3.3 Wind and Tornado Loadings

The information in this section of the reference ABWR DCD, including all subsections and tables, is incorporated by reference with the following departure and supplements.

STD DEP T1 2.15-1

STP DEP 3.5-2

Design requirements for STP 3 & 4 due to hurricane winds and hurricane generated missiles are described in Section 3H.11.

3.3.1.1 Design Wind Velocity

The information in this subsection of the reference ABWR DCD is incorporated by reference with the following standard supplement.

The 177 km/h for 50 year recurrence interval and 197 km/h for 100 year recurrence interval are based on DCD Reference 3.3-1, which is "fastest mile". Per Reference 3.3-4 Table 1609.3.1 and Equation 16-34, these correspond to a wind velocity (3 second gust) of 203 km/h with a recurrence interval of 50 years and 224 km/h with a recurrence interval of 100 years.

3.3.1.2 Determination of Applied Forces

The information in this subsection of the reference ABWR DCD is incorporated by reference with the following departure and standard supplement.

STD DEP T1 2.15-1

Applied forces for the Reactor~~,~~ and *Control ~~and Radwaste~~ Buildings are found in Appendices 3H.1~~,~~* and 3H.2 *~~and 3H.3,~~ respectively.*

The applied forces and the procedure used to determine the wind loading on the Ultimate Heat Sink are described in Appendix 3H.6.

3.3.2.2 Determination of Forces on Structures

The information in this subsection of the reference ABWR DCD is incorporated by reference with the following standard supplement.

The applied forces and procedure used to determine the tornado loading on the site-specific safety-related structures, including the Ultimate Heat Sink are described in Appendix 3H.6.

3.3.3 COL License Information

3.3.3.1 Site-Specific Design Basis Wind

The following site-specific supplement addresses COL License Information Item 3.1.

The site-specific design basis wind does not exceed the design basis wind given in Table 2.0-1 of the reference ABWR DCD.

3.3.3.2 Site-Specific Design Basis Tornado

The following site-specific supplement addresses COL License Information Item 3.2.

The site-specific design basis tornado does not exceed the design basis tornado given in Table 2.0-1 of the reference ABWR DCD.

3.3.3.3 Effect of Remainder of Plant Structures, Systems and Components Not Designed for Wind Loads

The following site-specific supplement addresses COL License Information Item 3.3.

The design criteria for plant structures, systems and components (SSCs) not designed for wind loads are as follows: Such SSCs not designed for wind loads are analyzed using the 1.15 importance factor or are checked to ensure that their mode of failure will not affect the ability of safety-related SSCs to perform their intended safety functions. When wind load analyses for Non-Category I SSCs are performed using the 1.15 importance factor, these analyses are performed in accordance with ASCE 7-05 (Ref. 3.3-5) using a minimum basic wind speed of 125 mph (50 year recurrence interval, 3-second gust). Other parameters used in these analyses are as specified in Section 3H.6.4.3.2.

3.3.3.4 Effect of Remainder of Plant Structures, Systems, and Components Not Designed for Tornado Loads

The following site-specific supplement addresses COL License Information Item 3.4.

The design criteria for plant SSCs not designed for tornado loads are as follows: Those plant SSCs not designed for tornado loads and located within close proximity of safety-related SSCs such that their collapse under tornado loading may impact the nearby safety-related SSCs are evaluated for applicable tornado loads to ensure that they will not collapse onto the safety-related SSCs under tornado loading.

3.3.4 References

The information in this subsection of the reference ABWR DCD is incorporated by reference with the following standard (Ref. 3.3-4) and plant specific (Ref. 3.3-5) supplements.

3.3-4 International Code Council, 2006 International Building Code.

3.3-5 American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) 7, 2005 Minimum Design Loads for Building and Other Structures