



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

CNL-17-118

September 5, 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: Supplemental Information Related to Environmental Report Figures in Support of  
Early Site Permit Application for Clinch River Nuclear Site

- References:
1. Letter from TVA to NRC, CNL-16-081, "Application for Early Site Permit for Clinch River Nuclear Site," dated May 12, 2016 (Accession No. ML16139A752)
  2. NRC Audit Plan, "Plan for Environmental Audit Related to the Clinch River Nuclear Site Early Site Permit Application," dated May 7, 2017 (Accession No. ML17088A728)
  3. Letter from TVA to NRC, CNL-17-088, "Submittal of Supplemental Information Related to the Environmental Audit in Support of Early Site Permit Application for Clinch River Nuclear Site," dated July 7, 2017
  4. NRC Document, "NRC-TVA Publically-Noticed Meeting (8/14/2017) Topics for Discussion: Clinch River Nuclear (CRN) ESP EIS – Site and Technical Overview," dated August 14, 2017 (Accession No. ML17221A618)

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. Between May 15, 2017 and May 31, 2017, the NRC conducted an audit of the environmental information contained in the CRN Site ESPA (Reference 2). During the face-to-face portion of the audit held at the TVA Knoxville, TN offices, the NRC requested that TVA provide supplemental information in support of the environmental audit. By letter dated July 7, 2017 (Reference 3), TVA submitted supplemental information addressing audit information needs, including maps and figures of plant layout, offsite structures, offsite transmission lines and associated affected areas associated with audit information needs Site Overview/Plant Description (STO-06). During a public meeting held on August 14, 2017 (Reference 4), the NRC requested that TVA provide supplemental information regarding the source of some of the figures provided in the Reference 3 submittal.

IEZ5

DO30

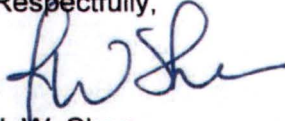
NRD

The enclosure to this letter contains supplemental information regarding the source of Environmental Report (ER) Figures 2.2-2, 2.4.1-1, 3.1-2, 4.3-1, and 4.4-1. Attachments 1 and 2 to the enclosure contain ER markups and a CD-ROM containing Geographic Information Systems files used to develop ER Figure 3.1-2, respectively. The ER markups will be incorporated in a future revision of the early site permit application.

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 5th day of September 2017.

Respectfully,



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

Enclosure:

Supplemental Information Associated with Environmental Report Figures

cc (with enclosure):

T. Dozier, Project Manager, Division of New Reactor Licensing, USNRC

cc (without enclosure):

V. McCree, Executive Director of Operations, USNRC  
C. Haney, Regional Administrator, Region II, USNRC  
M. Johnson, Deputy Executive Director for Reactor and Preparedness Programs,  
USNRC  
V. Ordaz, Acting Director, Office of New Reactors, USNRC  
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M. M. McIntosh, Regulatory Specialist, Eastern Regulatory Field Office, Nashville  
District, USACE

## ENCLOSURE

### Supplemental Information Associated with Environmental Report Figures

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. Between May 15, 2017 and May 31, 2017, the NRC conducted an audit of the environmental information contained in the CRN Site ESPA (Reference 2). During the face-to-face portion of the audit held at the TVA Knoxville, TN offices, the NRC requested that TVA provide supplemental information in support of the environmental audit. By letter dated July 7, 2017 (Reference 3), TVA submitted supplemental information addressing audit information needs, including maps and figures of plant layout, offsite structures, offsite transmission lines and associated affected areas associated with audit information needs Site Overview/Plant Description (STO-06). During a public meeting held on August 14, 2017 (Reference 4), the NRC requested that TVA provide supplemental information regarding the source of some of the figures provided in the Reference 3 submittal.

This enclosure contains supplemental information regarding the source of Environmental Report (ER) Figures 2.2-2, 2.4.1-1, 3.1-2, 4.3-1, and 4.4-1. This enclosure also contains ER markups, as required to support the supplemental information. The ER markups will be incorporated in a future revision of the early site permit application.

#### References:

1. Letter from TVA to NRC, CNL-16-081, "Application for Early Site Permit for Clinch River Nuclear Site," dated May 12, 2016 (Accession No. ML16139A752)
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#### Attachments:

1. Environmental Report Markups
2. CD-ROM: GIS Files

## ENCLOSURE

### Supplemental Information Associated with Environmental Report Figures

#### Supplemental Information:

##### Item 1:

During the public meeting held on August 14, 2017, the NRC staff requested verification of the source data used in the development of ER Figures 2.2-2 and 4.1-1.

TVA reviewed the source data used to produce ER Figures 2.2-2 and 4.1-1 and confirmed that National Land Cover Database (NLCD) 2011 is the correct source for the information presented. Based on this confirmation, no change to ER Figures 2.2-2 and 4.1-1 is required.

##### Item 2:

During the public meeting held on August 14, 2017, the NRC staff requested clarification of the source data used in the development of ER Figures 2.4.1-1 and 4.3-1.

The source data used to inform ER Figures 2.4.1-1 and 4.3-1 were CRN Site and Barge/Traffic Area (BTA) field surveys conducted by TVA biologists to characterize vegetation communities, wetlands, and ponds. The findings from these surveys are described in ER Subsection 2.4.1.1, "Upland Habitats," and ER Subsection 2.4.1.2, "Wetland Habitats." Based on the interpretation of aerial imagery, in conjunction with the descriptions of vegetation communities, wetlands, and water bodies provided by these field surveys, dominant vegetation communities and other land cover types were delineated on aerial photographs by hand. This information was converted to Geographic Information Systems (GIS) layers and mapped using GIS to create ER Figures 2.4.1-1 and 4.3-1. Acreages for the land cover types were then calculated using the GIS polygons (shown in the figures). Acreages for the land cover types are summarized in ER Table 2.4.1-1. As noted in ER Table 2.4.1-1, wetland acreages were accounted for in the vegetation community type in which they occur (i.e., deciduous forest, mixed forest, or herbaceous).

ER Figures 2.4.1-1 and 4.3-1 are being revised to include the source data references. In addition, ER Table 2.4.1-1, Note 1 is being revised to reflect the method used to develop the land cover types.

##### Item # 3:

The NRC staff requested clarification concerning the GIS files associated with ER Figure 3.1-2. Specifically, the NRC staff requested that TVA confirm that the GIS files provided in Reference 3 were the correct files for ER Figure 3.1-2.

TVA reviewed the information submitted to the NRC in Reference 3 and identified that the GIS layer file (map package [.mpk]) associated with ER Figure 3.1-2 was incorrect. The correct GIS layer file for ER Figure 3.1-2 is being provided on the enclosed CD-ROM disk.

## ATTACHMENT 1

### Environmental Report Markups

ER Table 2.4.1-1 is being revised as indicated. Underlines indicate text to be added. Strikethroughs indicate text to be deleted.

**Table 2.4.1-1**  
**Vegetation/Land Cover Types, Percent Coverage, and Acreage on the CRN Site<sup>1</sup>**

<b>Vegetation/Land Cover Type</b>	<b>Approximate Acreage</b>	<b>Percent Site Coverage</b>
Mixed evergreen-deciduous forest <sup>2</sup>	390	42
Deciduous forest <sup>3</sup>	292	31
Herbaceous vegetation <sup>4</sup>	204	22
Evergreen forest	32	3
Roads/developed areas	14	2
Ponds	3	<1
Total	935	100

<sup>1</sup> Table 2.4.1-1 presents a more refined representation of vegetation/land cover types on the CRN Site than the data presented in Section 2.2, Table 2.2-1. Dominant vegetation communities and other land cover types on the CRN Site were drawn in GIS ~~starting with~~ based on aerial photographs and ~~the NLCD data with modifications~~ based on information from TVA field surveys.

<sup>2</sup> Includes 1.0 ac of wetlands

<sup>3</sup> Includes 12.72 ac of wetlands

<sup>4</sup> Includes 1.82 ac of wetlands

# ATTACHMENT 1

## Environmental Report Markups

ER Figure 2.4.1-1 is being revised as indicated.

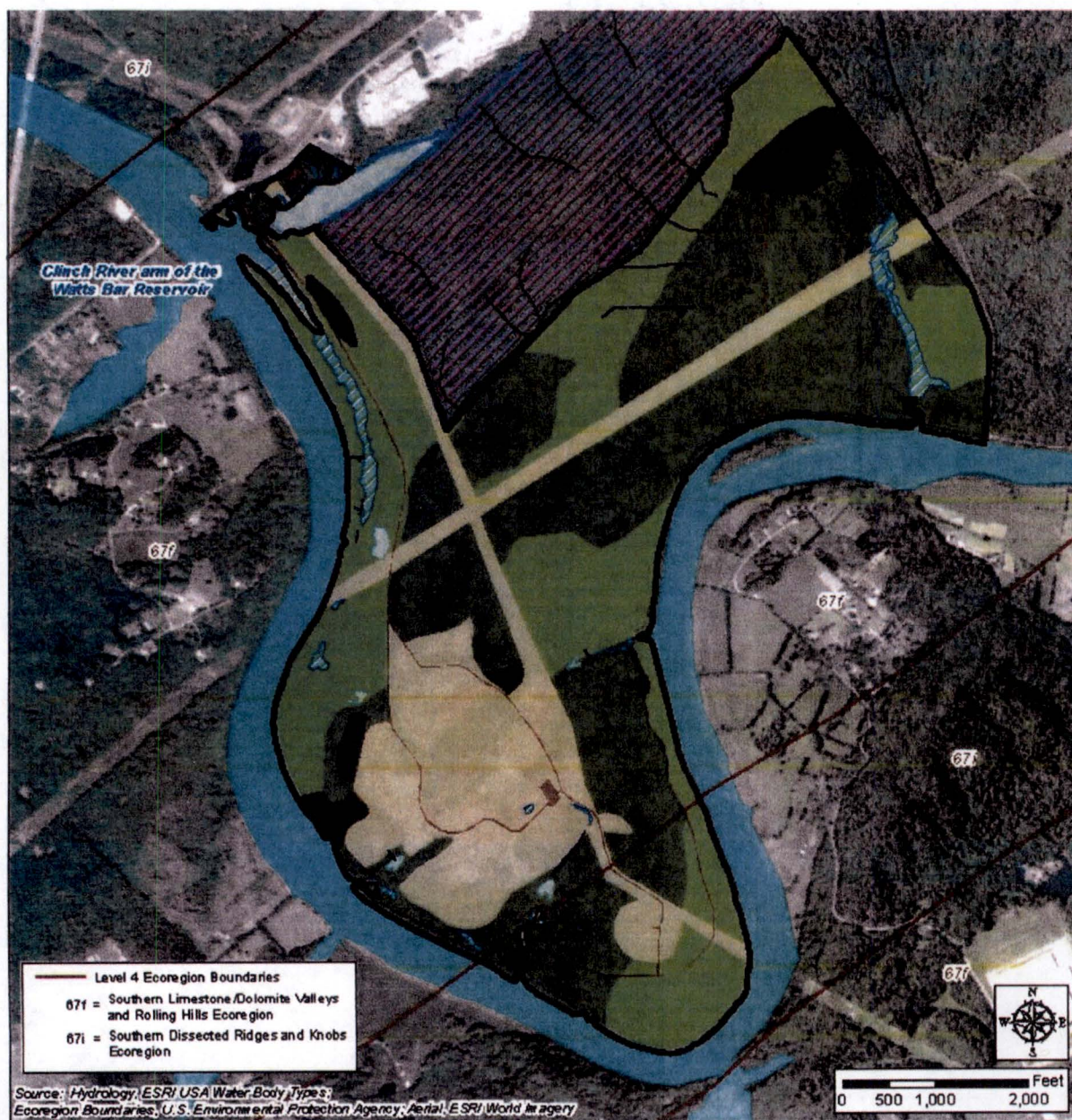


Figure 2.4.1-1. Land Cover Types on the CRN Site

## Environmental Report Markups

**Land Use**

- Roads/Developed
- Evergreen Forest
- Mixed Evergreen/Deciduous Forest
- Deciduous Forest
- Herbaceous/Grassland

**Source:** Hydrology, ESRI USA Water Body Types; Roads, U.S. Census Bureau, Geography Division; Aerial, ESRI World Imagery

**Figure 4.3-1. Areas to be Cleared and Land Cover Disturbed on the CRN Site and Barge/Traffic Area**

**ATTACHMENT 2**  
**CD-ROM: GIS Files**