just pass through any openings in protective barriers. These missiles consist of an 1800 kg automobile, a 125 kg, 20 cm diameter armor piercing artillery shell, and a 2.54 cm diameter solid steel sphere, all impacting at 35% of the maximum horizontal wind speed of the design basis tornado. The first two missiles are assumed to impact at normal incidence, the last to impinge upon barrier openings in the most damaging directions.

[5] At foundation level of the reactor and control buildings.

[6] ~~This is the minimum shear wave velocity at low strains after the soil property uncertainties have been applied.~~ Shear wave velocities at multiple depths below the foundation of seismic Category I structures are less than 305 m/s (1,000 ft/sec). The deviations from the minimum shear wave velocity requirement will be justified by site-specific soil structure interaction analysis.

[7] Free-field, at plant grade elevation.

[8] Non-safety-related HVAC systems are designed based on outdoor summer temperatures of 32.8°C dry bulb and 26.3°C wet bulb (coincident) and outdoor winter temperature of 2.1°C dry bulb.

[9] The STP site-specific design conditions for UHS design are based on Victoria meteorological data as described in Tier 2 FSAR Section 9.2.5.5.