

Subsection 2.4.10 Table of Contents

<u>Section</u>	<u>Title</u>	<u>Page</u>
2.4.10	Flooding Protection Requirements	2.4.10-1

2.4.10 Flooding Protection Requirements

The flooding protection requirements are based on protecting SSCs against all postulated flooding events generated outside the power block area as well as the local intense precipitation or local probable maximum precipitation (PMP) as explained below.

As described in Subsection 2.4.4, the maximum water level at VCS from flood events generated outside the power block area is elevation 91.0 feet (27.7 meters) NAVD 88, which is due to a postulated breaching of the cooling basin embankment. This flood elevation is 4.0 feet (1.2 meters) below the minimum finished site grade elevation of 95.0 feet (29.0 meters) NAVD 88 at the power block area. The design of VCS will consider this maximum flood level to ensure that safety functions will not be adversely affected. As explained in Subsection 2.4.4, because the power block area is not inundated during a breaching of the cooling basin embankment, the impact of erosion and sedimentation on the power block is not a concern.

Evaluations of flooding concerns as a result of other postulated extreme flood events are described in Subsections 2.4.3, 2.4.5, 2.4.6, 2.4.7, and 2.4.9. The results indicate that inundated areas, i.e., the flood zones, are at much lower levels than the existing natural ground elevation of VCS and at considerable distances away from the power block area. The safety function of VCS is therefore not expected to be adversely impacted by flooding or erosion from these events. Also, the VCS site is not subject to any flood from ice or channel diversions.

As described in Subsection 2.4.2.3, the site layout and facilities at the VCS site, including the stormwater drainage system, have not been finalized for the ESP. The design of the stormwater drainage system would be conducted at the COL application stage to divert the runoff away from the power block area so that the peak discharges from the PMP would not flood or adversely impact safety-related facilities in the power block area.