Appendix A

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A.1 Permit Conditions

Permit Condition: The Commission's regulation in 10 CFR § 52.24 authorizes the inclusion of limitations and conditions in an ESP. A permit condition is not needed when an existing NRC regulation requires a future regulatory review of a matter to ensure adequate safety during design, construction, or inspection activities for a new plant. The staff is proposing that the Commission include eight permit conditions, which are set forth below, to control various safety matters.

Permit Condition No.	SER Section	Description
2.1 - Introduction		
1	2.1.2	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application to govern exclusion area control. This permit condition would require that approvals called for by State law for, among other matters, agreements providing for shared control of the North Anna ESP exclusion area, be obtained and the agreements executed before construction of a nuclear power plant begins under a construction permit or COL referencing the ESP.
2	2.1.2	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that the ESP holder obtain the right to implement the site redress plan before initiating any activities authorized by 10 CFR 52.25 .
2.4 - Hydrology		
3	2.4.1	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that an applicant referencing such an ESP in an application for a fourth proposed unit use a dry cooling tower system during normal operation.

Permit Condition No.	SER Section	Description
4	2.4.13	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that an applicant referencing such an ESP design any new unit's radwaste systems with features to preclude any and all accidental releases of radionuclides into any potential liquid pathway.
2.5 - Geology, Seismology, and Geotechnical Engineering		
5	2.5.1	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that the ESP holder and/or an applicant referencing such an ESP replace weathered or fractured rock at the foundation level with lean concrete before initiation of foundation construction.
6	2.5.1	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application prohibiting the ESP holder or an applicant referencing such an ESP from using an engineered fill with high compressibility and low maximum density, such as saprolite.
7	2.5.4	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that the ESP holder and/or an applicant referencing such an ESP perform geologic mapping of future excavations for safety-related structures, evaluate any unforseen geologic features that are encountered, and notify the NRC no later than 30 days before any excavations for safety-related structures are open for NRC's examination and evaluation.
8	2.5.4	The NRC staff proposes to include a condition in any ESP that might be issued in connection with this application requiring that the ESP holder and/or an applicant referencing such an ESP improve Zone II saprolitic soils to reduce any liquefaction potential if safety-related structures are to be founded on them.

A.2 COL Action Items

COL Action Items: The combined license (COL) action items set forth in the SER and incorporated herein identify certain matters that shall be addressed in the final safety analysis report (FSAR) by an applicant who submits an application referencing the North Anna ESP. These items constitute information requirements but do not form the only acceptable set of information in the FSAR. An applicant may depart from or omit these items, provided that the departure or omission is identified and justified in the FSAR. In addition, these items do not relieve an applicant from any requirement in 10 CFR Parts 50 and 52 that govern the application. After issuance of a construction permit (CP) or COL, these items are not controlled by NRC requirements unless such items are restated in the preliminary safety analysis report or FSAR, respectively.

The staff identified the following COL action items with respect to individual site characteristics in order to ensure that particular significant issues are tracked and considered during the review of a later application referencing any ESP that might be issued for the North Anna ESP site.

Action Item No.	SER Section	Subject To Be Addressed	Reason for Deferral
2.1 - Introduction			
2.1-1	2.1.1	A COL or CP applicant should provide latitude, longitude, and Universal Transverse Mercator coordinates for new units.	Exact unit locations not known at ESP stage.
2.1-2	2.1.2	A COL or CP applicant should make arrangements with the appropriate local, State, Federal, or other public agencies to provide for control of the portions of Lake Anna and the WHTF that are within the exclusion area.	Such arrangements not required at ESP stage.
2.2 - Nearby Industrial, Transportation, and Military Facilities			
2.2-1	2.2.2	A COL or CP applicant should perform an evaluation of industrial hazards, if any, associated with this site.	No hazard present, but zoning could allow them during ESP term.

Action Item No.	SER Section	Subject To Be Addressed	Reason for Deferral
2.2-2	2.2.3	A COL or CP applicant should assess design-specific interactions between the existing and new units and, if necessary, propose measures to account for such interactions..	New unit design and specific location not known at ESP stage
2.3 - Meteorology			
2.3-1	2.3.2	A COL or CP applicant should, as part of detailed engineering, assess the potential impact of the dry cooling towers on the design and operation of the new facility.	Cooling tower location and design not known at ESP stage
2.3-2	2.3.4	A COL or CP applicant should assess dispersion of airborne radioactive materials to the control room.	Control room location and design not known at ESP stage.
2.3-3	2.3.5	A COL or CP application should verify specific release point characteristics and specific locations of receptors of interest used to generate the long-term (routine release) atmospheric dispersion site characteristics.	Exact release points and receptor locations not known at ESP stage.
2.4 - Hydrology			
2.4-1	2.4.1	A COL or CP application should provide the NRC for review the layout of intake and discharge tunnels and the construction techniques to be used before commencement of construction activities.	The feasibility of the use of the existing discharge tunnel from the abandoned units is not known at the ESP stage.
2.4-2	2.4.1	A COL or CP applicant should develop a plant shutdown protocol for proposed Unit 3 when water surface elevation in Lake Anna falls to 242 ft MSL	Future uses and therefore low-level frequency not known at ESP stage. Water surface elevation of 73.8 m (242 ft) MSL is the applicant-proposed shutdown level for the new units.
2.4-3	2.4.1	A COL or CP applicant should show that the combined cooling water flow rate for the new units does not exceed 2540 cfs.	Maximum additional water available for use by the new units is limited by the water budget calculation.

Action Item No.	SER Section	Subject To Be Addressed	Reason for Deferral
2.4-4	2.4.2	A COL or CP applicant should show that the ESP site is graded such that any flooding caused by local intense precipitation will be discharged to Lake Anna even in the event that any and all active drainage systems may be blocked and unable to function.	Detailed design of the plants, including the site grade are beyond the scope of an ESP review.
2.4-5	2.4.2	A COL or CP applicant should show that all safety-related structures are located at elevations above the maximum water surface elevation produced by local intense precipitation, or that adequate flood protection measures are in place to ensure their safety.	Certain locations within the ESP site area can be at the flood elevation of the site in response to local intense precipitation. It is not feasible to determine flooding protection needs at the ESP stage in response to local intense precipitation because final site grade and drainage patterns are not yet known.
2.4-6	2.4.4	A COL or CP applicant should demonstrate that the UHS reservoirs are designed so as to satisfy the NRC's regulations.	Detailed engineering design of underground UHS reservoirs, should they be needed, to preclude uplift due to buoyancy is not within the scope of ESP review.
2.4-7	2.4.4	A COL or CP applicant should demonstrate that the UHS storage basins provide storage sufficient to meet 30-day emergency cooling water needs accounting for any and all losses including but not limited to seepage, evaporation, and icing for the selected plants, if the selected plant designs includes a UHS. Programmatic provisions should be provided for plant shutdown when the liquid water volume in the UHS storage basin is inadequate.	Detailed engineering design of underground UHS reservoirs, should they be needed, to ensure adequate capacity is not within the scope of ESP review.
2.4-8	2.4.8	A COL or CP applicant should address whether Lake Anna or the WHTF will be used for safety-related water withdrawals.	The ESP water budget analysis relies on independent UHS reservoirs only, but need for a UHS is not known at the ESP stage.

Action Item No.	SER Section	Subject To Be Addressed	Reason for Deferral
2.4-9	2.4.10	A COL or CP applicant should adequately address the issue of slope embankment protection during design of the intake structure.	Safety of intake structure from slope embankment failure is a part of intake structure design, which is beyond the scope of an ESP review.
2.4-10	2.4.11	A COL or CP applicant should identify the most restrictive cooling water needs to account for the frequency of low-flow conditions and related minimum water elevation in Lake Anna and propose corresponding actions.	Technical specifications for safe shutdown of the plant due to low water conditions are based on consideration of the details of the design of the normal cooling water heat sink that are not available at the ESP stage.
2.5 - Geology, Seismology, and Geotechnical Information			
2.5-1	2.5.1	A COL or CP applicant should perform additional borings to identify any weathered or fractured rock beneath the new foundations.	Exact unit locations not known at ESP stage.
2.5-2	2.5.4	A COL or CP applicant should submit plot plans and the profiles of all seismic Category I facilities for comparison with the subsurface profile and material properties.	Exact unit locations and design not known at ESP stage.
2.5-3	2.5.4	An ESP holder and/or a COL or CP applicant should submit excavation and backfill plans for NRC review.	Exact unit locations and design not known at ESP stage.
2.5-4	2.5.4	A COL or CP applicant should assess groundwater conditions as they affect foundation stability or detailed dewatering plans.	Exact unit locations and design not known at ESP stage.
2.5-5	2.5.4	A COL or CP applicant should perform additional soil column amplification /attenuation analyses.	Exact unit locations not known at ESP stage.
2.5-6	2.5.4	A COL or CP applicant should provide analysis of the stability of all planned safety-related facilities, including bearing capacity, rebound, settlement, and differential settlements under deadloads of fills and plant facilities, as well as lateral loading conditions.	Exact unit locations and design not known at ESP stage.

Action Item No.	SER Section	Subject To Be Addressed	Reason for Deferral
2.5-7	2.5.4	A COL or CP applicant should provide design-related criteria pertinent to structural design.	Exact unit locations and design not known at ESP stage.
2.5-8	2.5.4	A COL or CP applicant should provide specific plans for each proposed ground improvements technique it plans to employ so that the staff may determine whether the chosen techniques will ensure that Zone IIA saprolitic soils will be able to support safety-related foundations.	Exact unit locations and design not known at ESP stage.
2.5-9	2.5-4	A COL or CP applicant should determine the average shear-wave velocity of the material underlying the foundation for the reactor containment and verify that it is equal to or exceeds that of the chosen design.	Site average shear-wave velocity of the Zone III-IV bedrock slightly less than design value provided at ESP stage.
2.5-10	2.5.5	A COL or CP applicant should conduct a more detailed dynamic analysis of the stability of the existing slope and any new slopes using the safe-shutdown earthquake (SSE) ground motion.	Locations of safety-related structures relative to the existing or new slopes not known at ESP stage.
2.5-11	2.5.5	A COL or CP applicant should provide plot plans and cross sections/profiles of all safety-related slopes, and specify the measures that it will take to ensure the safety of slopes and any structures located adjacent to the slopes.	Locations of safety-related structures relative to the existing or new slopes not known at ESP stage.
3.2 - Radiological Effluent Release Dose Consequences from Normal Operations			
3.2-1	3.2.4	A COL or CP applicant should verify that the calculated radiological doses to members of the public from radioactive gaseous and liquid effluents for any facility to be built on the North Anna site are bounded by the radiological doses included in the ESP application and reviewed by the NRC.	Specific details of how the new facility will control, monitor, and maintain radioactive gaseous and liquid effluents not known at ESP stage.
13.6 - Industrial Security			
13.6-1	13.6	A COL or CP applicant should provide specific designs for protected area barriers.	Exact locations and design of barriers not known at ESP stage.

A.3 Site Characteristics

Site Characteristics: Based on site investigation, exploration, analysis and testing, the applicant initially proposes a set of site characteristics. These site characteristics are specific physical attributes of the site, whether natural or man-made. Site characteristics, if reviewed and approved by the staff, are specified in the ESP. The staff proposes to include the following site characteristics in any ESP that might be issued for the North Anna site.

Site Characteristic	Value	Definition
2.1 - Introduction		
Exclusion Area Boundary	The perimeter of a 5000 ft radius circle from the center of the abandoned Unit 3 containment	The area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area
Low Population Zone	6 mile radius circle centered at the Unit 1 containment building	The area immediately surrounding the exclusion area which contains residents
Population Center Distance	8 miles	The minimum allowable distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents

Site Characteristic		Value	Definition
2.3 - Meteorology			
Ambient Air Temperature and Humidity			
Maximum Dry-Bulb Temperature	2% annual exceedance	90 °F with 75 °F concurrent wet-bulb	The ambient dry-bulb temperature (and coincident wet-bulb temperature) that will be exceeded 2% of the time annually
	0.4% annual exceedance	95 °F with 77 °F concurrent wet-bulb	The ambient dry-bulb temperature (and coincident wet-bulb temperature) that will be exceeded 0.4% of the time annually
	100-year return period	109 °F	The ambient dry-bulb temperature that has a 1% annual probability of being exceeded (100-year mean recurrence interval)
Minimum Dry-Bulb Temperature	99% annual exceedance	18 °F	The ambient dry-bulb temperature below which dry-bulb temperatures will fall 1% of the time annually
	99.6% annual exceedance	14 °F	The ambient dry-bulb temperature below which dry-bulb temperature will fall 0.4% of the time annually
	100-year return period	-19 °F	The ambient dry-bulb temperature for which a 1% annual probability of a lower dry-bulb temperature exists (100-year mean recurrence interval)

Site Characteristic		Value	Definition
Maximum Wet-Bulb Temperature	0.4% annual exceedance	79 °F	The ambient wet-bulb temperature that will be exceeded 0.4% of the time annually
	100-year return period	88 °F	The ambient wet-bulb temperature that has a 1% annual probability of being exceeded (100-year mean recurrence interval)
Basic Wind Speed			
3-s Gust		96 mi/hr	The 3-s gust wind speed at 33 ft above the ground that has a 1% annual probability of being exceeded (100-year mean recurrence interval)
Design-Basis Tornado			
Maximum Wind Speed		260 mi/h	Maximum wind speed resulting from passage of a tornado having a probability of occurrence of 10^{-7} per year
Translational Speed		52 mi/hr	Translation component of the maximum tornado wind speed
Rotational Speed		208 mi/hr	Rotation component of the maximum tornado wind speed
Radius of Maximum Rotational Speed		150 ft	Distance from the center of the tornado at which the maximum rotational wind speed occurs

Site Characteristic	Value	Definition
Maximum Pressure Drop	1.5 lbf/in²	Decrease in ambient pressure from normal atmospheric pressure resulting from passage of the tornado
Maximum Rate of Pressure Drop	0.76 lbf/in²/s	Rate of pressure drop resulting from the passage of the tornado
Winter Precipitation		
100-Year Snowpack	30.5 lbf/ft²	Weight of the 100-year return period snowpack (to be used in determining extreme winter precipitation loads for roofs)
48-Hour Probable Maximum Winter Precipitation	20.75 in. of water	Probable maximum precipitation during the winter months (to be used in conjunction with the 100-year snowpack in determining extreme winter precipitation loads for roofs)
Ultimate Heat Sink Ambient Air Temperature and Humidity		
Meteorological Conditions Resulting in the Minimum Water Cooling During Any 1 Day	78.9 °F wet-bulb temperature with coincident 87.7 °F dry-bulb temperature	Historic worst 1-day daily average of wet-bulb temperatures and coincident dry-bulb temperatures
Meotorological Conditions Resulting in the Minimum Water Cooling During Any Consecutive 5 days	77.6 °F wet-bulb temperature with coincident 80.9 °F dry-bulb temperature	Historic worst 5-day daily average of wet-bulb temperatures and coincident dry-bulb temperatures resulting in minimum water cooling

Site Characteristic	Value	Definition
Meteorological Conditions Resulting in the Maximum Evaporation and Drift Loss During Any Consecutive 30 Days	76.3 °F wet-bulb temperature with coincident 79.5 °F dry-bulb temperature	Historic worst 30-day daily average of wet-bulb temperatures and coincident dry-bulb temperatures
Meteorological Conditions Resulting in the Maximum Water Freezing in the UHS Water Storage Facility	322 °F degree-days below freezing	Historic maximum cumulative degree-days below freezing
Short-Term (Accident Release) Atmospheric Dispersion		
0–2 hr P/Q Value @ EAB	2.26×10^{-4} s/m³	The 0–2 hour atmospheric dispersion factor to be used to estimate dose consequences of accidental airborne releases at the EAB
0–8 hr P/Q Value @ LPZ	2.05×10^{-5} s/m³	The 0–8 hour atmospheric dispersion factor to be used to estimate dose consequences of accidental airborne releases at the LPZ
8–24 hr P/Q Value @ LPZ	1.36×10^{-5} s/m³	The 8–24 hour atmospheric dispersion factor to be used to estimate dose consequences of accidental airborne releases at the LPZ
1–4 day P/Q Value @ LPZ	5.58×10^{-6} s/m³	The 1–4 day atmospheric dispersion factor to be used to estimate dose consequences of accidental airborne releases at the LPZ

Site Characteristic	Value	Definition
4–30 day P/Q Value @ LPZ	1.55×10^{-6} s/m³	The 4–30 day atmospheric dispersion factor to be used to estimate dose consequences of accidental airborne releases at the LPZ
Long-Term (Routine Release) Atmospheric Dispersion		
Annual Average Undepleted/No Decay χ/Q Value @ EAB	3.7×10^{-6} s/m³	The maximum annual average EAB undepleted/no decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/2.26 Day Decay P/Q Value @ EAB	3.7×10^{-6} s/m³	The maximum annual average EAB undepleted/2.26 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Depleted/8.00 Day Decay P/Q Value @ EAB	3.3×10^{-6} s/m³	The maximum annual average EAB depleted/8.00 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average D/Q Value @ EAB	1.2×10^{-8} 1/m²	The maximum annual average EAB D/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/No Decay P/Q Value @ Nearest Resident	2.4×10^{-6} s/m³	The maximum annual average resident undepleted/no decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual

Site Characteristic	Value	Definition
Annual Average Undepleted/2.26 Day Decay P/Q Value @ Nearest Resident	2.4×10^{-6} s/m³	The maximum annual average resident undepleted/2.26 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Depleted/8.00 Day Decay P/Q Value @ Nearest Resident	2.1×10^{-6} s/m³	The maximum annual average resident depleted/8.00 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average D/Q Value @ Nearest Resident	7.2×10^{-9} 1/m²	The maximum annual average resident D/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/No Decay P/Q Value @ Nearest Meat Animal	1.4×10^{-6} s/m³	The maximum annual average meat animal undepleted/no decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/2.26 Day Decay P/Q Value @ Nearest Meat Animal	1.4×10^{-6} s/m³	The maximum annual average meat animal undepleted/2.26 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual

Site Characteristic	Value	Definition
Annual Average Depleted/8.00 Day Decay P/Q Value @ NearestMeat Animal	1.2×10^{-6} s/m³	The maximum annual average meat animal depleted/8.00 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average D/Q Value @ Nearest Meat Animal	3.1×10^{-9} 1/m²	The maximum annual average meat animal D/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/No Decay P/Q Value @ Nearest Veg. Garden	2.0×10^{-6} s/m³	The maximum annual average vegetable garden undepleted/no decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Undepleted/2.26 Day Decay P/Q Value @ Nearest Veg. Garden	2.0×10^{-6} s/m³	The maximum annual average vegetable garden undepleted/2.26 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average Depleted/8.00 Day Decay P/Q Value @ Nearest Veg. Garden	1.8×10^{-6} s/m³	The maximum annual average vegetable garden depleted/8.00 day decay P/Q value for use in determining gaseous pathway doses to the maximally exposed individual
Annual Average D/Q Value @ Nearest Veg. Garden	6.0×10^{-9} 1/m²	The maximum annual average vegetable garden D/Q value for use in determining gaseous pathway doses to the maximally exposed individual

Site Characteristic	Value	Definition
2.4 - Hydrology		
Hydrology		
Proposed Facility Boundaries	Appendix A, Figure 1 (FSER Figure 2.4.14-1) shows the proposed facility boundary using its corners numbered 1-8 and also lists the geographical coordinates of these points in Virginia State Plane Coordinate System using NAD 83 Datum. The coordinates are expressed in feet.	ESP site boundary map
Minimum Lake Water Level	242ft MSL	Low water surface shutdown elevation for operation of NAPS Units 1 and 2, and of proposed Unit 3
Maximum Elevation of Ground Water	82.3 m (270ft) MSL or 1 ft below the free surface, whichever is higher	The maximum elevation of ground water at the ESP site
Flood Elevation	82.3 m (270ft) MSL	Maximum flood level at the ESP site due to a PMF in Lake Anna's watershed, simultaneous failure of upstream storage reservoirs, and coincident wind-wave action.
Local Intense Precipitation	46.61 cm (18.35in)/hour and 15.42 cm (6.07 in) in 5 minutes	Maximum potential rainfall at the immediate ESP site.
Frazil and Anchor Ice	The ESP site has the potential for formation of frazil and anchor ice.	Accumulated ice formation in a turbulent flow condition.

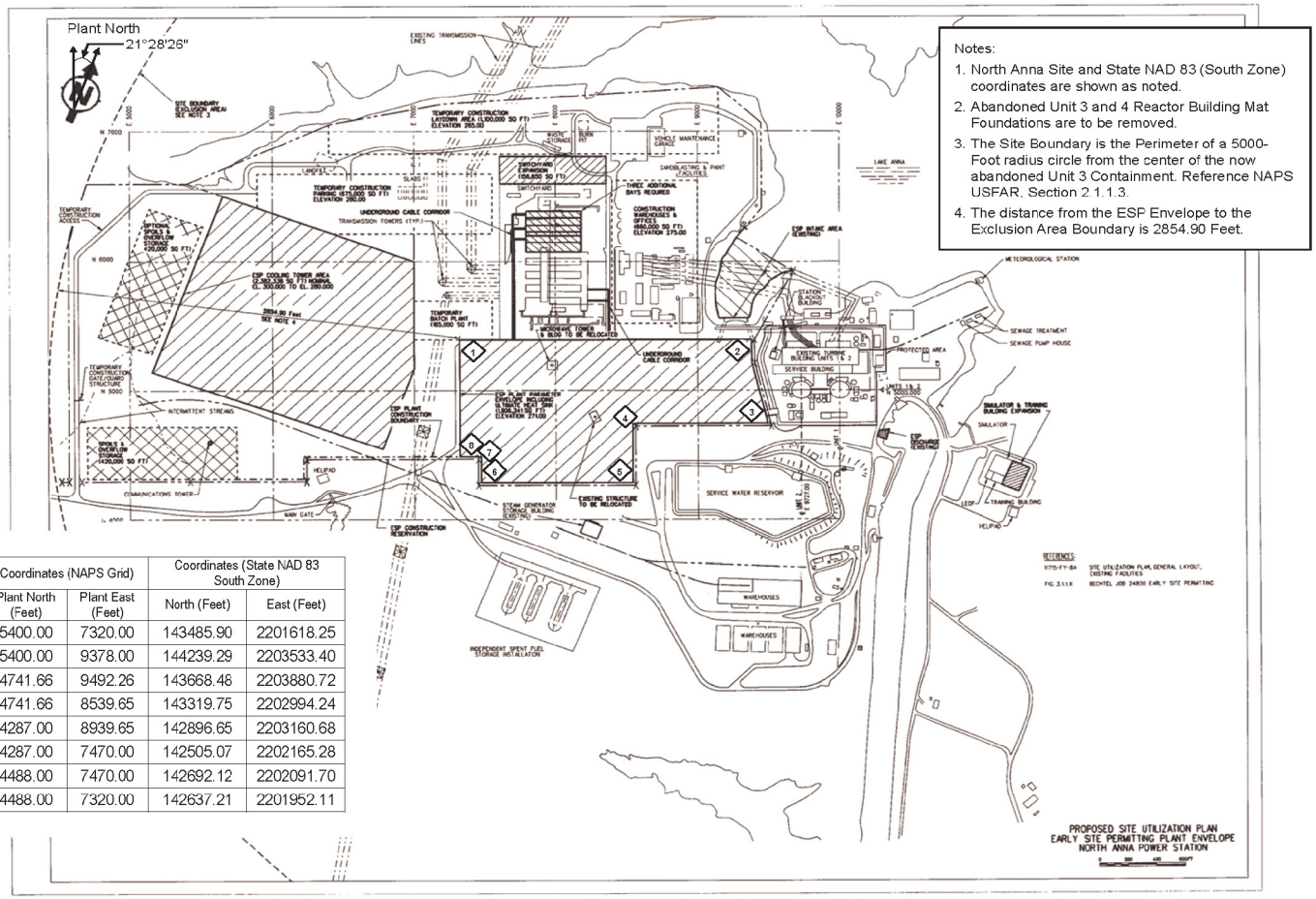
Site Characteristic	Value	Definition
Maximum Ice Thickness	43.4 cm (17.1 in) thick	Ice sheet thickness at Lake Anna (based on maximum cumulative degree-days below freezing of 178.8 EC (321.8 EF))
Maximum Cumulative Degree-Days Below Freezing	178.8 EC (321.8 EF)	A measure of severity of winter weather conditions conducive to ice formation (computed using air temperature data from Piedmont Research Station)
Hydraulic Conductivity	1.0 m/d (3.4 ft/d)	Ground water flow rate per unit hydraulic gradient.
Hydraulic Gradient	0.03 m/m (0.1 ft/ft)	Slope of ground water surface under unconfined conditions or slope of hydraulic pressure head under confined conditions.

Site Characteristic		Value	Definition
2.5 - Geology, Seismology, and Geotechnical Engineering			
Basic Geologic and Seismic Information			
Capable Tectonic Structures		------	No fault displacement potential within the investigative area
Vibratory Ground Motion			
Design Response Spectra		Appendix A, Figure 2 (FSER Figure 2.5.2-6)	Site Specific response spectra
Stability of Subsurface Materials and Foundations			
Zone III Weathered Rock (205ft - 298ft)	Minimum Bearing Capacity	16 ksf	Allowable load-bearing capacity of layer supporting plant structures
	Minimum Shear Wave Velocity	2000 ft/sec	Propagation of shear waves through foundation materials
Zone III - IV	Minimum Bearing Capacity	80 ksf	Allowable load-bearing capacity of layer supporting plant structures
	Minimum Shear Wave Velocity	3300 ft/sec	Propagation of shear waves through foundation materials
Zone IV Bedrock (188ft - 298ft)	Minimum Bearing Capacity	160 ksf	Allowable load-bearing capacity of layer supporting plant structures
	Minimum Shear Wave Velocity	6300 ft/sec	Propagation of shear waves through foundation materials

A.4 Bounding Parameters

Plant Parameter Envelope: A plant parameter envelope (PPE) sets forth postulated values of design parameters that provide design details to support the NRC staff's review of an ESP application. A controlling PPE value, or bounding parameter value, is one that necessarily depends on a site characteristic. As the PPE is intended to bound multiple reactor designs, the actual design selected in a combined license (COL) or construction permit (CP) application referencing an ESP would be reviewed to ensure that the design fits within the bounding parameter values. Otherwise, the COL or CP applicant would need to demonstrate that the design, given the site characteristics in the ESP, complies with the Commission's regulations. Should an applicant reference an ESP for a design that is not certified, the applicant would need to demonstrate that the design's characteristics fall within the bounding parameter values.

Bounding Parameters	Value	Definition
2.4 - Hydrology		
Maximum Cooling Water Flow Rate - Unit 3	2540 cfs	Total cooling water flow rate through the condensor (also the rate of withdrawal from Lake Anna and return to the WHTF)
Maximum Cooling Water Temperature Rise	18°F	Temperature rise across the condensor (temperature of water out minus the temperature of water in) at full station load and full cooling water flow
Maximum Inlet Temperature	95°F	Maximum temperature of water incoming into condenser based on the site specific discharge temperature (113 F) and the cooling water temperature rise (18 F) at full station load and full cooling water flow
Minimum Site Grade	82.6 (271 ft) MSL	Finished site grade



	Coordinates (NAPS Grid)		Coordinates (State NAD 83 South Zone)	
	Plant North (Feet)	Plant East (Feet)	North (Feet)	East (Feet)
1	5400.00	7320.00	143485.90	2201618.25
2	5400.00	9378.00	144239.29	2203533.40
3	4741.66	9492.26	143668.48	2203880.72
4	4741.66	8539.65	143319.75	2202994.24
5	4287.00	8939.65	142896.65	2203160.68
6	4287.00	7470.00	142505.07	2202165.28
7	4488.00	7470.00	142692.12	2202091.70
8	4488.00	7320.00	142637.21	2201952.11

Figure 1 (Figure 2.4.14-1) The proposed facility boundary for the ESP site

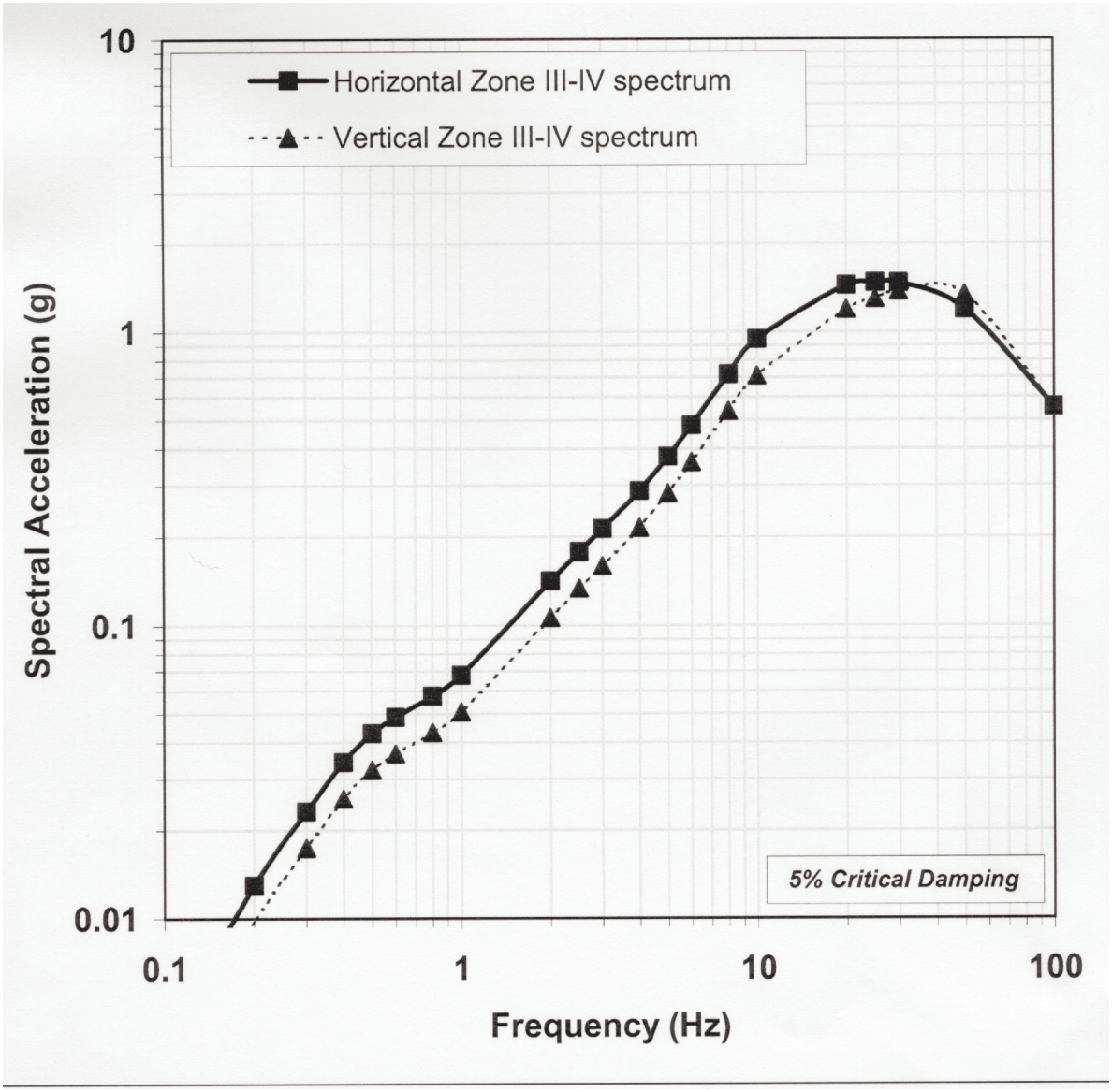


Figure 2 (Figure 2.5.2-6 (SSAR Figure 2.5-48A)) Selected Horizontal and Vertical Response Spectra for the Hypothetical Rock Outcrop Control Point SSE at the Top of Zone III-IV Material