



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

CNL-17-151

December 15, 2017

10 CFR 52, Subpart A

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

Clinch River Nuclear Site
NRC Docket No. 52-047

Subject: Revision 1 of Application for Early Site Permit 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-17-127, "Response to Request for Additional Information RAI Number 9, eRAI-8972, Regarding Onsite Meteorological Measurements Programs in Support of Early Site Permit Application for Clinch River Nuclear Site," dated September 25, 2017

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. The application was submitted in accordance with Part 52, Subpart A of *Title 10 of the Code of Federal Regulations*. As a result of TVA-provided supplemental information, TVA has revised the CRN Site Early Site Permit Application (ESPA). A summary of the Revision 1 changes is provided in Enclosure 1.

The CRN Site ESPA is composed of the following parts containing several documents:

- Part 1 - Administrative and Financial Information
- Part 2 - Site Safety Analysis Report (SSAR)
- Part 3 - Environmental Report
- Part 4 - Limited Work Authorization [not used]
- Part 5 - Emergency Planning
- Part 6 - Departures and Exemption Requests
- Part 7 - Withheld Information
- Part 8 - Enclosures

D030
NR0

U.S. Nuclear Regulatory Commission
CNL-17-151
Page 2
December 15, 2017

All Parts of the application are identified as Revision 1 and have been included in the Revision 1 update, even if no changes were made to that Part. Revision 1 changes to the application documents are identified by a revision bar in the right margin.

The CRN Site ESPA, Revision 1, incorporates the changes to the application documents identified by TVA during the NRC application acceptance review process, TVA responses to NRC Audit Information Needs, information provided at the request for the NRC during public meetings, and changes made as a result of TVA responses to NRC requests for additional information (RAIs) up through and including the response to NRC RAI No. 9, September 25, 2017 (Reference 2). Any changes resulting from subsequent RAI responses will be incorporated in a future revision to the application.

This application contains no restricted data or national defense information requiring separation in accordance with 10 CFR 50.33. Part 7 contains sensitive information not suitable for public disclosure and TVA requests it be withheld in accordance with 10 CFR 2.390. An affidavit supporting TVA's request for withholding is included as Enclosure 2 to this letter.

Enclosure 3 is a set of three DVDs containing the proprietary version of the ESPA. Enclosure 4 is a set of three DVDs containing the non-proprietary version of the ESPA. Appropriate pre-submission checks have been successfully performed on the files to ensure compliance with the guidelines provided on the NRC web site and they have been found acceptable for electronic submittal. The disks include a "packing slip" describing the contents, pursuant to NRC instructions for electronic filing.

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 15th day of December 2017.

Respectfully,



J. W. Shea
Vice President, Nuclear Regulatory Affairs and Support Services

Enclosures

cc: See Page 3

U.S. Nuclear Regulatory Commission
CNL-17-151
Page 3
December 15, 2017

Enclosures:

1. Summary of ESPA Revision 1 Changes
2. Affidavit Pursuant to 10 CFR 2.390
3. Three (3) DVDs: CRN Site Early Site Permit Application, Revision 1 – Proprietary
4. Three (3) DVDs: CRN Site Early Site Permit Application, Revision 1 – Non-Proprietary

cc (Enclosures):

A. Fetter, Project Manager, Division of New Reactor Licensing, USNRC (1 copy)

cc (without enclosures):

C. Haney, Regional Administrator, Region II, USNRC
F. Akstulewicz, Director, Division of New Reactor Licensing, USNRC
J. Colaccino, Branch Chief, Division of New Reactor Licensing, USNRC
P. Vokoun, Project Manager, Division of New Reactor Licensing, USNRC
M. Sutton, Project Manager, Division of New Reactor Licensing, USNRC
T. Dozier, Project Manager, Division of New Reactor Licensing, USNRC
M. M. McIntosh, Regulatory Specialist, Eastern Regulatory Field Office, Nashville
District, USACE

U.S. Nuclear Regulatory Commission

CNL-17-151

Page 4

December 15, 2017

bcc (without enclosures):

M. A. Balduzzi
G. A. Boerschig
S. M. Bono
C. C. Chandler
D. M. Czufin
R. E. Detwiler
S. M. Douglas
R. L. Gambone
J. P. Grimes
P. S. Hastings
E. K. Henderson
J. M. Holcomb
J. N. Perry
J. T. Polickoski
R. J. Schiele
E. D. Schrull
J. W. Shea
P. R. Simmons
D. P. Stout
B. A. Wetzel
A. L. Williams
Clinch River Project
ECM

Enclosure 1

This Enclosure contains a summary table of the changes that are included in Revision 1 of the Clinch River Nuclear Site Early Site Permit Application (ESPA). The summary table lists the changes by ESPA Part and Section. For each change listed, the following information is provided.

ESPACR # - Tennessee Valley Authority (TVA) tracking number for the change package number corresponding to the Early Site Permit Application Change Request (ESPACR) that effected the changes to the ESPA. The ESPACR # can be a useful cross-referencing tool in identifying the location of conforming changes between different ESPA Parts and Sections.

NRC Request/TVA-identified - Indicates whether the need for the change was NRC-identified (verbal discussion, request for additional information (RAI), NRC Audit Information Need, etc.) or if the need for the change was identified by TVA (during the NRC application acceptance review process, editorial corrections, etc.).

Description - Provides a high-level summary description of the changes associated with a particular ESPACR. For more details of the changes made to the ESPA associated with an ESPACR, refer to the TVA Submittal Letter in the last column of the table.

Affected ESPA Sections - Lists the ESPA Parts/Sections that contain changes associated with a particular ESPACR. There is an entry in the summary table for each ESPA Part/Section listed.

TVA Submittal Letter - Lists the associated TVA Letter Number that contains the ESPA changes that have been submitted to the NRC. Additional details associated with an ESPA change can be found in the listed TVA Submittal Letter. Entries annotated as "N/A" have not been previously submitted to the NRC.

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPA CR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
Part 1 - Administrative Information				
17-019	Hydrology Audit Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-040	TVA-identified	Updated TVA organizational and administrative information.	[Part 1] 1.3, 3.3, 3.4	N/A
Part 2 - Site Safety Analysis Report (SSAR)				
SSAR 1.8-1.9 - Interfaces with Standard Design and Conformance with Regulatory Criteria				
17-004	NRC request during February 13, 2017 Public Meeting	Revised to remove discussion of probabilistic evaluation of transport of anhydrous ammonia and chlorine in vicinity of Clinch River Nuclear (CRN) Site and replaced with statement to evaluate the main control room impact for anhydrous ammonia and chlorine at the combined license application (COLA) phase.	[SSAR] 1.9, 2.2.3	CNL-17-033
SSAR 1.11 - Overview of Reactor Types				
16-035	TVA-identified	Revised to clarify the basis for deriving the annual normal liquid and normal gaseous radioactive effluent releases provided in the plant parameter envelope (PPE) and the methodology used to compute the daughter products and maximum decay activities for the accidental liquid radwaste release source term.	[SSAR] 1.11, 2.4.13, 11.2.3, 11.3.3	CNL-16-191
17-038	TVA-identified	Revised to clarify that the Holtec SMR-160 design is an integral pressurized water reactor (IPWR).	[SSAR] 1.11	N/A
SSAR 2.0 - Site Characteristics				
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-023	Hydrology Audit Information Need 42	Revised to reflect changes in the PPE normal liquid source term.	[SSAR] 2.0, 11.2, 11.3; [ER] 3.5	CNL-17-086
17-043	TVA-identified	Updated information related to extreme winds, probable maximum winter precipitation, normal winter precipitation event and extreme frozen precipitation event.	[SSAR] 2.0, 2.3.1; [ER] 2.7.3	N/A
SSAR 2.1 - Geography and Demography				
17-012	NRC request during February 13, 2017 Public Meeting	Reconciled differences between the descriptions and depictions of the exclusion area boundary (EAB) and population distribution in the Site Safety Analysis Report (SSAR) and the Environmental Report (ER).	[SSAR] 2.1.1, 2.1.2, 2.1.3, 2.3.4, 2.3.5; [ER] 2.5.1, 2.7.5, 2.7.6	CNL-17-055
17-034	RAI 4, eRAI-8857	Revised SSAR information to provide a discussion of the population in the vicinity of the CRN Site.	[SSAR] 2.1.3	CNL-17-110
SSAR 2.2 - Nearby Industrial, Transportation, and Military Facilities				
17-004	NRC request during February 13, 2017 Public Meeting	Revised SSAR to remove discussion of probabilistic evaluation of transport of anhydrous ammonia and chlorine in vicinity of CRN Site and replaced with statement to evaluate the main control room impact for anhydrous ammonia and chlorine at the COLA phase.	[SSAR] 1.9, 2.2.3	CNL-17-033
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-049	RAI 2, eRAI-8735, Question 13.06.03-03	Revised SSAR in response to RAI 2, Question 13.06.03-03, to clarify the discussion of transportation routes of potential hazards in the vicinity of the CRN Site.	[SSAR] 2.2	CNL-17-090
SSAR 2.3.1 - Regional Climatology				
16-012	TVA-identified	Revised SSAR to state that the National Air Ambient Quality Standard for 4th Max 8-hr Ozone is 0.070 parts per million.	[SSAR] 2.3.1	N/A
16-013	TVA-identified	Revised example climate change model temperature ranges in SSAR to be consistent with the model ranges provided in the reference document.	[SSAR] 2.3.1	N/A
17-043	TVA-identified	Updated information related to extreme winds, probable maximum winter precipitation, normal winter precipitation event and extreme frozen precipitation event.	[SSAR] 2.0, 2.3.1; [ER] 2.7.3	N/A
SSAR 2.3.2 - Local Meteorology				
16-005	TVA-identified	Revised Reference 2.3.2-11 to indicate the correct date of the document.	SSAR 2.3.2	N/A
17-042	RAI 9, eRAI-8972	Revised SSAR to clarify that the meteorological monitoring system meets Regulatory Guide (RG) 1.23 and the use of scalar values.	[SSAR] 2.3.2, 2.3.3, 2.3.4, 2.3.5	CNL-17-127
17-047	TVA-identified	Revised SSAR and ER to clarify the use of scalar values in the determination of CRN Site wind speed and direction.	[SSAR] 2.3.2, 2.3.3; [ER] 2.7.4; [Part 7] 2.7.4	N/A

ENCLOSURE 1

Summary of EPA Revision 1 Changes

by EPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected EPA Sections	TVA Submittal Letter
SSAR 2.3.3 - Onsite Meteorological Measurements Program				
17-042	RAI 9, eRAI-8972	Revised SSAR to clarify that the meteorological monitoring system meets RG 1.23 and the use of scalar values.	[SSAR] 2.3.2, 2.3.3, 2.3.4, 2.3.5	CNL-17-127
17-047	TVA-identified	Revised SSAR and ER to clarify the use of scalar values in the determination of CRN Site wind speed and direction.	[SSAR] 2.3.2, 2.3.3; [ER] 2.7.4; [Part 7] 2.7.4	N/A
SSAR 2.3.4 - Short-Term Atmospheric Dispersion Estimates for Accident Releases				
17-012	NRC request during February 13, 2017 Public Meeting	Reconciled differences between the descriptions and depictions of the EAB and population distribution in the SSAR and the ER.	[SSAR] 2.1.1, 2.1.2, 2.1.3, 2.3.4, 2.3.5; [ER] 2.5.1, 2.7.5, 2.7.6	CNL-17-055
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-042	RAI 9, eRAI-8972	Revised SSAR to clarify that the meteorological monitoring system meets RG 1.23 and the use of scalar values.	[SSAR] 2.3.2, 2.3.3, 2.3.4, 2.3.5	CNL-17-127
SSAR 2.3.5 - Long-Term Atmospheric Dispersion Estimates for Routine Releases				
16-006	TVA-identified	Revised SSAR Reference 2.3.5-2 to indicate the correct publishing information.	[SSAR] 2.3.5	N/A
16-033	TVA-identified	Revised SSAR and ER Sections to clarify the number of joint frequency distributions used in the XOQDOQ analysis.	[SSAR] 2.3.5; [ER] 2.7.6	N/A
17-012	NRC request during February 13, 2017 Public Meeting	Reconciled differences between the descriptions and depictions of the EAB and population distribution in the SSAR and the ER.	[SSAR] 2.1.1, 2.1.2, 2.1.3, 2.3.4, 2.3.5; [ER] 2.5.1, 2.7.5, 2.7.6	CNL-17-055
17-042	RAI 9, eRAI-8972	Revised SSAR to clarify that the meteorological monitoring system meets RG 1.23 and the use of scalar values.	[SSAR] 2.3.2, 2.3.3, 2.3.4, 2.3.5	CNL-17-127
SSAR 2.4.1 - Hydrologic Description				
17-014	Hydrology Audit Information Needs 4 and 18	Revised SSAR to clarify the discussion regarding a site drainage plan. In addition, a figure was added to show the location of dams upstream of Watts Bar Dam in relation to the layout of the Tennessee River and its tributaries.	[SSAR] 2.4.1	CNL-17-070
17-018	Hydrology Audit Information Needs 1 and 32	Revised SSAR to clarify the naming of the Oak Ridge water treatment plant.	[SSAR] 2.4.1, 2.4.13	CNL-17-070
17-019	Hydrology Audit Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-033	Environmental Audit Information Needs HY-GW-02 and HY-GW-13; Hydrology Audit Information Needs 1-e and 23.	Revised SSAR and ER to add information regarding individual well users in vicinity of the CRN Site.	[SSAR] 2.4.1; [ER] 2.3.2	CNL-17-095
17-035	NRC request during teleconference.	Relocated individual well users information within SSAR.	[SSAR] 2.4.1, 2.4.12	CNL-17-113
SSAR 2.4.2 - Floods				
17-015	Hydrology Audit Information Needs 3 and 4	Revised SSAR to clarify the discussion of flooding from dams breaches and failures and the basis for the local intense precipitation probable maximum precipitation (PMP) temporal distribution.	[SSAR] 2.4.2	CNL-17-070
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
SSAR 2.4.3 - Probable Maximum Flood (PMF) on Streams and Rivers				
16-007	TVA-identified	Deleted duplicate reference.	[SSAR] 2.4.3	N/A
17-016	Hydrology Audit Information Needs 5-10, and 15-17	Revised SSAR to clarify methods and calculations of PMP development; relocated unit hydrograph adjustment discussions; added detail regarding unit hydrograph development and validation; added detail regarding development of the HEC-RAS model; and added detail regarding the PMF elevation in the Clinch River and estimation of the fetch length used in the wind wave calculations.	[SSAR] 2.4.3	CNL-17-070
SSAR 2.4.4 - Potential Dam Failures				
16-001	TVA-identified	Updated SSAR reference with a newer procedure regarding the design and evaluation of dams.	[SSAR] 2.4.4	
17-017	Hydrology Audit Information Needs 3, 19, 20, 22	Revised SSAR to add detail to the discussion of flooding routing from dams breaches and failures and detail regarding the PMF elevation in the Clinch River and estimation of the fetch length used in the wind wave calculations.	[SSAR] 2.4.4.2.1, 2.4.4.5, 2.4.4.7	CNL-17-070 and CNL-17-094
SSAR 2.4.11 - Low Water Considerations				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
16-011	TVA-identified	Revised SSAR reference to reflect the revision used.	[SSAR] 2.4.11	N/A
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-028	Hydrology Audit Information Needs 33-a, 35, 40.	Revised SSAR information related to Melton Hill Dam average daily flow and removed unnecessary detail related to granular backfill.	[SSAR] 2.4.11, 2.4.12C	CNL-17-094
SSAR 2.4.12 - Groundwater				
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-035	NRC request during teleconference.	Relocated individual well users information within SSAR.	[SSAR] 2.4.1, 2.4.12	CNL-17-113
17-037	Hydrology Audit Information Needs 025b, 031, and 037 and Environmental Audit Information Need HY-GW-15	Revised ESPA to address the potential effects of CRN Site excavation dewatering on groundwater levels and offsite wells and the potential for an accidental radioactive release exposing offsite groundwater water users.	[SSAR] 2.4.12; [ER] 4.2.3	CNL-17-115
17-051	Hydrology Cleanup Letter	Revised SSAR and ER to reflect additional responses to Information Needs from the April 2017 Hydrology and Health Physics Audit as well as additional responses to Information Needs concerning groundwater from the May 2017 Environmental Audit.	[SSAR] 2.4.12.3.1, 2.4.13.4, 2.4.12.6, 2.4.13.5.1, 2.4.13.8 [ER] 2.3.1.2.3, 2.3.1.3 [ER SOF Table] 2.3	
SSAR 2.4.12 Appendix C - Groundwater Flow Model for the Clinch River Nuclear Site				
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-028	Hydrology Audit Information Needs 33-a, 35, 40.	Revised SSAR information related to Melton Hill Dam average daily flow and removed unnecessary detail related to granular backfill.	[SSAR] 2.4.11, 2.4.12C	CNL-17-094
SSAR 2.4.13 - Accidental Release of Radioactive Liquid Effluent to Ground and Surface Waters				
16-035	TVA-identified	Revised to clarify the basis for deriving the annual normal liquid and normal gaseous radioactive effluent releases provided in the PPE and the methodology used to compute the daughter products and maximum decay activities for the accidental liquid radwaste release source term.	[SSAR] 1.11, 2.4.13, 11.2.3, 11.3.3	CNL-16-191
17-018	Hydrology Audit Information Needs 1 and 32	Revised SSAR to clarify the naming of the Oak Ridge water treatment plant.	[SSAR] 2.4.1, 2.4.13	CNL-17-070
17-019	Hydrology Audit Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-051	Hydrology Audit Information Need 44 and Environmental Audit Information Need HY-GW-15	Revised SSAR and ER to clarify information related to accidental liquid effluent release and excavation dewatering.	[SSAR] 2.4.12, 2.4.13; [ER] 2.3.1	CNL-17-129
SSAR 2.5.1 - Geologic Characterization Information				
16-024	TVA-identified	Revised SSAR discussions related to geologic characterization, surface deformation, and stability of subsurface materials and foundation.	[SSAR] 2.5.1, 2.5.3; [Part 8] Plate 1, Plate 2a, Plate 2b, Plate 2c, Plate 2d	CNL-16-162
16-025	TVA-identified	Revised SSAR to provide additional background and further characterization of the shear fracture zones and provide an analysis of the crosscutting relationships between the shear fracture zone and Quaternary age river terraces.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-16-162
16-029	TVA-identified	Revised SSAR to address the potential for hypogenic karst development and the significance for surface and sub-foundation deformation at the CRN Site.	[SSAR] 2.5.1	CNL-16-162
16-030	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.1, 2.5.2, 2.5.3, 2.5.4	CNL-16-170
16-038	TVA-identified	Revised SSAR to provide additional information related to karst features.	[SSAR] 2.5.1	CNL-16-184
16-040	TVA-identified	Revised SSAR to add reference callouts in text and correct minor editorial errors.	[SSAR] 2.5.1, 2.5.2	N/A

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-007	NRC request during teleconference.	Revised SSAR figure to remove shear fracture zone thicknesses. Also, revised SSAR to provide a new figure with an expanded the focus on the CRN Site relative to the Eastern Tennessee Seismic Zone and Douglas Reservoir.	[SSAR] 2.5.1	CNL-17-049
17-019	Hydrology Audit Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-024	Seismic Audit Information Needs GE-01, GE-02, and GE-03	Revised SSAR to provide a summary of the PLAXIS model report; provide a summary of the foundation assessment report; and provide a revised Karst Evaluation.	[SSAR] 2.5.1, 2.5.4	CNL-17-082
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-039	RAI 5, Questions 02.05.01-01 and 02.05.01-02, and RAI 6, Questions 02.05.04-01 and 02.05.04-02	Revised SSAR to provide supplemental information related to the stability of subsurface materials and foundations.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-17-099
17-045	RAI 5, Questions 02.05.01-03 and 02.05.01-05	Revised SSAR to reflect the ability to image foreland fold-thrust belt faults and karst dissolution features in seismic reflection profiles.	[SSAR] 2.5.1, 2.5.3	CNL-17-100
17-046	RAI 5, Questions 02.05.01-04 and 02.05.04-06	Revised SSAR to provide supplemental information related to geologic characterization and subsurface deformation.	[SSAR] 2.5.1, 2.5.3	CNL-17-114
SSAR 2.5.2 - Vibratory Ground Motion				
16-027	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.2	CNL-16-170
16-028	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.2	CNL-16-170
16-030	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.1, 2.5.2, 2.5.3, 2.5.4	CNL-16-170
16-040	TVA-identified	Revised SSAR to add reference callouts in text and correct minor editorial errors.	[SSAR] 2.5.1, 2.5.2	N/A
17-001	TVA-identified	Revised SSAR to correct typographical errors and formatting of Table 2.5.2-8.	[SSAR] 2.5.2	N/A
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-006	NRC request during teleconference.	Revised SSAR to provide a new figure with an expanded the focus on the CRN Site relative to the Eastern Tennessee Seismic Zone (ETSZ) and Douglas Reservoir.	[SSAR] 2.5.2, 2.5.3	CNL-17-049
17-027	RAI Number 3, eRAI-8893	Revised SSAR to provide additional detail regarding the 1D amplification used in the development of the Clinch River Ground Motion Response Spectra (GMRS) as compared to the 2D sensitivity analysis. Additionally, figures were being added to detail the comparison of the 1D base case profiles to the 2D amplification factors for Locations A and B.	[SSAR] 2.5.2	CNL-17-089
SSAR 2.5.3 - Surface Deformation				
16-024	TVA-identified	Revised SSAR discussions related to geologic characterization, surface deformation, and stability of subsurface materials and foundation.	[SSAR] 2.5.1, 2.5.3; [Part 8] Plate 1, Plate 2a, Plate 2b, Plate 2c, Plate 2d	CNL-16-162
16-025	TVA-identified	Revised SSAR to provide additional background and further characterization of the shear-fracture zones and provide an analysis of the crosscutting relationships between the shear fracture zone and Quaternary age river terraces.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-16-162
16-026	TVA-identified	Revised SSAR with the addition of a new subsection to include results of previously performed field work and re-excavated trenches in the ETSZ completed by TVA and a discussion of the bases of alternative hypotheses.	[SSAR] 2.5.3	CNL-16-162
16-030	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.1, 2.5.2, 2.5.3, 2.5.4	CNL-16-170
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-006	NRC request during teleconference.	Revised SSAR to provide a new figure with an expanded the focus on the CRN Site relative to the ETSZ and Douglas Reservoir.	[SSAR] 2.5.2, 2.5.3	CNL-17-049
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-039	RAI 5, Questions 02.05.01-01 and 02.05.01-02, and RAI 6, Questions 02.05.04-01 and 02.05.04-02	Revised SSAR to provide supplemental information related to the stability of subsurface materials and foundations.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-17-099

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-045	RAI 5, Questions 02.05.01-03 and 02.05.01-05	Revised SSAR to reflect the ability to image foreland fold-thrust belt faults and karst dissolution features in seismic reflection profiles.	[SSAR] 2.5.1, 2.5.3	CNL-17-100
17-046	RAI 5, Questions 02.05.01-04 and 02.05.04-06	Revised SSAR to provide supplemental information related to geologic characterization and subsurface deformation.	[SSAR] 2.5.1, 2.5.3	CNL-17-114
SSAR 2.5.4 - Stability of Subsurface Materials and Foundations				
16-025	TVA-identified	Revised SSAR to provide additional background and further characterization of the shear-fracture zones and provide an analysis of the crosscutting relationships between the shear fracture zone and Quaternary age river terraces.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-16-162
16-030	TVA-identified	Revised SSAR to provide additional information related to vibratory ground motion.	[SSAR] 2.5.1, 2.5.2, 2.5.3, 2.5.4	CNL-16-170
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-021	TVA-identified	Revised SSAR to corrected minor variations in the shear wave and compression wave velocity figures.	[SSAR] 2.5.4	N/A
17-022	TVA-identified	Removed note from SSAR Figure 2.5.4-26.	[SSAR] 2.5.4	N/A
17-024	Seismic Audit Information Needs GE-01, GE-02, and GE-03	Revised SSAR to provide a summary of the PLAXIS model report; provide a summary of the foundation assessment report; and provide a revised Karst Evaluation.	[SSAR] 2.5.1, 2.5.4	CNL-17-082
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-039	RAI 5, Questions 02.05.01-01 and 02.05.01-02, and RAI 6, Questions 02.05.04-01 and 02.05.04-02	Revised SSAR to provide supplemental information related to the stability of subsurface materials and foundations.	[SSAR] 2.5.1, 2.5.3, 2.5.4	CNL-17-099
SSAR 2.5.5 - Stability of Slopes				
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
SSAR 11.2.3 - Liquid Radioactive Releases				
16-035	TVA-identified	Revised to clarify the basis for deriving the annual normal liquid and normal gaseous radioactive effluent releases provided in the PPE and the methodology used to compute the daughter products and maximum decay activities for the accidental liquid radwaste release source term.	[SSAR] 1.11, 2.4.13, 11.2.3, 11.3.3	CNL-16-191
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-023	Hydrology Audit - Groundwater Information Need 42	Revised to reflect changes in PPE normal liquid source term.	[SSAR] 2.0, 11.2, 11.3; [ER] 3.5	CNL-17-086
SSAR 11.3.3 - Gaseous Radioactive Releases				
16-035	TVA-identified	Revised to clarify the basis for deriving the annual normal liquid and normal gaseous radioactive effluent releases provided in the PPE and the methodology used to compute the daughter products and maximum decay activities for the accidental liquid radwaste release source term.	[SSAR] 1.11, 2.4.13, 11.2.3, 11.3.3	CNL-16-191
17-005	TVA-identified	Updated for conforming changes to reflect the specific single unit and site annual normal gaseous effluent release values provided elsewhere in the ESPA.	[SSAR] 2.0, 2.4.11, 2.4.12, 2.5.1, 2.5.2, 2.5.3, 11.2, 11.3	N/A
17-023	Hydrology Audit - Groundwater Information Need 42	Revised to reflect changes in PPE normal liquid source term.	[SSAR] 2.0, 11.2, 11.3; [ER] 3.5	CNL-17-086
SSAR 13.3 - Emergency Planning				
17-020	RAI-1-8761	Revised SSAR to provide copies of the three letters from the Tennessee Emergency Management Agency, Anderson County, and Roane County.	[SSAR] 13.3	CNL-17-073
SSAR 17 - Quality Assurance				
17-048	TVA-identified	Updated SSAR to reflect comparisons between TVA Nuclear Quality Assurance Program and guidance in Standard Review Plan (NUREG-0800), Section 17.5.	[SSAR] 17.5	N/A
Part 3 - Environmental Report (ER)				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
ER Chapter 1 - Introduction				
16-022	TVA-identified	Revised ER by removing Reference 1-10.	[ER] 1.1, 1.4	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
ER 2.1 - Site Location				
17-026	TVA-identified	Revised SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the Geographic Information System (GIS) layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.2 - Land				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.3 - Water				
16-003	TVA-identified	Corrected the indicated revision of Reference 2.3.3-18.	[ER] 2.3	N/A
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4, 3.9, 4.3, 5.3	CNL-16-201
17-019	Hydrology Audit - Groundwater Information Needs 1-f, 24, 26, 28-a, 30, 33-a, 34, 35, 38, 40-a and 40-c	Clarified portions of ESPA related to groundwater hydrology.	[Part 1] 2.3; [SSAR] 2.4.1, 2.4.12, 2.4.12C, 2.4.13; 2.5.1, 2.5.3, 2.5.4, 2.5.5; [ER] 2.3.1	CNL-17-074
17-029	Environmental Audit Information Needs AE-04, GW-14, RH-03, RH-04, and TE-13	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 2.3, 4.3, 4.5, 6.5	CNL-17-088
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-033	Environmental Audit Information Needs HY-GW-02 and HY-GW-13; Hydrology Audit Information Needs 1-e and 23.	Revised SSAR and ER to add information regarding individual well users in vicinity of the CRN Site.	[SSAR] 2.4.1; [ER] 2.3.2	CNL-17-095
17-051	Hydrology Audit Information Need 44 and Environmental Audit Information Need HY-GW-15	Revised SSAR and ER to clarify information related to accidental liquid effluent release and excavation dewatering.	[SSAR] 2.4.12, 2.4.13; [ER] 2.3.1	CNL-17-129

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.4.1 - Terrestrial Ecology				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4, 3.9, 4.3, 5.3	CNL-16-201
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-041	NRC request during Public Meeting on August 14, 2017	Revise ER Figures 2.4.1-1 and 4.3-1 to include the source data references. Revised ER Table 2.4.1-1, Note 1, to reflect the method used to develop the land cover types.	[ER] 2.4.1, 4.3	CNL-17-118
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.4.2 - Aquatic Ecology				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4.2, 2.9, 3.7, 4.1, 4.3	CNL-16-200
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4.2, 3.9, 4.3, 5.3	CNL-16-201
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.5.1 - Demography				
17-012	NRC request during February 13, 2017 Public Meeting	Reconciled differences between the descriptions and depictions of the EAB and population distribution in the SSAR and the ER.	[SSAR] 2.1.1, 2.1.2, 2.1.3, 2.3.4, 2.3.5; [ER] 2.5.1, 2.7.5, 2.7.6	CNL-17-055
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.5.2 - Community Characteristics				
16-004	TVA-identified	Revised ER reference to match website address.	[ER] 2.5.2	N/A
17-002	Environmental Audit Information Needs SE-01	Revised ER to provide supplemental information regarding commuter and construction traffic impacts associated with non-radiological health and supplemental information to clarify the onsite workforce estimates.	[ER] 2.5.2, 3.10, 4.4, 5.8, 9.3	CNL-17-007
17-031	TVA-identified	Revise ER to reflect that the source of raw water for the City of Oak Ridge Public Works Department is Melton Hill Reservoir.	[ER] 2.5.2, 5.8	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.5.3 - Historic Properties				
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the Clinch River (CR) Small Modular Reactor (SMR) Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-010	TVA-identified	Corrected editorial errors provided in letter CNL-16-154.	[ER] 2.5.3, 4.1, 5.11	N/A

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.5.4 - Environmental Justice				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.6 - Geology				
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.7 - Meteorology and Air Quality				
16-033	TVA-identified	Revised SSAR and ER to clarify the statements regarding the number of joint frequency distributions used in the XOQDOQ analysis.	[SSAR] 2.3.5 [ER] 2.7.6	N/A
17-012	NRC request during February 13, 2017 Public Meeting	Reconciled differences between the descriptions and depictions of the EAB and population distribution in the SSAR and the ER.	[SSAR] 2.1.1, 2.1.2, 2.1.3, 2.3.4, 2.3.5; [ER] 2.5.1, 2.7.5, 2.7.6	CNL-17-055
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-043	TVA-identified	Updated information related to extreme winds, probable maximum winter precipitation, normal winter precipitation event and extreme frozen precipitation event.	[SSAR] 2.0, 2.3.1; [ER] 2.7.3	N/A
17-047	TVA-identified	Revised SSAR and ER to clarify the use of scalar values in the determination of CRN Site wind speed and direction.	[SSAR] 2.3.2, 2.3.3; [ER] 2.7.4; [Part 7] 2.7.4	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.8 - Noise				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 2.9 - Related Federal Project Activities				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.1 - External Appearance of Plant Layout				
16-023	TVA-identified	Revised the ER the units indicated for PPE Parameter, "Maximum Consumption of Raw Water."	[ER] 3.1	N/A

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.2 - Reactor Power Conversion System				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.3 - Plant Water Use				
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.4 - Cooling System				
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.5 - Radioactive Waste Management System				
17-023	Hydrology Audit - Groundwater Information Need 42	Revised to reflect changes in PPE normal liquid source term.	[SSAR] 2.0, 11.2, 11.3; [ER] 3.5	CNL-17-086
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.6 - Non-Radioactive Waste System				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.7 - Power Transmission System				
16-020	TVA-identified	Revised ER by removing references to the TVA 500-kV Interconnection System Impact Study, as this is not a public document.	[ER] 3.7	N/A
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.9 - Construction Activities				
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4, 3.9, 4.3, 5.3	CNL-16-201
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 3.10 - Workforce Characterization				
17-002	Environmental Audit Information Needs SE-01	Revised ER to provide supplemental information regarding commuter and construction traffic impacts associated with non-radiological health and supplemental information to clarify the onsite workforce estimates.	[ER] 2.5, 3.10, 4.4, 5.8, 9.3	CNL-17-007
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.1 - Land Use Impacts				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-010	TVA-identified	Corrected editorial errors provided in letter CNL-16-154.	[ER] 2.5.3, 4.1, 5.11	N/A

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.2 - Water-Related Impacts				
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-037	Hydrology Audit Information Needs 025b, 031, and 037 and Environmental Audit Information Need HY-GW-15	Revised ESPA to address the potential effects of CRN Site excavation dewatering on groundwater levels and offsite wells and the potential for an accidental radioactive release exposing offsite groundwater water users.	[SSAR] 2.4.12 [ER] 4.2.3	CNL-17-115
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.3 - Ecological Impacts				
16-032	TVA-identified	Revised ER to include supplemental information regarding terrestrial ecology.	[ER] 2.2, 2.4, 2.9, 3.7, 4.1, 4.3	CNL-16-200
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4, 3.9, 4.3, 5.3	CNL-16-201
17-029	Environmental Audit Information Needs AE-04, GW-14, RH-03, RH-04, and TE-13	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 2.3, 4.3, 4.5, 6.5	CNL-17-088
17-041	NRC request during Public Meeting on August 14, 2017	Revise ER Figures 2.4.1-1 and 4.3-1 to include the source data references. Revised ER Table 2.4.1-1, Note 1, to reflect the method used to develop the land cover types.	[ER] 2.4.1, 4.3	CNL-17-118
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.4 - Socioeconomic Impacts				
16-034	NRC request during September 15, 2016 Public Meeting	Revised ER to reflect updated Site Selection Report.	[ER] 4.4, 5.8, 9.3	CNL-16-190
17-002	Environmental Audit Information Needs SE-01	Revised ER to provide supplemental information regarding commuter and construction traffic impacts associated with non-radiological health and supplemental information to clarify the onsite workforce estimates.	[ER] 2.5, 3.10, 4.4, 5.8, 9.3	CNL-17-007
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.5 - Radiation Exposure to Construction Workers				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-029	Environmental Audit Information Needs AE-04, GW-14, RH-03, RH-04, and TE-13	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 2.3, 4.3, 4.5, 6.5	CNL-17-088
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 4.6 - Measures and Controls to Limit Adverse Impacts During Construction				
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
ER 4.7 - Cumulative Impacts Related to Construction Activities				
16-031	TVA-identified	Revised ER to include cumulative radiological health impacts in the 50-mi geographic area of interest associated with the construction and operation of the CR SMR Project and correct the radius of the cumulative land use geographic area of interest.	[ER] 4.7, 5.11	CNL-16-171
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.1 - Land Use Impacts				
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.2 - Water-Related Impacts				
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.3 - Cooling System Impacts				
16-039	TVA-identified	Revised ER to include information regarding aquatic ecology.	[ER] 2.3, 2.4, 3.9, 4.3, 5.3	CNL-16-201
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.4 - Radiological Impacts of Normal Operation				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.5 - Environmental Impacts of Waste				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.7 - Uranium Fuel Cycle and Transportation Impacts				
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-044	TVA-identified	Revised ER transportation information to reflect updated RADTRAN analysis.	[ER] 5.7, 7.4	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.8 - Socioeconomic Impacts				
16-034	NRC request during September 15, 2016 Public Meeting	Revised ER to reflect updated Site Selection Report.	[ER] 4.4, 5.8, 9.3	CNL-16-190
17-002	Environmental Audit Information Needs SE-01	Revised ER to provide supplemental information regarding commuter and construction traffic impacts associated with non-radiological health and supplemental information to clarify the onsite workforce estimates.	[ER] 2.5, 3.10, 4.4, 5.8, 9.3	CNL-17-007
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-031	TVA-identified	Revise ER to reflect that the source of raw water for the City of Oak Ridge Public Works Department is Melton Hill Reservoir.	[ER] 2.5, 5.8	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.9 - Decommissioning Impacts				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 5.10 - Measures and Controls to Limit Adverse Impacts During Operation				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
ER 5.11 - Cumulative Impacts Related to Station Operation				
16-031	TVA-identified	Revised ER to include cumulative radiological health impacts in the 50-mi geographic area of interest associated with the construction and operation of the CR SMR Project and correct the radius of the cumulative land use geographic area of interest.	[ER] 4.7, 5.11	CNL-16-171
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-010	TVA-identified	Corrected editorial errors provided in letter CNL-16-154.	[ER] 2.5.3, 4.1, 5.11	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 6.1 - Thermal Monitoring				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 6.2 - Radiological Monitoring				
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 6.3 - Hydrological Monitoring				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 6.4 - Meteorological Monitoring				

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 6.5 - Ecological Monitoring				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
17-029	Environmental Audit Information Needs AE-04, GW-14, RH-03, RH-04, and TE-13	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 2.3, 4.3, 4.5, 6.5	CNL-17-088
ER 6.6 - Chemical Monitoring				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 7.1 - Accident Selection				
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 7.4 - Transportation Accidents				
17-011	TVA-identified	Corrected values in ER Table 7.4-1.	[ER] 7.4	N/A
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-044	TVA-identified	Revised ER transportation information to reflect updated RADTRAN analysis.	[ER] 5.7, 7.4	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 9.3 - Alternative Sites				
16-034	NRC request during September 15, 2016 Public Meeting	Revised ER to reflect updated Site Selection Report.	[ER] 4.4, 5.8, 9.3	CNL-16-190
17-002	Environmental Audit Information Needs SE-01	Revised ER to provide supplemental information regarding commuter and construction traffic impacts associated with non-radiological health and supplemental information to clarify the onsite workforce estimates.	[ER] 2.5, 3.10, 4.4, 5.8, 9.3	CNL-17-007
17-026	TVA-identified	Revises SSAR and ER to make consistent use of the term "power block area" and revises title of Figure 2.4.12C-32 to replace "Fill" with "Granular Backfill."	[SSAR] 2.2, 2.3.4, 2.4.2, 2.4.12, 2.4.12C, 2.4.13, 2.5.1, 2.5.4, 2.5.5; [ER] 2.1, 2.6.1, 2.7.3, 2.7.5, 3.1, 3.9.2, 3.9.3, 4.2, 4.7, 6.2, 9.3	N/A

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 9.4 - Alternative Plant Systems				
16-037	NRC request during September 15, 2016 Public Meeting	Revised ER to include information regarding the consideration of alternative intake systems and alternative water supplies, including an evaluation of the environmental impacts of the alternative system designs as compared to the proposed circulating water system.	[ER] 9.4	CNL-16-198
17-025	TVA-identified	Revised ER to clarify the use of "wet natural draft cooling tower" versus "natural draft cooling tower" in the discussions of alternative heat dissipation systems.	[ER] 9.4	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
ER 10 - Environmental Consequences of the Proposed Action				
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
ER Appendix A - Consultation				
17-008	TVA-identified	Revised ER by adding a copy of a Tribal Consultation Letter to Appendix A.	[ER] Appendix A	CNL-17-040
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040
17-030	Environmental Audit Information Needs CR-02, SW-08, SW-09, SW-10, SW-12, SW-14, SW-16, SW-17, LU-02, LU-04, STO-01, STO-02, STO-04, STO-05, STO-07, STO-11, STO-13, TR-01, TR-03, TR-04, TR-05, TR-06, TR-07, TR-08, TR-09, and TR-16	Revised ER to provide supplemental information related to the Environmental Audit Information Needs.	[ER] 1.2, 2.2, 2.3, 2.4, 3.1, 3.3, 3.4, 3.7, 3.9, 4.2, 4.4, 4.6, 4.7, 5.2, 5.7, 5.11, 6.6, 7.4, 9.3, Appendix A	CNL-17-097
ER Appendix B - Environmental Protection Plan				
16-015	TVA-identified	Revised the ER with addition of an Environmental Protection Plan and other conforming changes to the ER.	[ER] 5.10, 6.1, 6.3, 6.5, 6.6, Appendix B	CNL-16-202
Part 5 - Emergency Plan				
17-036	TVA-identified	Revised Part 5 Emergency Plan (2-Mile EPZ [Emergency Planning Zone]) table of contents, to add Appendix A - Emergency Plan (2-Mile EPZ) and Appendix B - Evacuation Time Estimate Report; added Evacuation Time Estimate Report to Part 5B; Revised Part 5B Emergency Plan (2-Mile EPZ) Appendix A header to remove "(Site Boundary EPZ)."	[Part 5] Generic Emergency Plan (Part 5B), Part 5B Appendix A, ETE Report	N/A
Part 6 - Exemptions and Departures				
17-032	RAI 8885	Revised Part 6 to correctly describe the two emergency plans in Part 5 and state the correct criteria that the emergency plans are based upon; Revised discussion related to the Environmental Protection Agency (EPA) Protective Action Guides (PAG) criteria to reflect the location of the criteria in SSAR Section 13.3.	[Part 6] 1.2	CNL-17-101
Part 7 - Withheld Information				
17-009	TVA-identified	Revised ER to update information related to historic and cultural resources in the vicinity of the CR SMR Project Area of Potential Effect.	[ER] 2.5.3, 4.1, 4.7, 5.1, 5.8, 5.11, 10.1, Appendix A [Part 7] ER 2.5.3	CNL-16-154, CNL-17-040

ENCLOSURE 1

Summary of ESPA Revision 1 Changes

by ESPA Part and Section

ESPACR #	NRC Request/TVA-identified	Description	Affected ESPA Sections	TVA Submittal Letter
17-047	TVA-identified	Revised SSAR and ER to clarify the use of scalar values in the determination of CRN Site wind speed and direction.	[SSAR] 2.3.2, 2.3.3; [ER] 2.7.4; [Part 7] 2.7.4	N/A
17-052	TVA-identified	Revised ER to correct minor grammatical errors, typos, cross referencing errors, and a few instances of incorrect or outdated source information. In addition, several figures were revised to adjust the GIS layer for the Bear Creek Road and one figure was revised to remove the GIS layer for preliminary placement of CRN Site structures.	[ER] 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.11, 6.1, 6.2, 6.3, 6.4, 6.6, 7.1, 7.4, 9.3, 9.4; [Part 7] 2.5	N/A
Part 8 - Enclosures				
16-024	TVA-identified	Revised SSAR discussions related to geologic characterization, surface deformation, and stability of subsurface materials and foundation.	[SSAR] 2.5.1, 2.5.3; [Part 8] Plate 1, Plate 2a, Plate 2b, Plate 2c, Plate 2d	CNL-16-162

ENCLOSURE 2

United States Nuclear Regulatory Commission
Washington, District of Columbia

In the Matter of
Tennessee Valley Authority
Clinch River Nuclear Project
Early Site Permit Application

)
)
)
)
)
)

AFFIDAVIT

STATE OF TENNESSEE)
)
COUNTY OF HAMILTON)

Joseph W. Shea, after first being duly sworn, deposes and says:

1. I am employed as the Vice President, Nuclear Regulatory Affairs and Support Services for the Tennessee Valley Authority (TVA), an agency and instrumentality of the United States Government. I am familiar with the Early Site Permit Application for TVA's Clinch River Nuclear (CRN) Project and have personal knowledge of the matters stated herein.
2. I am submitting this affidavit in accordance with 10 CFR §2.390(a)(3) and 10 CFR §9.17, and because certain information contained in Part 7 to this Application has been determined by TVA to be of the type customarily held in strict confidence by the agency and is exempted from disclosure by statute under U.S. Code Title 16, Conservation, Section 470hh; the National Historic Preservation Act of 1966, Section 106, as amended; the Native American Graves Protection and Repatriation Act of November 16, 1990; and Tennessee Code Annotated 10-7-504(a)(21)(A)(i).
3. The information that should not be released to the public has been collected and organized into Part 7 of this Application.
4. The Early Site Permit Application Part 7 includes information exempted from disclosure by statute per 10 CFR §2.390(a)(3).
 - a. The application includes information related to historical artifacts and a Native American burial site. The U.S. Code Title 16, Conservation, Section 470hh, Confidentiality of Information concerning nature and location of archeological resources, and the National Historic Preservation Act of 1966, Section 106, as amended 2000, and the Native

Enclosure 2

American Graves Protection and Repatriation Act of November 16, 1990 require the non-disclosure of these historically significant locations.

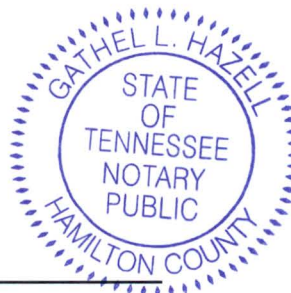
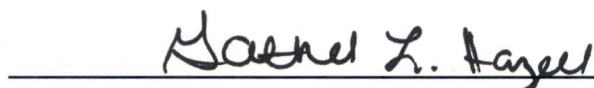
- b. The application also contains information related to the location of municipal water intakes. Tennessee Code Annotated 10-7-504(a)(21)(A)(i) requires the withholding of records that would allow a person to identify areas of structural or operational vulnerability of a utility service provider (including water storage or processing system, water distribution system, or any similar services) or that would permit unlawful disruption to, or interference with, the services provided by a utility service provider. The location of municipal water intakes are encompassed within the information that must be withheld from public disclosure under the statute.
5. The information sought to be withheld ("the information") is being submitted to the NRC in confidence.
6. The information is the sort of information regularly and customarily held in confidence by TVA based on the statutes requiring the withholding of such information; and is, in fact, so held.
7. The information has consistently been held in confidence by TVA.
8. No public disclosure of the information has been made by TVA.
9. All disclosures of the information to third parties by TVA, including any transmittals to the NRC, have been made pursuant to regulatory provisions or proprietary agreements which provide that the information is to be maintained in confidence.



J. W. Shea
Vice President, Nuclear Regulatory
Affairs and Support Services

Subscribed and sworn to before me,

Notary Public, this 15th day of December 2017:



My Commission expires: March 9, 2019