Tennessee Valley Authority, 1101 Market Street, Chattanooga, TN 37402

CNL-16-202

December 27, 2016

10 CFR 2.101
10 CFR 52.15

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Clinch River Nuclear Site
NRC Project No. 785

Subject: Submittal of Supplemental Information Regarding the Environmental Protection Plan in Support of the Early Site Permit Application for Clinch River Nuclear Site

References:
1. Letter from TVA to NRC, CNL-16-081, "Application for Early Site Permit for Clinch River Nuclear Site," dated May 12, 2016
2. Letter from TVA to NRC, CNL-16-134, "Schedule for Submittal of Supplemental Information in Support of Early Site Permit Application for Clinch River Nuclear Site," dated August 11, 2016

By letter dated May 12, 2016 (Reference 1), Tennessee Valley Authority (TVA) submitted an application for an early site permit for the Clinch River Nuclear (CRN) Site in Oak Ridge, TN. Subsequent to the submittal of this application, and consistent with interactions with Nuclear Regulatory Commission (NRC) staff, TVA identified certain aspects of the application that it intended to supplement. By letter dated August 11, 2016 (Reference 2), TVA provided a plan for submitting the identified supplemental information.

In addition to the planned submission of supplemental information identified in Reference 2, and consistent with interactions with the NRC staff, the enclosure to this letter contains changes to the Environmental Report (ER) incorporating an Environmental Protection Plan (EPP) and conforming changes to the ER. Attachment 1 to this enclosure contains the proposed EPP. The EPP and conforming changes to the ER described above will be incorporated in a future revision of the ESPA.

There are no new regulatory commitments associated with this submittal. If any additional information is needed, please contact Dan Stout at (423) 751-7642.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 27th day of December 2016.

Respectfully,

J. W. Shea
Vice President, Nuclear Licensing

Enclosure:

Supplemental Information Related to the Environmental Protection Plan

cc (Enclosure):

P. Vokoun, Project Manager, Division of New Reactor Licensing, USNRC

cc (without Enclosure):

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C. Haney, Regional Administrator, Region II, USNRC
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ENCLOSURE

Supplemental Information Related to the Environmental Protection Plan

By letter dated May 12, 2016 (Reference 1), Tennessee Valley Authority (TVA) submitted an application for an early site permit for the Clinch River Nuclear (CRN) Site in Oak Ridge, TN. Subsequent to the submittal of this application, and consistent with interactions with Nuclear Regulatory Commission (NRC) staff, TVA identified certain aspects of the application that it intended to supplement. By letter dated August 11, 2016 (Reference 2), TVA provided a plan for submitting the identified supplemental information.

In addition to the planned submission of supplemental information identified in Reference 2, and consistent with interactions with the NRC staff, the enclosure to this letter contains changes to the Environmental Report (ER) incorporating an Environmental Protection Plan (EPP) and conforming changes to the ER. Attachment 1 to this enclosure contains the proposed EPP. This enclosure also contains a markup of the conforming changes to the Environmental Report (ER) Section 5.10, "Measures and Controls to Limit Adverse Impacts during Operation," ER Table 5.10-1, "Summary of Measures and Controls to limit Adverse Operational Impacts," ER Subsections 6.1.3, "Operational Thermal Monitoring," 6.3.3, "Operational Monitoring," 6.5.1.2, "Construction, Preoperational, and Operational Monitoring," 6.5.2.3, "Preoperational and Operational Monitoring," and 6.6.3.1, "Surface Water Monitoring." The EPP and changes to the ER described above will be incorporated in a future revision of the ESPA.

References:

1. Letter from TVA to NRC, CNL-16-081, "Application for Early Site Permit for Clinch River Nuclear Site," dated May 12, 2016

2. Letter from TVA to NRC, CNL-16-134, "Schedule for Submittal of Supplemental Information in Support of Early Site Permit Application for Clinch River Nuclear Site," dated August 11, 2016

Attachment:

1. ER, Part 3, Appendix B, Environmental Protection Plan

Supplemental Information

During interactions with the NRC staff, it was identified that ER, Chapter 6, "Environmental Measurements and Monitoring Programs," does not discuss the inclusion of conditions for protecting non-aquatic environment as a license condition. 10 CFR 51.50(b)(4) states, "Each environmental report must identify the procedures for reporting and keeping records of environmental data, and any conditions and monitoring requirements for protecting the non-aquatic environment proposed for possible inclusion in the license as environmental conditions in accordance with § 50.36b of this chapter."

ER Chapter 6 discusses the types of programs required to monitor activities in order to access the environmental impact during facility operation. Specifically, ER Subsections 6.1.3, 6.3.3, 6.4.3, 6.5.1.2, 6.5.2.3, and 6.6.3.1, provide operational monitoring requirements.

TVA is providing, for inclusion as Appendix B in the ER, an EPP that describes environmental protection issues, consistency requirements, and administrative procedures to be implemented as part of the CR Small Modular Reactor (SMR) Project. The EPP addresses aquatic and terrestrial resources, including those resources protected under the Endangered Species Act of 1973. For each resource, the EPP describes the regulatory requirements for protection, the applicable permits that will be obtained, TVA's proposed procedures for utilizing Best Management Practices (BMPs), conservation measures, appropriate mitigation measures, and TVA's proposed reporting and records retention procedures.

The mark up of conforming changes made in the ER text to address the addition of an EPP includes:

- ER Section 5.10 summarizes the principal adverse environmental impacts of operations and controls to limit these impacts. Table 5.10-1 summarizes the feasible measures and controls that have been identified for mitigating operational impacts, including those for a variety of non-aquatic environmental resources. ER Section 5.10 and Table 5.10-1 are being revised to incorporate references to the EPP, where the EPP provides the requirements for BMPs, permits, and reporting and records retention procedures.

- ER Subsections 6.1.3, 6.3.3, 6.5.1.2, 6.5.2.3, and 6.6.3.1 are being revised to state the operational monitoring record keeping requirements, reporting requirements and to reference the specific regulatory requirements upon which operational monitoring requirements are based.

ER Subsection 5.10 is being revised as indicated. Strikethroughs indicate text to be deleted. Underlines indicate text to be added.

5.10 MEASURES AND CONTROLS TO LIMIT ADVERSE IMPACTS DURING OPERATION

This section summarizes the principal adverse environmental impacts of operations and controls to limit these impacts. The cause-and-effect relationships between operational environmental disturbances and the corresponding affected environmental receptors/resources are presented in Table 5.10-1. The horizontal axis on the matrix represents the principal environmental disturbances and the vertical axis depicts the environmental receptors or resources that could be affected by those disturbances. Table5.10-1 also summarizes feasible measures and controls that have been identified for mitigating operational impacts.

The significance indicators provided in Table 5.10-1 are designated using the following descriptors: SMALL (S), MODERATE (M), or LARGE (L). The significance indicators are defined in Section 5.0. The assignment of significance levels (S, M, and L) is based on the assumption that for each impact, corresponding feasible and adequate measures and controls (or equivalents) are implemented. If a SMALL (S) significance determination is made without the implementation of measures and controls, then no additional measures and controls are identified in Table 5.10-1. A blank cell in the elements column, "Potential Environmental Disturbances and Impact Levels," denotes "no impact" of that type on the environmental resource. Each "Impact Description or Activity" attribute is assigned a number and each "Feasible and Adequate Measures and Controls" attribute is assigned a number in parenthesis that corresponds to the respective "Impact Description or Activity."

The feasible and adequate measures and controls described in Table 5.10-1 are considered reasonable from a practical, engineering, and economic view; many are based on statutes and regulatory requirements or are generally accepted practices within the utility industry. Therefore, these measures and controls are not expected to present an undue hardship on the applicant. Based on a review of the operational impacts described in this chapter, some general feasible and adequate measures and controls for reducing adverse impacts at the Clinch River Nuclear (CRN) Site include:

- An environmental safety and health plan has been prepared and is followed.
- Operational employees receive appropriate training on environmental compliance and safety procedures.
- Safety data sheets are required for applicable hazardous materials at the CRN Site. Operational employees are trained on the appropriate use of hazardous materials.
- Hazardous materials are used in accordance with applicable federal, state, and local laws and regulations and Tennessee Valley Authority (TVA) procedures.
- Hazardous wastes are treated, stored, and disposed of in accordance with the Resource Conservation and Recovery Act (RCRA), and other applicable federal, state, and local laws and regulations and TVA procedures. Operational employees are trained on the appropriate handling and disposal of hazardous wastes.
- As appropriate, a safety/environmental officer oversees and inspects operational activities.

- Operational activities are performed in accordance with applicable local, state, and federal ordinances, laws, and regulations and TVA procedures intended to prevent or minimize adverse environmental effects of operational activities on air, water, and land, and on plants, animals, workers and the public.
- Operational activities comply with applicable environmental laws, regulations, permits, and licenses, which place controls on how activities are performed.
- Operational activities are performed in compliance with applicable corporate environmental, safety, and operational procedures, which place controls on how activities are performed.
- Operational activities are performed in accordance with the Best Management Practices (BMPs), permits, and reporting and records retention procedures described in TVA's Environmental Protection Plan (EPP) (Appendix B).

More specific mitigation measures are detailed in Table 5.10-1.

ENCLOSURE

ER Table 5.10-1 is being revised as indicated. Underlines indicate text to be added.

Table 5.10-1 (Sheet 3 of 14)
Summary of Measures and Controls to Limit Adverse Operational Impacts

Environmental Resources (Section Reference)	Potential Environmental Disturbances and Impact Levels													Impact Description or Activity	Feasible and Adequate Measures and Controls
	Noise	Erosion/Sedimentation	Air Disturbance/ Emissions	Traffic	Hazardous Materials/ Wastes	Surface and Ground Water	Land-Use/Disturbances	Water Use Consumption	Terrestrial Disturbances	Aquatic Disturbances	Socioeconomic Changes	Rad Exposure	Aesthetics/Dust/Odor		
5.3 Cooling System Impacts															
5.3.1 Intake System		S				S		S		S				1. Hydrodynamic force induced by intake system near the intake structure. 2. Some fish killed by impingement and entrainment. 3. Minor aquatic impact resulting from consumption of water from the Clinch River arm of the Watts Bar Reservoir.	(1) To the extent practical, design pumps, machinery, and screens to reduce hydrodynamic impacts. (2) Minimize withdrawals with closed-loop cooling cycle and reduce impingement and entrainment with low through-screen velocity at intake. (2) Minimize impingement and entrainment of organisms through compliance with Section 316(b) of the Clean Water Act (CWA) (implemented by the NPDES permit), per EPP Section 2.1 (Appendix B). (3) Design cooling water system to minimize water losses and reduce intake flows.
5.3.2 Discharge System		S			S	S				S		S		1. Small localized increase in surface water temperature from thermal plume resulting from water discharged to the reservoir. 2. Small impact on aquatic organisms from potential minor erosion or sedimentation near the discharge point. 3. Minor impact on aquatic organisms from thermal plume. 4. Small impact on aquatic organisms from small turbidity effect near the discharge structure.	(1) Compliance with state water quality standards and TVA procedures associated with thermal discharges. (1,3) Minimize the thermal discharge to the Clinch River arm of the Watts Bar Reservoir with closed loop cooling system. (2) To the extent practical, employ and position discharge structure so as to reduce erosion/sedimentation effects on aquatic organisms. (4) To the extent practical, design and position discharge structure so as to reduce turbidity effects on aquatic organisms.

Table 5.10-1 (Sheet 4 of 14)
Summary of Measures and Controls to Limit Adverse Operational Impacts

Environmental Resources (Section Reference)	Potential Environmental Disturbances and Impact Levels													Impact Description or Activity	Feasible and Adequate Measures and Controls
	Noise	Erosion/Sedimentation	Air Disturbance/ Emissions	Traffic	Hazardous Materials/ Wastes	Surface and Ground Water	Land-Use/Disturbances	Water Use Consumption	Terrestrial Disturbances	Aquatic Disturbances	Socioeconomic Changes	Rad Exposure	Aesthetics/Dust/Odor		
5.3.2 Discharge System (continued)														5. Small impact on benthic organisms from small amount of bottom scouring near the discharge structure. 6. Discharges of chemicals in blowdown water.	(5) To the extent practical, design and position discharge structure so as to reduce scouring effects on benthic organisms. (6) Monitor chemical concentrations to comply with the Biocide/Corrosion Treatment Plan submitted as part of the application for a TDEC NPDES permit, per EPP Section 2.1 (Appendix B).
5.3.3 Heat-Discharge System	S		S	S			S	S					S	1. Water vapor plume in the atmosphere from cooling towers release. 2. Contamination of soil from small amounts of waste salts and other chemicals from cooling towers in the atmosphere (drift deposition). 3. Minor increase in humidity in the CRN Site vicinity from cooling towers. 4. Minor impact on humans and terrestrial organisms from cloud shadowing. 5. Consumption of water from the reservoir due to cooling towers drift and evaporative losses. 6. Obscuring of view by water vapor plume. 7. Minor effect on wildlife near the cooling towers from operating noise.	(1) To the extent practical, design cooling towers using Best Available Technology to reduce evaporative losses and noise.

Table 5.10-1 (Sheet 9 of 14)
Summary of Measures and Controls to Limit Adverse Operational Impacts

Environmental Resources (Section Reference)	Potential Environmental Disturbances and Impact Levels													Impact Description or Activity	Feasible and Adequate Measures and Controls
	Noise	Erosion/Sedimentation	Air Disturbance/ Emissions	Traffic	Hazardous Materials/ Wastes	Surface and Ground Water	Land-Use/Disturbances	Water Use Consumption	Terrestrial Disturbances	Aquatic Disturbances	Socioeconomic Changes	Rad Exposure	Aesthetics/Dust/Odor		
5.5.2 Mixed Waste Impacts (continued)															(1-3) Carefully monitor mixed waste. (1-3) Perform inspections for compliance with applicable waste management laws and regulations and TVA procedures. (1-3) Limit mixed waste generation through source reduction, recycling, and treatment options. (1-3) Develop and follow a waste management plan. (1-3) Develop and follow a waste minimization plan to reduces the amount of waste that is generated. (1-3) Adopt as low as reasonably achievable program and train employees on implementation of this program, as appropriate.
5.6 Transmission System Impacts															
5.6.1 Terrestrial Ecosystems									S					1. Impact on terrestrial ecology from continued maintenance involving clearing of vegetation along the existing ROWs. 2. Potential for some erosion following vegetative clearing and/or excavation operations. 3. Application of herbicides. 4. Operation of noisy equipment that produce air emissions.	(1-4) Minimize potential impacts through compliance with permitting requirements, BMPs, and TVA procedures, per EPP Section 2.2 (Appendix B). (1-4) Follow reporting and record keeping requirements of EPP Sections 2.3, 4.1, and 4.3 (Appendix B). (1-2) As appropriate, train employees on how to perform work in a manner that reduces adverse environmental impacts; to the extent feasible, avoid any additional disturbances to sensitive terrestrial or wetland habitats/species. (1, 3) Identify sensitive areas requiring restrictions on types of vegetation maintenance.

Table 5.10-1 (Sheet 10 of 14)
Summary of Measures and Controls to Limit Adverse Operational Impacts

Environmental Resources (Section Reference)	Potential Environmental Disturbances and Impact Levels													Impact Description or Activity	Feasible and Adequate Measures and Controls
	Noise	Erosion/Sedimentation	Air Disturbance/ Emissions	Traffic	Hazardous Materials/ Wastes	Surface and Ground Water	Land-Use/Disturbances	Water Use Consumption	Terrestrial Disturbances	Aquatic Disturbances	Socioeconomic Changes	Rad Exposure	Aesthetics/Dust/Odor		
5.6.1 Terrestrial Ecosystems (continued)															(2) As practical, reseed cleared areas to limit erosion using non-invasive species/native plants, per TVA procedures. (3) Use licensed operators to apply herbicides. (3) Comply with the TDEC General Permit for Pesticide Discharges (includes herbicides) (4) As practical, use noise suppression/mufflers on vehicles/machinery and maintain vehicles to reduce emissions.
5.6.2 Aquatic Ecosystems		S			S	S	S			S				1. Impact on aquatic biota from continued maintenance involving clearing of vegetation along ROWs near water bodies. 2. Potential for some erosion and subsequent runoff of sediment into water bodies. 3. Migration of herbicides into water bodies. 4. Potential discharge or spills of herbicides that pollute the aquatic ecosystem.	(1-4) Minimize potential impacts through compliance with permitting requirements, BMPs, and TVA procedures, per EPP Section 2.1 (Appendix B). (1-4) Follow reporting and record keeping requirements of EPP Sections 2.3, 4.1, and 4.3 (Appendix B). (1-4) Identify Streamside Management Zones requiring restrictions on the type of vegetation management activities performed. (1) To the extent feasible, avoid any additional disturbances to sensitive aquatic habitats/species. (2) As practical, reseed cleared areas to limit erosion using non-invasive species/native plants, per TVA procedures. (3) Use licensed operators to apply herbicides. (3) Comply with the TDEC General Permit for Pesticide Discharges (includes herbicides). (4) As appropriate, train employees on herbicides procedures to minimize the risk of spills or discharges.

ER Subsection 6.1.3 is being revised as indicated. Underlines indicate text to be added.

6.1.3 Operational Thermal Monitoring

TVA used the results of the aforementioned unsteady, three-dimensional CFD model to evaluate the effect of operation of the SMRs for extreme summer and extreme winter conditions during various high-flow, low-flow, and reverse-flow events. The modeling results are depicted in Figures 5.3-3 through 5.3-6. The result concluded that the effects of the CRN Site thermal effluent from the SMRs could be managed within regulatory limits by defining a mixing zone of appropriate size for the discharge and by providing a minimum release from Melton Hill Dam. As discussed in Subsection 5.3.2.1, the latter requires a new outlet structure/bypass at the dam to provide the minimum release when the hydropower generating units at the dam are not in service.

The operational monitoring program remains to be developed, pending decisions regarding the design of the facility cooling system and related analyses of the impacts of the cooling system on the receiving water body. Discharge of cooling water and other effluents are subject to monitoring to ensure compliance with a NPDES permit, as specified in Section 2.1 of TVA's Environmental Protection Plan (EPP) (Appendix B), and this includes monitoring of the temperature of the discharge. The permit considers effluent limitations, monitoring requirements, and mitigation measures. Sections 2.3, 4.1, and 4.3 of the EPP describe the process for monitoring onsite mortality, injury, or unusual behavior that may result from thermal discharges, reporting it to NRC and other applicable regulatory agencies, and maintaining records (Appendix B). Specific monitoring requirements, such as the number and location of monitoring stations, types of monitoring equipment and measurements, modeling, and thermal limits, will be developed in consultation with Tennessee Department of Environment and Conservation as part of the NPDES permit application process.

ER Subsection 6.3.3 is being revised as indicated. Underlines indicate text to be added.

6.3.3 Operational Monitoring

In general, operational monitoring programs are designed to assess impacts to the surface water parameters (surface water flow, groundwater flow, sediment transport, and/or water quality) resulting from facility operations. Monitoring requirements for the surface water parameters are defined in the NPDES permit, as specified in Section 2.1 of TVA's Environmental Protection Plan (EPP) (Appendix B). The permit considers effluent limitations, monitoring requirements, and mitigation measures. Sections 2.3, 4.1, and 4.3 of the EPP describe the process for monitoring onsite mortality, injury, or unusual behavior that may result from hydrologic modifications, reporting it to NRC and other applicable regulatory agencies, and maintaining records (Appendix B). Details related to the operation of the proposed CR SMR Project at the CRN Site have not been yet been finalized; however, operational monitoring programs are designed to comply with all applicable regulatory requirements.

ER Subsection 6.5.1.2 is being revised as indicated. Underlines indicate text to be added.

6.5.1.2 Construction, Preoperational, and Operational Monitoring

Potential impacts on terrestrial ecology from facility construction and operation are discussed in Subsections 4.3.1, 5.3.3.2, and 5.6.1. Based on the characteristics of the terrestrial ecological communities studied under the site preparation monitoring program and the locations and extent of areas to be cleared for construction, the need for ecological monitoring during construction is expected to be minimal. Habitats for the two state-listed plants potentially occurring on the CRN Site are not expected to occur within the footprint of the planned facilities. Because at least three species of bats that are federally listed have been found to forage on the CRN Site, the U.S. Fish and Wildlife Service (USFWS) may require additional bat surveys during the construction period to monitor possible changes in use of the CRN Site by these species. Under Section 7 of the Endangered Species Act (16 U.S. Code [USC] 1531 *et seq.*), if proposed activities may affect listed bats or other federally listed species (i.e., cause harm, harassment, or other forms of "take"), the USFWS would be informed in a biological assessment as part of ongoing Section 7 consultation. If the USFWS determines that reasonable and prudent measures are needed to minimize take of a species, monitoring may be required in conjunction with an incidental take permit, as specified in Section 2.3, of TVA's Environmental Protection Plan (EPP) (Appendix B). Specific components of this monitoring, including monitoring onsite mortality, injury, or unusual behavior, reporting it to USFWS, and maintaining records, are defined in the incidental take permit. In addition, reporting of monitoring results to NRC is specified in Sections 2.3, 4.1, and 4.3 of the EPP (Appendix B).

As noted in Subsection 2.4.1.4, an osprey nest was observed on a tower supporting the 161-kV transmission line on the CRN Site and, in accordance with Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, monitoring of this nest is proposed in order to assess responses of the ospreys to facility construction and operation. Bald eagles have been observed flying near the CRN Site and Barge/Traffic Area, but nests have not been observed in the vicinity. In accordance with the Bald and Golden Eagle Protection Act (16 USC 668-668c), if ecological monitoring during the preoperational/operational period indicates bald eagle nesting activity on or near the CRN Site or Barge/Traffic Area, the USFWS would be contacted for advice and recommendations for how to avoid eagle disturbance and whether an eagle permit is necessary, as specified in Section 2.2 of the EPP (Appendix B). Additional monitoring of terrestrial plant and animal communities during construction and preoperational phases is not warranted or proposed.

TVA would repeat field studies performed during the site preparation monitoring program for the period following construction in order to collect at least 1 year (yr) of preoperational and/or operational data for comparison to the baseline data. The ecological monitoring program in this phase may include seasonal species surveys of terrestrial communities. The activities included in a preoperational/operational monitoring program likely would be a subset of the site preparation terrestrial wildlife field studies summarized in Table 6.5-1. Sections 2.2, 2.3, 4.1, and 4.3 of the EPP describe the process for monitoring onsite mortality, injury, or unusual behavior associated with terrestrial resources, reporting it to NRC and other applicable regulatory agencies, and maintaining records (Appendix B).

ER Subsection 6.5.2.3 is being revised as indicated. Underlines indicate text to be added.

6.5.2.3 Preoperational and Operational Monitoring

Potential impacts to aquatic ecology from facility operation are discussed in Subsections 4.3.2, 5.3.1, 5.3.2, 5.3.3, 5.3.4.1, 5.6.1, and 5.6.2. NUREG-1555 notes that for aquatic ecology monitoring "any necessary preoperational monitoring will ordinarily be defined in the NPDES permit" and "any necessary operational monitoring will be covered under the relevant NPDES permit." TVA does not currently have an NPDES permit for the CRN Site. TVA expects to finalize the operational monitoring plan during the NPDES permitting process. An NPDES permit for the SMR, as specified in Section 2.1 of the EPP, likely would include a requirement for toxicity monitoring on at least an annual basis. Sections 2.1, 2.3, 4.1, and 4.3 of the EPP describe the process for monitoring onsite mortality, injury, or unusual behavior associated with aquatic resources, reporting it to NRC and other applicable regulatory agencies, and maintaining records (Appendix B). The requirements for cooling water intakes under Clean Water Act (CWA) Section 316(b), for the purpose of minimizing adverse impacts from entrainment and impingement of organisms, also are implemented through the NPDES permitting process. As a new facility, the CR SMR Project would have to meet CWA Section 316(b) Phase I requirements for its cooling water intake.

TVA would repeat field studies following construction in order to collect at least 1 yr of preoperational and/or operational data (including aquatic monitoring) for comparison to the baseline data. The activities included in a preoperational/operational aquatic monitoring program likely would be a subset of the site preparation field studies.

A facility designed and operated in compliance with State Water Quality Standards for temperature, is unlikely to be required by TDEC to conduct significant new biological monitoring in the vicinity of the CRN Site. In the event TVA pursues a variance from those criteria under CWA Section 316(a), additional preoperational and operational monitoring would be addressed as part of that permitting process. Surveys and monitoring would be designed to allow statistical analysis comparing the communities present in the Clinch River before construction and operation to those present after the CR SMR Project is online.

ER Subsection 6.6.3.1 is being revised as indicated. Strikethroughs indicate text to be deleted. Underlines indicate text to be added.

6.6.3.1 Surface Water Monitoring

There is no operating facility and no existing NPDES permit at the CRN Site, so there is no existing operational surface water monitoring program. The ongoing preoperational surface water monitoring establishes surface water quality based NPDES permit limitations. Discharge of cooling water and other effluents during operations are subject to monitoring to ensure compliance with the NPDES permit, as specified in Section 2.1 of TVA's Environmental Protection Plan (EPP) (Appendix B). These ~~Subsequent~~ surface water monitoring requirements assure compliance with applicable TDEC Water Quality Standards. Sections 2.3, 4.1, and 4.3 of the EPP describe the process for monitoring onsite mortality, injury, or unusual behavior that may result from surface water quality issues, reporting it to NRC and other applicable regulatory agencies, and maintaining records (Appendix B). Operational surface water monitoring beyond that required for NPDES permit compliance is not anticipated.

ER Part 3, Appendix B, Environmental Protection Plan is being added as indicated.

Part 3 Appendix B

Tennessee Valley Authority (TVA)
Clinch River Nuclear (CRN) Site, Roane County, Tennessee Environmental Protection Plan

Part 3 Appendix B

Tennessee Valley Authority (TVA)
Clinch River Nuclear (CRN) Site, Roane County, Tennessee Environmental Protection Plan

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Tennessee Valley Authority (TVA)
Clinch River Nuclear (CRN) Site, Roane County, Tennessee Environmental Protection Plan

1.0 Objective of the Environmental Protection Plan

The purpose of the Environmental Protection Plan (EPP) is to ensure that the United States (U.S.) Nuclear Regulatory Commission (NRC) is kept informed of issues pursuant to the Endangered Species Act of 1973, as amended (ESA) and other environmental matters pertinent to the Clinch River Small Modular Reactor (SMR) Project, if and when any NRC-licensed activities commence with respect to the Clinch River SMR Project. This EPP is intended to be consistent with Federal, state, and local requirements for environmental protection.

2.0 Environmental Protection Issues

This EPP applies to the licensee's actions affecting the environmental resources evaluated in project-related Environmental Impact Statements (EISs) associated with the issuance of a Combined License Application (COLA) for the construction and operation of a new nuclear plant at the Clinch River Nuclear Plant (CRN) Site as well as the licensee's actions that may affect any newly discovered environmental resources.

2.1 Aquatic Resources Issues

Federal agencies other than the NRC, such as the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE), have jurisdiction to regulate aquatic resources under the Federal Water Pollution Control Act (Clean Water Act or CWA). Under the Tennessee Valley Authority (TVA) Act (16 USCA §§831 et seq), as well as TVA policies and programs, TVA has responsibilities approving construction, operation, and maintenance of dams, appurtenant works, or other obstructions affecting navigation and flood control on rivers and streams in the Tennessee Valley Region. Additionally, TVA is responsible for monitoring, maintaining and improving water quality and aquatic habitats in the Tennessee River Watershed in cooperation with EPA, USACE, and state water quality agencies in the seven Tennessee Valley states (Alabama, Georgia, Kentucky, Mississippi, North Caroline, Tennessee, and Virginia). Certain water quality environmental considerations, including effluent limitations, monitoring requirements, and mitigation measures, are regulated under the licensee's CWA permits, such as National Pollutant Discharge Elimination System (NPDES) and Section 404 permits. Nothing within this EPP shall be construed to place additional requirements on the regulation of aquatic resources except the imposition of requirements in a Biological Opinion under the ESA (see Section 2.3).

Appropriate consultations with Federal, state, and local agencies have been initiated. TVA plans to apply for and receive any required authorizations prior to initiating preconstruction, construction, or operational activities. The licensee will utilize Best Management Practices (BMPs), conservation measures, and/or appropriate mitigation measures as recommended by U.S. Fish and Wildlife Service (USFWS) based on the results of formal or informal ESA consultation.

2.2 Terrestrial Resources Issues

Several statutes govern the regulation of terrestrial resources. For example, the USFWS regulates matters involving the protection and taking of bald and golden eagles in accordance with the Bald and Golden Eagle Protection Acts. Appropriate consultations with federal, state, and local agencies have been initiated. TVA plans to apply for and receive any required authorizations and permits prior to initiating preconstruction, construction, or operational activities. The licensee will utilize BMPs, conservation measures, and/or appropriate mitigation measures as recommended by USFWS based on results of ESA consultation.

2.3 Endangered Species Act of 1973

The NRC may be required to protect some aquatic and terrestrial resources. In accordance with ESA Section 7, the licensee shall comply with the Reasonable and Prudent Measures and implementing Terms and Conditions set forth in the Incidental Take Statement of such a Biological Opinion issued to NRC or TVA. If any Federally listed species or critical habitat occurs in an area affected by construction of the plant that was not previously identified as occurring in such areas, including species and critical habitat that were not previously Federally listed, the licensee shall inform the NRC in accordance with the Reporting Provision in Section 4.1 of this EPP. Similarly, the licensee shall inform the NRC of discovery of any take, as defined in the ESA, of a federally listed species or destruction or adverse modification of critical habitat; including any take permitted under an existing Biological Opinion. During plant operation, TVA shall inform the NRC within four hours of discovery of or having impacted either critical habitat or a federally listed species. These notifications shall be made to the NRC Operations Center via the Emergency Notification System. Since TVA is a federal agency, TVA would typically act as the lead action agency in any such ESA consultation. The licensee shall provide any necessary information to the NRC should the NRC initiate an independent consultation under the ESA.

Additionally, the licensee shall inform the NRC of any onsite mortality, injury, or unusual occurrence of any species protected by the ESA. During construction such reporting shall be done in accordance with the reporting provision in Section 4.1 of this EPP. During plant operations, the NRC shall be informed within four hours of discovery, followed by a written report in accordance with Section 4.1. Such incidents shall be reported regardless of causal relation to construction.

3.0 Consistency Requirements

The licensee shall notify the NRC of any permits or certifications obtained concerning aquatic or terrestrial species by providing the NRC with a copy of said permits or certifications at the time of issuance. Further, the licensee shall notify the NRC of any proposed changes to said permits or certifications at the same time a change request is submitted to the permitting agency. The licensee shall provide the NRC with a copy of the application for and/or renewal of permits or certifications at the same time the application is submitted to the permitting agency.

Changes to or renewals of these permits or certifications shall be reported to the NRC by the licensee within 30 days following the later of the date the change or renewal is approved or the date the change becomes effective. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

4.0 Administrative Procedures

4.1 Plant Reporting Requirements: Non-routine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of any unusual ESA-related event described in Section 2.3 of this EPP. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact and plant operating characteristics at the time of the event; (b) describe the probable cause of the event; (c) indicate the action taken to correct the reported event; (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems; and (e) indicate the agencies notified and their preliminary or final responses.

4.2 Review and Audit

The licensee shall provide for review and audit of compliance with Section 2.3 of the EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organizational structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

4.3 Records Retention

Records required by this EPP shall be made and retained in a manner convenient for review and inspection. These records shall be made available to the NRC on request. The records, data, and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

4.4 Changes in Environmental Protection Plan

A request for a change in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

The licensee shall request a license amendment to incorporate the requirements of any Terms and Conditions set forth in an Incidental Take Statement of Biological Opinions issued subsequent to the effective date of this EPP.