SUBSECTION 2.4.10 TABLE OF CONTENTS

2.4.10 Flooding Protection Requirements

Flooding protection requirements are based on protecting safety-related and risk-significant structures, systems, and components (SSCs) against all postulated external extreme flooding events including flooding as a result of local intense precipitation (i.e., probable maximum precipitation [PMP]). The evaluations of these flood hazards are described in detail in Subsections 2.4.2 through 2.4.7 and Subsection 2.4.9.

(SRI/CEII) The postulated external extreme flood events at the site are associated with flooding in the Clinch River arm of the Watts Bar Reservoir, which forms the boundary of the Clinch River Nuclear (CRN) Site on the east, south, and the west. Subsection 2.4.2 summarizes the maximum flood levels for various flooding scenarios for the CRN Site including the PMP. Based upon Subsection 2.4.3, the design basis external flood level is the maximum Clinch River PMP flood level, coincident with wind wave activity, and is Elevation [redacted] ft National Geodetic Vertical Datum of 1929 (NGVD29) ([redacted] ft North American Vertical Datum of 1988 [NAVD88]). The external flood level of [redacted] ft NGVD29 ([redacted] NAVD88) envelops all types of flood levels generated outside of the site. This flood elevation is approximately [redacted] ft below the grade elevation of 821 ft NAVD88 in the power block area.

Evaluation of flooding as a result of local intense precipitation or local PMP is described in Subsection 2.4.2.3. The existing topography at the CRN Site naturally drains the runoff water to the east, south, and west with flow directed to the Clinch River arm of the Watts Bar Reservoir. The final grading plan of the CRN Site will take full advantage of this favorable topography by employing a number of measures, including grading slopes and diversion ditches, to divert runoff water to the Clinch River arm of the Watts Bar Reservoir on three sides of the plant similar to the existing conditions. This will result in minimal backwater effects at the power block area during the local PMP event.

Thus no adverse impacts to the function of safety-related and risk-significant SSCs at the CRN Site are expected during the design basis extreme flooding event and the local intense precipitation event. Detailed design of the site layout and facilities at the CRN Site, including the storm water drainage system would be conducted and the final site grading and site layout would be designed such that safety-related and risk-significant SSCs would be able to function.