Enclosure 2

MFN 15-050, Revision 1

Revised GEH Response to Item #4, Maximum Groundwater Level

ABWR DCD DRAFT Revision 6 Markups

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2.0 Site Characteristics

2.0.1 Summary

This section defines the envelope of site-related parameters which the ABWR Standard Plant is designed to accommodate. These parameters envelope most potential sites in the U.S. A summary of the site envelope design parameters is given in Table 2.0-1.

2.0.2 References

2.0.2-1 Electric Power Research Institute, "Advanced Light Water Reactor Utility Requirements Document," Revision 8, March 1999

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Table 2.0-1						
Envelope of ABWR Standard Plant Site Design Parameters						
Maximum Ground Water Level:	61.0 cm below grade					
Extreme Wind:	Basic Wind Speed: 177 km/h [*] / 197 km/h [†]					
Maximum Flood (or Tsunami) Level:‡	30.5 cm below grade					
Tornado:	 Maximum Tornado Wind Speed: Maximum Rotational Speed: Translational Velocity: Radius: Maximum Pressure Drop: Rate of Pressure Drop: Missile Spectra: 	483 km/h 386 km/h 97 km/h 45.7m 13.827 kPaD 8.277 kPa/s Spectrum I ^f				
Precipitation (for Roof Design):	– Maximum Rainfall Rate: – Maximum Snow Load:	49.3 cm/h ^{**} 2.394 kPa				
Ambient Design Temperature: 1% Exceedance Values - Maximum: 37.8°C dry bulb 25°C wet bulb (coincident) 25.7°C wet bulb (non-coincident) 26.7°C wet bulb (non-coincident) - Minimum: -23.3°C 0% Exceedance Values (Historical limit) - Maximum 46.1°C dry bulb 26.7°C wet bulb (coincident) 26.7°C wet bulb (coincident) - Maximum 46.1°C dry bulb 26.7°C wet bulb (coincident) - Maximum 46.1°C dry bulb 26.7°C wet bulb (coincident) - Minimum: -40°C		lent) nit) lent)				
Soil Properties:	 Minimum Static Bearing Capacity: Minimum Shear Wave Velocity: Liquification Potential: 	718.20 kPa ^{††} 305 m/s ^{‡‡} None at plant site resulting from site specific SSE ground motion				

Seismology:	 SSE Peak Ground Acceleration: SSE Response Spectra: SSE Time History: 	0.30g ^{f f} per RG 1.60 Envelope SSE Response Spectra
Hazards in Site Vicinity: Exclusion Area Boundary: (EAB)	 Site Proximity Missiles and Aircraft Toxic Gases Volcanic Activity An area whose boundary has a Chi/Q less than or equal to 1.37 x 10⁻³ s/m³ 	≤10 ⁻⁷ per year None None
Meteorological Dispersion (Chi/Q):	 Maximum 2-hour 95% EAB Maximum 2-hour 95% LPZ Maximum annual average (8760 hour) LPZ 	1.37x10 ⁻³ s/m ³ 4.11x10 ⁻⁴ s/m ³ 1.17x10 ⁻⁶ s/m ³

Table 2.0-1Envelope of ABWR Standard Plant Site Design Parameters (Continued)

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

- † 100-year recurrence interval; value to be utilized for design for safety-related structures only.
- ‡ Probable maximum flood level (PMF), as defined in ANSI/ANS 2.8, "Determining Design Basis Flooding at Rower Reactor Sites."
- *f* 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 consists 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 windspeed of the design basis tornado. The first two missiles are assumed to impact at normal incidence, the last to impinge upon openings in the most damaging directions.
- ** Maximum value for 1 hour over 2.6 km² probable maximum precipitation (PMP) with ratio of 5 minutes to 1 hour PMP of 0.32 as found in National Weather Source Publication HMR No. 52. Maximum short term rate: 15.7 cm/5 min.
- ++ At foundation level of the reactor and control buildings.
- ‡‡ This is the minimum shear wave velocity at low strains after the soil property uncertainties have been applied.
- *ff* Free-field, at plant grade elevation.

As defined in Table 1.2-6 of Volume II of Reference 2.0.2-1.