

Table 1. Current Design Basis Flood Hazards for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Design Basis Hazard Elevation	Reference
Local Intense Precipitation Maximum water surface elevation not crediting storm drainage system.	19.9 ft NAVD88	Minimal	19.9 ft NAVD88	FHRR Section 3.1
Streams and Rivers PMP combined with tidal effect	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Table 5-1, Note 1
Failure of Dams and Onsite Water Control/Storage Structures	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 3.3 and FHRR Table 5-1
Storm Surge Surge at Seawall	14.8 ft NAVD88	Minimal	14.8 ft NAVD88	FHRR Section 5.4 and FHRR Table 5-1
Site ponding due to surge (waves overtopping seawall)	20.2 ft NAVD88	0.8 ft	21.0 ft NAVD88	FHRR Section 5.4 and FHRR Table 5-1
Seiche	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Table 5-1
Tsunami	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Table 5-1
Ice-Induced Flooding	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Table 5-1

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Mechanism	Stillwater Elevation	Waves/ Runup	Design Basis Hazard Elevation	Reference
Channel Migrations/Diversions	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 3.9

Note 1: Reported values are rounded to the nearest one-tenth of a foot.

Note 2: FHRR Section 5.4 (Surge) states that, with regard to the CLB "some minor overtopping is expected, with still water levels on the site not exceeding +20.23 ft-NAVD88 (+21.00 ft-Plant Datum). The overtopping could support minor wave activity that could conservatively result in a wave runup on building walls to +21.03 ft-NAVD88 (+21.8 ft-Plant Datum)."

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/Runup	Reevaluated Hazard Elevation	Reference
Local Intense Precipitation				
Pump House/Site-specific PMP - Point of Interest (POI) 12	20.7 ft NAVD88	Minimal	20.7 ft NAVD88	Table 4-3 of FHRR
Containment Units 1/Site-specific PMP - POI 59	21.8 ft NAVD88	Minimal	21.8 ft NAVD88	Table 4-3 of FHRR
Turbine Building/Site-specific PMP - POI 57	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	Table 4-3 of FHRR
Fuel Storage Building/Site-specific PMP - POI 19	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	Table 4-3 of FHRR
Waste Process Building/Site-specific PMP - POI 25	23.8 ft NAVD88	Minimal	23.8 ft NAVD88	Table 4-3 of FHRR
Administration Building/Site-specific PMP - POI 36	20.9 ft NAVD88	Minimal	20.9 ft NAVD88	Table 4-3 of FHRR
Cooling Tower/Site-specific PMP - POI 69	20.3 ft NAVD88	Minimal	20.3 ft NAVD88	Table 4-3 of FHRR
Dry Fuel Storage Pad/Site-specific PMP - POI 83	25.1 ft NAVD88	Minimal	25.1 ft NAVD88	Table 4-3 of FHRR
Storm Surge				
Seawall	17.8 ft NAVD88	5.6 ft	23.4 ft NAVD88	FHRR Table 5-1
Surge+Wave Overtopping at Intake Building (POI 1)	20.2 ft NAVD88	Minimal	20.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/Runup	Reevaluated Hazard Elevation	Reference
Surge+Wave Overtopping at Pump House Building (POI 11)	20.0 ft NAVD88	Minimal	20.0 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Pump House Building (POI 9, 10, 12 and 13)	20.3 ft NAVD88	Minimal	20.3 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Pump House Building (POI 3 and 6)	20.4 ft NAVD88	Minimal	20.4 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Pump House Building (POI 7 and 8)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Pump House Building (POI 5 and 14)	20.7 ft NAVD88	Minimal	20.7 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Pump House Building (POI 4)	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping (POI 15)	20.2 ft NAVD88	Minimal	20.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 62)	20.3 ft NAVD88	Minimal	20.3 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 16 and 17)	20.5 ft NAVD88	Minimal	20.5 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 63)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Reevaluated Hazard Elevation	Reference
Surge+Wave Overtopping at Containment Unit 1 (POI 61)	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 60)	20.9 ft NAVD88	Minimal	20.9 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 59)	21.0 ft NAVD88	Minimal	21.0 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Containment Unit 1 (POI 18)	22.1 ft NAVD88	Minimal	22.1 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 21)	20.2 ft NAVD88	Minimal	20.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 22)	20.5 ft NAVD88	Minimal	20.5 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 23)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 27)	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 24)	21.0 ft NAVD88	Minimal	21.0 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Waste Process Building (POI 26)	23.1 ft NAVD88	Minimal	23.1 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Reevaluated Hazard Elevation	Reference
Surge+Wave Overtopping at Waste Process Building (POI 25)	24.6 ft NAVD88	Minimal	24.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 50)	20.2 ft NAVD88	Minimal	20.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 49)	20.4 ft NAVD88	Minimal	20.4 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 31 and 48)	20.5 ft NAVD88	Minimal	20.5 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 28, 36, 37 and 51)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 44, 45, 46 and 47)	20.7 ft NAVD88	Minimal	20.7 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 35, 38 and 42)	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 32 and 39)	20.9 ft NAVD88	Minimal	20.9 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 43)	21.0 ft NAVD88	Minimal	21.0 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 33 and 41)	21.1 ft NAVD88	Minimal	21.1 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Reevaluated Hazard Elevation	Reference
Surge+Wave Overtopping at Administration Building (POI 40)	21.2 ft NAVD88	Minimal	21.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 34)	21.3 ft NAVD88	Minimal	21.3 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Administration Building (POI 30)	24.3 ft NAVD88	Minimal	24.3 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Turbine Building (POI 58)	20.4 ft NAVD88	Minimal	20.4 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Turbine Building (POI 53)	20.5 ft NAVD88	Minimal	20.5 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Turbine Building (POI 52)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 65 and 66)	20.3 ft NAVD88	Minimal	20.3 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 64 and 72)	20.4 ft NAVD88	Minimal	20.4 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 73)	20.6 ft NAVD88	Minimal	20.6 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 74)	20.7 ft NAVD88	Minimal	20.7 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Reevaluated Hazard Elevation	Reference
Surge+Wave Overtopping at Cooling Tower (POI 71 and 75)	20.8 ft NAVD88	Minimal	20.8 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 67)	20.9 ft NAVD88	Minimal	20.9 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 68 and 70)	21.0 ft NAVD88	Minimal	21.0 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9
Surge+Wave Overtopping at Cooling Tower (POI 69)	21.2 ft NAVD88	Minimal	21.2 ft NAVD88	FHRR Table 4-3, FHRR Table 4-41, and FHRR Figure 4-9

Note 1: Reevaluated hazard mechanisms bounded by the current design basis (see Table 1) are not included in this table

Note 2: Reported values are rounded to the nearest one-tenth of a foot.

Note 3: Storm surge elevations at locations other than the seawall reflect water elevations on the site as a result of waves overtopping the seawall and water flowing across the site. Staff added the resulting overtopping depths (FHRR Table 4-41) and ground elevations to compute the stillwater elevations at the POIs associated with site buildings as shown in FHRR Figure 4-9 and FHRR Figure 4-10. The PMSS ponding level (given as the wave-overtopping effected stillwater elevation in this table) exceeds that of the CDB. The licensee stated that the reevaluated wave runup on building walls can be expected to be somewhat more than that described in the CDB (FHRR Section 5.4).

Note 4: To develop storm surge elevations at locations other than the seawall, staff sorted and grouped the stillwater elevation values by site building and then by stillwater elevation value. Staff developed table scenarios based on site building and stillwater elevation groups at no finer than 0.1-ft increments .

Note 5: With respect to storm surge elevations at locations other than the seawall, the licensee stated in FHRR Table 4- 3 that “it is apparent that the stated WSEL for POI 30 is not the general surface elevation of the floodwater in that location, particularly given the minimal flood depth. Local topography and nearby POIs 31 and 32 should be referenced to determine a reasonable, conservative flooding level for this point.”

Note 6: With respect to storm surge elevations at locations other than the seawall, the licensee stated in FHRR Table 4- 41 that “POI 29 is located on top of the RHR vault roof; therefore, flood depths do not accumulate because the RHR Vault roof is higher than the maximum flood water levels in the area.” The licensee does not provide the definition of RHR within the FHRR.

Note 7: Values reported for local intense precipitation are representative values for each building