

Clinch River Nuclear Site

Early Site Permit Application

PART 3

Environmental Report

Revision 2

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per liter
AADT	Annual Average Daily Traffic
ac	acres
ACS	American Community Survey
ADEM	Alabama Department of Environmental Management
AEDC	Arnold Engineering Development Center
AFB	Air Force Base
ALARA	as low as reasonably achievable
ALDOT	Alabama Department of Transportation
ALS	Advanced Life Support
AMEC	Amec Foster Wheeler plc
ANA	aquatic natural area
APE	area of potential effect
ARA	aquatic reference area
ASCE	American Society of Civil Engineers
ASOS	Automated Surface Observing System
ATSDR	Agency for Toxic Substances and Disease Registry
B/CTP	Bicide/Corrosion Treatment Plant
bgs	below ground surface
BMP	best management practices
BOD	Biological Oxygen Demand
BP	Containment Bypass
BRAC	Base Realignment and Closure Program
Btu	British thermal units
BWRs	boiling water reactors
CAA	Clean Air Act
CDC	Center for Disease Control and Prevention
CDF	core damage frequency
CEQ	Council on Environmental Quality
CFD	Computational Fluid Dynamics
CFE	Early Containment Failure
CFI	Intermediate Containment Failure
CFL	Late Containment Failure
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH ₄	methane
Ci	curies
Cl	chloride
cm	centimeter

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ACRONYMS AND ABBREVIATIONS (CONTINUED)

CO	carbon monoxide
CO ₂	carbon dioxide
COC	Cycles of Concentration
COD	Chemical Oxygen Demand
COL	Combined License
COLA	Combined License Application
CR	Clinch River
CRBRP	Clinch River Breeder Reactor Project
CRM	Clinch River Mile
CRN	Clinch River Nuclear
CRUD	corrosion related unidentified deposits
CWA	Clean Water Act
CWS	circulating water system
DAR	Daughters of the American Revolution
DASU	Data Acquisition Switch Unit
dB	decibel
dBA	a-weighted decibels
DBAs	Design basis Accidents
DBT	Design Basis Tornado
DNL	Day-Night Average Sound Level
DO	dissolved oxygen
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DRH	Division of Radiological Health
EAB	exclusion area boundary
EDS	Environmental Data Station
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Statement
EMA	Environmental Monitoring and Analysis
EMF	electromagnetic field
EMS	Emergency Medical Services
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPFS	Emergency Preparedness Field Support
EPRI	Electric Power Research Institute
EPZ	emergency planning zone
ER	Environmental Report
ERB	Effluent Release Boundaries
ESE	east-southeast
ESP	Early Site Permit

Clinch River Nuclear Site
Early Site Permit Application
Part 3, Environmental Report

ACRONYMS AND ABBREVIATIONS (CONTINUED)

ESPA	Early Site Permit Application
ETHRA	East Tennessee Human Resource Agency
ETTP	East Tennessee Technology Park
FBI	Federal Bureau of Investigations
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
fps	feet per second
ft	feet
ft/ft	feet per foot
ft/s	feet per second
ft ² /d	feet squared per day
ft ³	cubic feet
FWPCA	Federal Water Pollution Control Act
FY	Fiscal Year
g/kWh	grams of CO ₂ per kilowatt hour
GEIS	Generic Environmental Impact Statement
GHG	greenhouse gas
gm/cm ³	grams per cubic centimeter
gpd	gallons per day
gpm	gallons per minute
ha	Hectare
HABs	harmful algal blooms
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HFIR	high flux isotope reactor
HLW	high-level waste
HPA	Habitat Protection Area
hr	hour
HRCQ	highway route controlled quantity
HSP	Health and Safety Plan
HSV	Huntsville International Airport
HUC	Hydrologic Unit Code
HVAC	heating, ventilation, and air conditioning
HWEL	Headwater Elevation
I-	Interstate
IC	Intact Containment
in.	inches
IPPP	Integrated Pollution Prevention Plans
ISFSI	independent spent fuel storage installation

ACRONYMS AND ABBREVIATIONS (CONTINUED)

ISL	in-situ leaching
IUs	Industrial Users
JFD	Joint Frequency Distributions
KAT	Knoxville Area Transit
Kg	kilograms
kg/ha/mo	kilograms per hectare per month
kg/km ² -mo	kilograms per square kilometer per month
km	kilometer
KOP	Key Observation Points
kV	kilovolt
kWh	kilowatt-hour
LCD	Local Climatological Data
LiDAR	Light Detection and Ranging
LLRW	low level radioactive waste
LLW	low-level waste
LMDCT	Linear mechanical draft cooling towers
LOCA	loss of coolant accidents
LOS	Level of Service
LPZ	low-population zone
LWR	light water reactor
ly/min	Langleys per minute
m	meter
m/s	meters per second
m ³	Meters cubed
mA	milliamperes
MBtu	Million British Thermal Units
MCL	maximum contaminant levels
MEI	maximally exposed individual
mg/L	milligrams per liter
mgd	million gallons per day
mi	mile
MMT	million metric tons
mph	miles per hour
mrad	millirads
mrem	millirem
MSA	Metropolitan Statistical Area
msl	above mean Sea Level
MT	metric ton
MTU	metric ton of uranium
mVolts	millivolts
MW	megawatts

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ACRONYMS AND ABBREVIATIONS (CONTINUED)

MWd	megawatt-days
MWe	megawatt electric
MWh	megawatt hours
MWt	megawatt thermal
N ₂ O	nitrous oxide
Na	Sodium
NAA	nonattainment area
NAAQS	National Ambient Air Quality Standards
NaCl	sodium chloride
NASA	National Aeronautics and Space Administration
NAVD88	North American Vertical Datum of 1988
NAWQA	National Water-Quality Assessment Program
NCA	National Climate Assessment
NCDC	National Climatic Data Center
NEI	Nuclear Energy Institute
NEPA	National Environment Policy Act
NERP	National Environmental Research Park
NESC	National Electrical Safety Code
NGVD29	National Geodetic Vertical Datum of 1929
NLCD	National Land Cover Database
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRC	U.S. Nuclear Regulatory Commission
NRHD	National Register Historic District
NRHP	National Register of Historic Places
NSA	Naval Support Activity
NSR	New Source Review
NSSS	nuclear steam supply system
NTU	nephelometric turbidity units
NWI	National Wetland Inventory
NWR	National Wildlife Refuge
NWS	National Weather Service
O&G	Oil and Grease
O&M	Operating and Maintenance
O ₃	ozone
ODCM	Offsite Does Calculation
ORFD	Oak Ridge Fire Department
ORNL	Oak Ridge National Laboratory

ACRONYMS AND ABBREVIATIONS (CONTINUED)

ORR	Oak Ridge Reservation
OSCS	Oriented Spray Cooling System
PA	Programmatic Agreement
Pb	Lead
PBA	power block area
PCB	polychlorinated biphenyls
Percent g	acceleration due to gravity
PGA	peak ground acceleration
PM	particulate matter
PM ₁₀	particulate matter with a diameter of less than 10 microns
PM _{2.5}	particulate matter with a diameter less than 2.5 microns
PMF	Probable Maximum flood
PPD	presidential policy directive
PPE	plant parameter envelope
ppm	parts per million
PRA	probabilistic risk assessment
PSAR	Preliminary Safety Analysis Report
PSD	Prevention of Significant Deterioration
psi	Pounds Per Square Inch
PWR	pressurized water reactors
Qc	Colluvium
Qha	Holocene alluvium
RAC	Remote Access Computer
RCRA	Resource Conservation and Recovery Act
REMP	Radiological Environmental Monitoring Program
RG	Regulatory Guide
RIMS II	Regional Input-Output Modeling System
RM	Road Miles
Rn-222	Radon-222
ROS	Reservoir Operations Study
ROW	Right of Way
RTDs	Resistance temperature detectors
RV	Recreational Vehicle
Ryr	reactor year
s	second
SACTI	Seasonal and Annual Cooling Tower Impact
SCRAM	Support Center for Regulatory Atmosphere Modeling
SDWIS	Safe Drinking Water Information System
SHPO	State Historic Preservation Officer
SI	subsurface investigation
SMR	Small Modular Reactor

ACRONYMS AND ABBREVIATIONS (CONTINUED)

SMZ	Streamside management zones
SNA	State Natural Area
SO ₂	sulfur dioxide
SO _x	sulfur oxide
SPCC	Spill Prevention, Control and Countermeasures
sq	square
SSAR	Site Safety Analysis Report
SSC	structures, systems, and components
SSE	south-southeast
Sv	person sievert
SVOC	semivolatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
Tc-99	Technetium-99
TCA	Tennessee Code Annotated
TDEC	Tennessee Department of Environment and Conservation
TDOH	Tennessee Department of Health
TDOT	Tennessee Department of Transportation
TEDE	Total Effective Dose Equivalent
TLD	thermoluminescent dosimeters
TN	Tennessee State Highway
TRM	Tennessee River Mile
TROC	temperature rate of change
TRU	transuranic
TSS	Total Suspended Solids
TVA	Tennessee Valley Authority
TWPC	TRU waste processing center
TWRA	Tennessee Wildlife Resources Agency
U-235	Uranium -235
U-238	Uranium-238
U ₃ O ₈	Uranium Oxide
U ₃ O ₈ e	Uranium Oxide equivalent
UF ₆	Uranium Hexafluoride
UFC	Uranium fuel cycle
UHS	Ultimate Heat Sink
UNFCCC	United Nations Framework Convention on Climate Change
UO ₂	Uranium Dioxide
UPF	Uranium Processing Facility
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture

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ACRONYMS AND ABBREVIATIONS (CONTINUED)

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VES	visual and aural encounter surveys
VOCs	volatile organic compounds
WMA	Wildlife Management Area
WSEL	Water Surface Elevation
WWC	wet-weather conveyances
X/Q	atmospheric dispersion factors
yr	year

Clinch River Nuclear Site
Early Site Permit Application
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This Appendix contains information withheld under 10 CFR 2.390(a)(3)

**APPENDIX A
Consultation
Revision 1**

October 2, 2015

Mr. Doug Slabaugh
State Soil Scientist
Natural Resources Conservation Service
675 US Courthouse
801 Broadway
Nashville, TN 37203

SUBJECT: Request for Farmland Conversion Impact Rating - Proposed Clinch River Small Modular Reactor Project, Roane County, Tennessee

Dear Mr. Slabaugh,

AECOM is working with the Tennessee Valley Authority (TVA), through Ruth Horton (865-632-3719), in the preparation of an Environmental Report for an Early Site Permit (ESP) Application to the Nuclear Regulatory Committee for a proposed 800-megawatt (MW) small modular reactor (SMR) facility at a proposed site in Roane County, Tennessee. The proposed facility would be located on approximately 935 acres of federal land, the Clinch River Nuclear (CRN) Site, located approximately 10 miles southwest of the Oak Ridge business district (Figure 1). The proposed construction activities would occur within the proposed CRN Site and the adjacent approximately 196 acre Barge/Traffic area (Figure 2).

TVA is in the process of conducting investigations and preparing the NEPA compliance documentation for the proposed project. This documentation will include a comprehensive analysis of pertinent environmental impacts, including prime or unique farmlands and an analysis of project alternatives. This letter is being submitted under the provisions of the Farmland Protection Policy Act.

The proposed CRN Site has been federal property since 1941. The only soil survey information for the proposed site is the 1941 Roane County Soil Survey. The proposed CRN Site and nearby Barge/Traffic area contains the following soils as shown in Figure 2:

- First-class soils (good to excellent cropland) – 0 acres
- Second-class soils (fair to good cropland) – 277.7 acres
- Third-class soils (poor to fair cropland) – 265.4 acres
- Fourth-class soils (best suited to pasture) – 383.3 acres
- Fifth-class soils (best suited to forest) – 204.5 acres

Portions of the CRN Site have been disturbed during previous site activities, including extensive excavation. The CRN Site was selected as the location for construction of a liquid metal fast breeder reactor in 1972. Site preparation for the CRBRP began in 1982 and was nearly complete in late 1983. Approximately 240 acres of the CRN Site were disturbed during site preparation for the CRBRP. Site preparation activities included leveling a ridge that originally reached 880 feet above mean sea level (msl) to 780 msl, excavation of the construction area, and installation of various structures and pads. The excavated area totaled approximately 24 acres in extent and extended to as much as 100 feet in depth. Approximately three million cubic yards of earth and rock were excavated during the site preparation. The project was terminated in late 1983 and site redress plans were developed and implemented. Measures to stabilize the CRBRP Site included reseeding of grass, and planting of trees, mulching cleared areas, installation of straw bales in shallow ditches, installation of small berms of riprap in larger ditches, installation of culverts to direct water from steep slopes, and modification of the holding ponds for long term stability. The 80 foot by 80 foot crane pad was left in place. The excavated area was partially backfilled in a manner to sustain site drainage. Level areas of the CRBRP Site were graded and

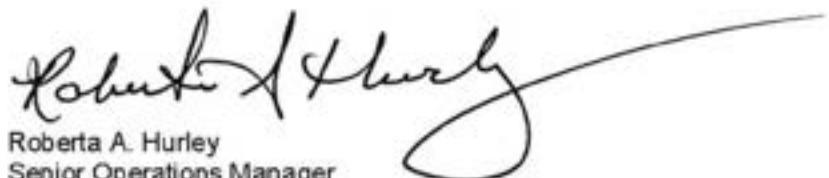
compacted. The areas of the CRN Site most heavily disturbed during the CRBRP Project are shown in Figure 2.

The majority of the CRN Site is located within the 7.5 minute U.S. Geological Survey Elverton Quadrangle. The eastern portion of the site is located within the Bethel Valley Quadrangle. The site is bracketed by the Petros and Windrock Quadrangles to the north, the Lovell Quadrangle to the east, the Lenoir City and Cave Creek Quadrangles to the south, and the Harriman Quadrangle to the west (Figure 3).

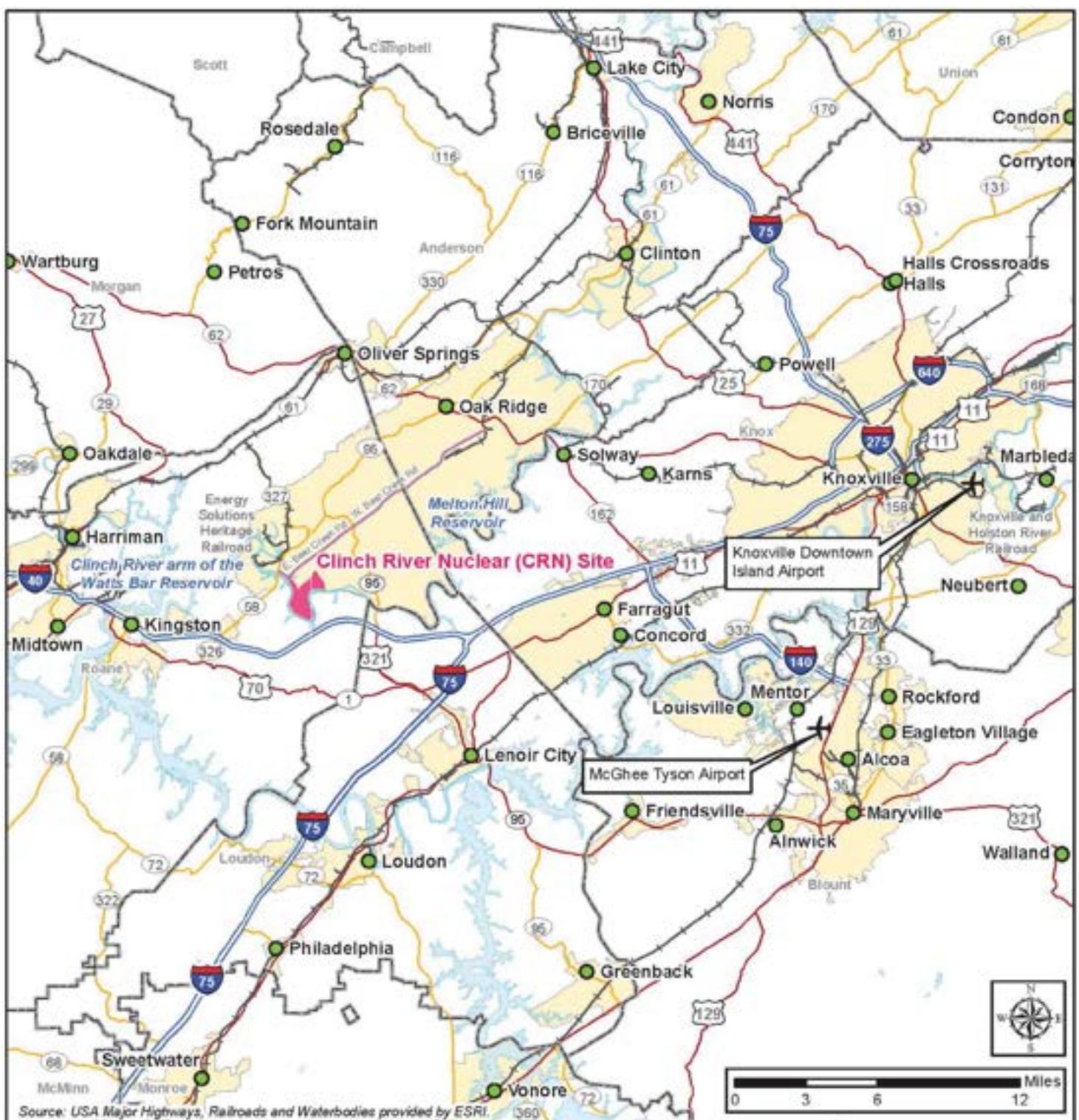
Enclosed is Form AD-1006, the Farmland Conversion Impact Rating Form, with Parts I and III completed and a map showing soil types and farmland classification of the proposed project site (Figure 2) based on the original 1942 Soil Survey data. To ensure compliance with the Farmland Protection Policy Act and to support the NEPA process, TVA requests that Natural Resources Conservation Service review the enclosed project-specific information and complete Parts II, IV, and V on the enclosed Form AD-1006. TVA staff will forward to your office a copy of the draft NEPA document, when it is available for distribution, along with a request for comments.

If you have any questions regarding this proposed project, please contact me at 864-234-8913 (bobbie.hurley@aecom.com) or Ruth Horton at 865-632-3719 (rmhorton@tva.gov).

Sincerely,



Roberta A. Hurley
Senior Operations Manager



Legend

Figure 1. Clinch River Nuclear (CRN) Site Location Map

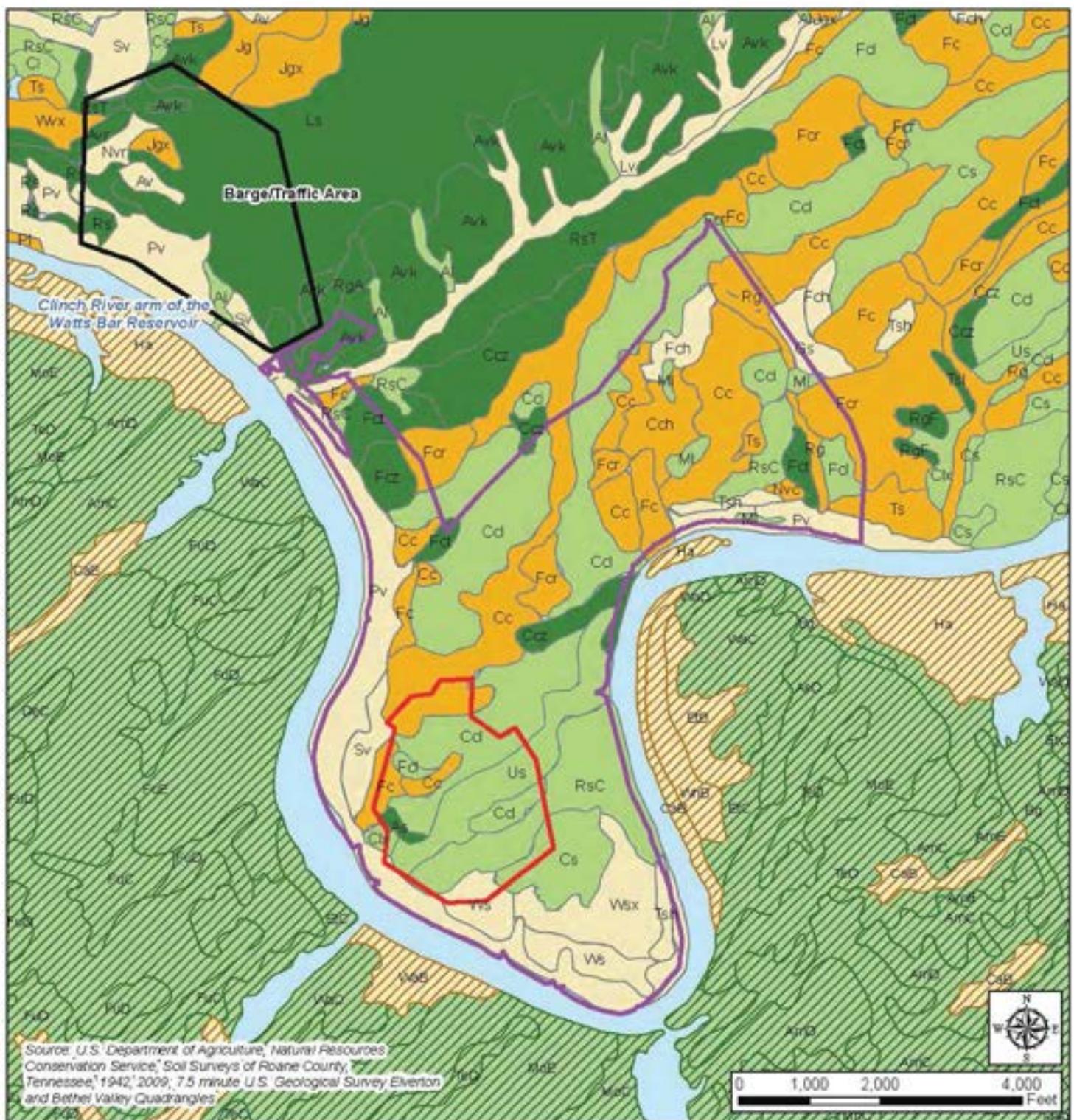
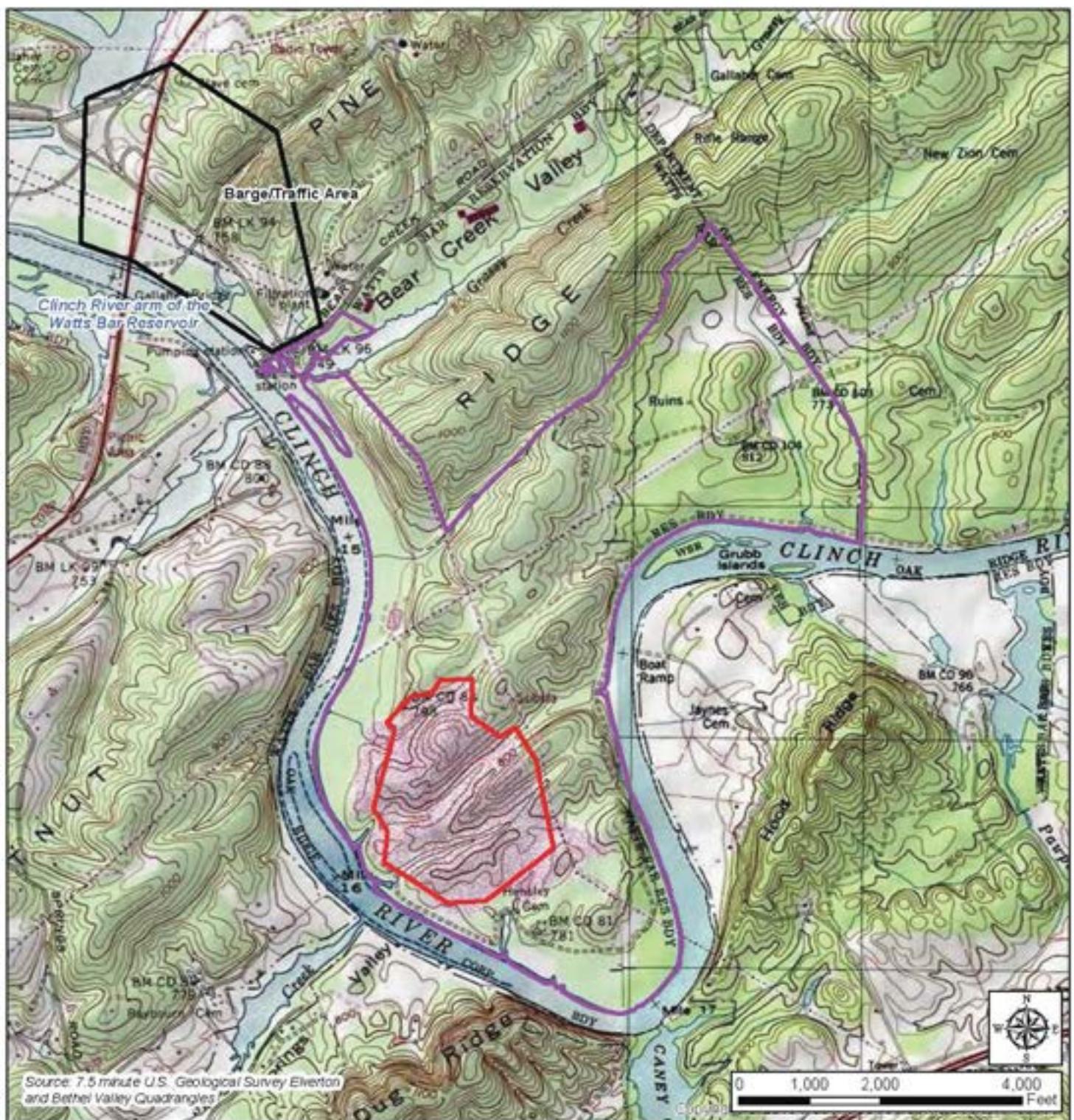


Figure 2. CRN Site Prime Farmland Soils



Legend

- CRBRP Disturbed Area
- CRN Site
- Barge/Traffic Area

Figure 3. CRN Site Topographic Map

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 9-30-2015				
Name of Project Clinch River SMR Project		Federal Agency Involved Tennessee Valley Authority				
Proposed Land Use Small modular reactor (SMR) facility		County and State Roane County, Tennessee				
PART II (To be completed by NRCS)		Date Request Received By NRCS			Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)			YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)		Farmable Land In Govt. Jurisdiction Acres: %			Amount of Farmland As Defined in FPPA Acres: %	
Name of Land Evaluation System Used		Name of State or Local Site Assessment System			Date Land Evaluation Returned by NRCS	
PART III (To be completed by Federal Agency)		Alternative Site Rating				
A. Total Acres To Be Converted Directly		Site A 1131	Site B	Site C	Site D	
B. Total Acres To Be Converted Indirectly		0				
C. Total Acres In Site		1131				
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland						
B. Total Acres Statewide Important or Local Important Farmland						
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted						
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value						
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)						
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 656.5 b. For Corridor project use form NRCS-CPA-105)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)				
2. Perimeter In Non-urban Use		(10)				
3. Percent Of Site Being Farmed		(20)				
4. Protection Provided By State and Local Government		(20)				
5. Distance From Urban Built-up Area		(15)				
6. Distance To Urban Support Services		(15)				
7. Size Of Present Farm Unit Compared To Average		(10)				
8. Creation Of Non-farmable Farmland		(10)				
9. Availability Of Farm Support Services		(5)				
10. On-Farm Investments		(20)				
11. Effects Of Conversion On Farm Support Services		(10)				
12. Compatibility With Existing Agricultural Use		(10)				
TOTAL SITE ASSESSMENT POINTS		160	0	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	0	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	0	0	0	0
Was A Local Site Assessment Used?						
Site Selected:		Date Of Selection			YES <input type="checkbox"/>	NO <input type="checkbox"/>
Reason For Selection:						
Name of Federal agency representative completing this form: (See Instructions on reverse side)					Date:	

From: Hurley, Bobbie
To: Freeman, Carol; Horton, Ruth M
Subject: FW: Request for farmland conversion impact rating of Clinch River Reactor project
Date: Friday, October 16, 2015 8:43:13 AM
Attachments: ClinchRiverSMBProject_AD1006_10_16_2015.pdf

Bobbie Hurley
AECOM
864-234-8913 (W)
864-918-5836 (C)

From: Khiel, Anthony - NRCS, KNOXVILLE, TN [mailto:Anthony.Khiel@tn.usda.gov]
Sent: Friday, October 16, 2015 9:23 AM
To: Hurley, Bobbie
Subject: RE: Request for farmland conversion impact rating of Clinch River Reactor project

Bobbie:

Attached please find the AD-1006 with sections IV and V completed. If you need any additional information, please feel free to contact me at any time.

Thanks,
Anthony

Anthony Khiel, CPSS
Resource Soil Scientist
9737 Cogdill Rd
Suite 152C
Knoxville, TN 37932
W: 865-671-3830 x. 112
C: 865-243-0769
Anthony.khiel@tn.usda.gov

From: Hurley, Bobbie [mailto:Bobbie.Hurley@aecom.com]
Sent: Wednesday, October 14, 2015 2:12 PM
To: Khiel, Anthony - NRCS, KNOXVILLE, TN <Anthony.Khiel@tn.usda.gov>
Cc: Horton, Ruth M <rmhorton@tva.gov>; Freeman, Carol <Carol.Freeman@aecom.com>
Subject: RE: Request for farmland conversion impact rating of Clinch River Reactor project

Anthony,

Thank you for your review. Approximately 328 acres would be permanently converted within the

CRN Site, including the entire 240-acre area previously disturbed during the CRBRP. An additional approximately 140 acres within the CRN Site would be temporarily converted as a result of construction activities, mostly to the northeast of the main plant site. Within the offsite Barge/Traffic area approximately 30 acres would be permanently converted (of which approximately 12.1 acres have been previously disturbed) and an additional 15 acres would be temporarily converted. Overall, the entire 935 acres of the CRN site would be unavailable for use as farmland because the site would be restricted access. Much of the Barge/Traffic Area is DOE property that already has restricted access. Attached is a new Figure 4 that shows the permanently and temporarily cleared areas. The GIS files for these are also included for download in the link below. If you need additional information please let me know and we will be happy to assist.

This file will be available for download until 10/21/2015

<u>File</u>	<u>Description</u>	<u>Size</u>
USDA_Figure 4 Data.zip		13,495KB
Download all files (.zip)		

Bobbie Hurley

AECOM

864-234-8913 (W)

864-918-5836 (C)

From: Khiel, Anthony - NRCS, KNOXVILLE, TN [mailto:Anthony.Khiel@tn.usda.gov]

Sent: Wednesday, October 07, 2015 12:31 PM

To: Hurley, Bobbie

Subject: RE: Request for farmland conversion impact rating of Clinch River Reactor project

Roberta:

I received your request for Farmland Protection Policy Act (FPPA) review of the Clinch River Reactor project and I need to get a little more information that was not in the documentation that I had forwarded to me. On the enclosed AD-1006, you have listed that the entire 1131 acres will be converted and I wanted to make sure this was correct or is the area that was manipulated in 1983-1984 the area that will be impacted by the overall project (240 acres).

Thanks for your help.

Anthony

Anthony Khiel, CPSS
Resource Soil Scientist
9737 Cogdill Rd
Suite 152C
Knoxville, TN 37932

W: 865-671-3830 x. 112
C: 865-243-0769
Anthony.khiel@tn.usda.gov

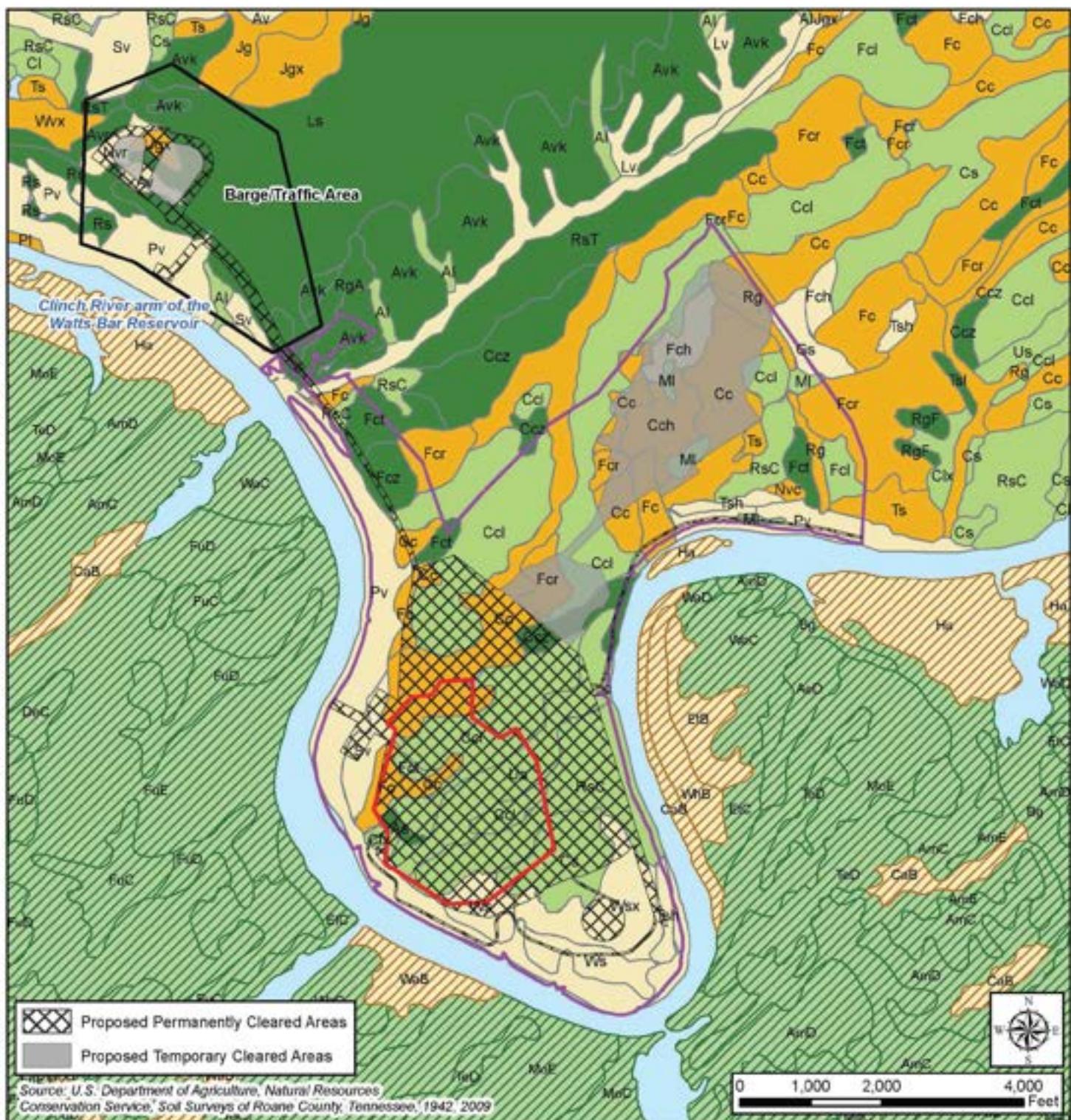


Figure 4. CRN Site Prime Farmland Soils

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 9/30/15			
Name Of Project Clinch River SMR Project		Federal Agency Involved Tennessee Valley Authority			
Proposed Land Use Small modular reactor (SMR) facility		County And State Roane County, Tennessee			
PART II (To be completed by NRCS)		Date Request Received By NRCS 10/8/15			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated na	Average Farm Size 88 acres
Major Crop(s) corn	Farmable Land In Govt. Jurisdiction Acres: 19,476 % 8	Amount Of Farmland As Defined in FPPA Acres: 100,596 % 40			
Name Of Land Evaluation System Used LESA	Name Of Local Site Assessment System na	Date Land Evaluation Returned By NRCS 10/16/15 <i>APR 10/14</i>			
PART III (To be completed by Federal Agency)		Alternative Site Rating			
A. Total Acres To Be Converted Directly		Site A 1,131.0	Site B	Site C	Site D
B. Total Acres To Be Converted Indirectly		0.0			
C. Total Acres In Site		1,131.0	0.0	0.0	0.0
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		178.0			
B. Total Acres Statewide And Local Important Farmland		0.0			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.2			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		0.9			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		37	0	0	0
PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))		Maximum Points			
1. Area In Nonurban Use		15			
2. Perimeter In Nonurban Use		10			
3. Percent Of Site Being Farmed		0			
4. Protection Provided By State And Local Government		0			
5. Distance From Urban Builtup Area		15			
6. Distance To Urban Support Services		0			
7. Size Of Present Farm Unit Compared To Average		0			
8. Creation Of Nonfarmable Farmland		10			
9. Availability Of Farm Support Services		5			
10. On-Farm Investments		0			
11. Effects Of Conversion On Farm Support Services		0			
12. Compatibility With Existing Agricultural Use		10			
TOTAL SITE ASSESSMENT POINTS		160	65	0	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	37	0	0
Total Site Assessment (From Part VI above or a local site assessment)		160	65	0	0
TOTAL POINTS (Total of above 2 lines)		260	102	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Reason For Selection:					

(See instructions on reverse side)

This form was electronically produced by National Production Services Staff

Form AD-1006 (10-83)



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

July 25, 2003

Mr. J. Bennett Graham
Tennessee Valley Authority
Cultural Resources
Post Office Box 1589
Norris, Tennessee 37828-1589

RE: TVA, ARCHAEOLOGICAL ASSESSMENT, BREEDER REACTOR SITE/
120 ACRES, UNINCORPORATED, ROANE COUNTY

Dear Mr. Graham:

At your request, our office has reviewed the above-referenced archaeological survey final report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). We find that the report meets the Tennessee SHPO Standards and Guidelines For Archaeological Resource Management Studies.

In accordance with our previous correspondence, dated June 10, 2003, if this tract is proposed for future development, please provide us with either a strategy for avoiding archaeological site 40RE549 or a report on Phase II investigations of this site.

Your continued cooperation is appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Herbert L. Harper".

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1489

February 17, 2011

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

**TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SITE CHARACTERIZATION
PROJECT, ROANE COUNTY, TENNESSEE**

TVA proposes to conduct geophysical investigations at TVA's Clinch River Breeder site, in Roane County, Tennessee, in order to ascertain the suitability for construction and operation of a small module reactor. The proposed activities include geological core borings, observation wells and pumping tests, temporary trailers, and access roads to the wells and borings. TVA considers the area of potential effects (APE) to be 325 acres where ground disturbance may occur.

TVA contracted with TRC to conduct the archaeological survey. Prior to the field survey, TRC conducted archival research at the Tennessee Division of Archaeology (TDOA) to identify all documented cultural resources within the APE. Archival research identified 12 previously recorded archaeological sites (40RE106–108, 40RE120, 40RE129, 40RE152–154, 40RE159, 40RE163, 40RE165, and 40RE166) within the APE.

Following archival research, TRC conducted a Phase I survey. Enclosed is TRC's management summary entitled *Phase I Archaeological Survey, TVA Clinch River Site Characterization Project, Roane County, Tennessee*.

The archaeological survey conducted from January 3 to February 2, 2011, identified five newly recorded archaeological sites (Field Sites 1; 3–6) and revisited the 12 previously recorded archaeological sites.

- Field Sites 1 and 6 consists of low density prehistoric lithic scatters.
- Field Sites 3 and 4 consists of late nineteenth to mid twentieth century farmsteads.
- Field Site 5 is the Hensley Cemetery, which dates to the early- to mid-twentieth century.

TVA finds Field Site 1, 3, 4, and 6 ineligible for the National Register of Historic Places (NRHP). Although TVA finds the Hensley Cemetery (Field Site 5) ineligible for the NRHP, the site will be avoided from any ground disturbances.

Exempted from Disclosure by Statute - Withheld Under 10 CFR 2.390(a)(3)

Mr. E. Patrick McIntyre, Jr.
Page 2
February 17, 2011

Of the 12 previously recorded sites:

- []

- Exempted from Disclosure by Statute
- TVA finds 40RE106 potentially eligible for listing on the NRHP.
 - TRC's re-survey of site 40RE107[]

- Exempted from Disclosure by Statute
- finds the site potentially eligible for the NRHP.
 - TRC's re-survey of site 40RE108[]

- Exempted from Disclosure by Statute
- Site 40RE120 consists of the structural debris of a twentieth century farmstead and a scatter of historic artifacts. TVA finds site 40RE120 ineligible for the NRHP due to a lack of research potential and lack of intact archaeological deposits.
 - Site 40RE129 was investigated in 1974 by Gerald Schroedl with the University of Tennessee. Schroedl's work determined the mound to be a recent historic soil disturbance. TDOA's site records indicate the site number was vacated.
 - []
 - TVA finds 40RE152, 40RE154, and 40RE163 ineligible for listing on the NRHP due to a lack of research potential and lack of intact archaeological deposits.
 - []

- Exempted from Disclosure by Statute
- TRC's re-survey of site 40RE165[]

- Exempted from Disclosure by Statute
- Site 40RE166[]

By this letter, TVA is presenting our findings and recommendations based on TRC's management summary. TVA will submit the completed draft Phase I report to your office in March. Pursuant to 36 CFR Part 800, all findings and recommendations will be determined in consultation with the Tennessee State Historic Preservation Officer.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding properties that may be of religious and cultural significance and eligible for the NRHP.

Mr. E. Patrick McIntyre, Jr.
Page 3
February 17, 2011

TVA will avoid all previously recorded and newly identified archaeological sites while conducting the geophysical study. TVA is requesting your concurrence that the methodology implemented for the Phase I survey was sufficient to identify all archaeological sites within the APE and that TVA may proceed with the geophysical testing provided that all activities avoid these sites.

If you have any questions, please contact Richard Yarnell in Knoxville at (865) 632-3463 or by email at wryarnell@tva.gov.

Sincerely,

(Original signed by)

A. Eric Howard
Manager
Cultural Compliance
WT 11D-K

RY:MH:IKS:PS

Enclosure

cc: Ms. Jennifer Barnett (Enclosure)
Tennessee Division of Archaeology
1216 Foster Avenue, Cole Bldg. #3
Nashville, Tennessee 37210

Cynthia M. Anderson, LP 5D-C
Brenda E. Brickhouse, LP 5U-C
Ruth M. Horton, WT 11D-K
Susan J. Kelly, LP 5U-C
Khurshid K. Mehta, WT 6A-K
Diedre B. Nida, LP 5U-C
Jeffrey Neal Perry, LP 5A-C
Andrea Lynn Sterdis, LP 5A-C
EDMS, WT 11D-K



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

February 28, 2011

Mr. A. Eric Howard
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

**RE: TVA, ARCHAEOLOGICAL ASSESSMENT MANAGEMENT SUMMARY, CLINCH RIVER
SITE GEOPHYSICAL TEST, UNINCORPORATED, ROANE COUNTY, TN**

Dear Mr. Howard:

At your request, our office has reviewed the above-referenced archaeological survey report management summary in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). We concur with your agency that sites 40RE106, 40RE107, 40RE108, R0RE165, and 40RE166 are potentially eligible for listing in the National Register of Historic Places. We further concur, based on the information provided regarding proposed avoidance strategies, that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Patrick McIntyre, Jr."

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

March 11, 2011

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SITE CHARACTERIZATION PROJECT, ROANE COUNTY, TENNESSEE

In a letter dated February 17, 2011, TVA consulted with your office regarding the proposed geophysical investigations at TVA's Clinch River site, in Roane County, Tennessee. By this letter, TVA is submitting the completed draft Phase I report titled *Phase I Archaeological Survey, TVA Clinch River Site Characterization Project, Roane County, Tennessee*.

The archaeological survey conducted by TRC from January 3 to February 2, 2011, identified five newly recorded archaeological sites (40RE585-589):

- 40RE585 and 40RE589 [Exempted from Disclosure by Statute]
- 40RE586 and 40RE587 consists of late nineteenth to mid-twentieth century farmsteads;
- 40RE588, the Hensley Cemetery, dates to the early- to mid-twentieth century.

TVA finds 40RE585-587 and 40RE589 ineligible for the National Register of Historic Places (NRHP) due to a lack of intact archaeological deposits and/or research potential, and 40RE588 ineligible due to inability to associate the cemetery with significant individuals or events and lack of architectural distinction.

In your February 28, 2011, letter, your office concurred that previously recorded sites 40RE106-108, 40RE165, and 40RE166 are potentially eligible for the NRHP. In addition to these potentially eligible archaeological sites, TRC also revisited sites 40RE120, 40RE152, 40RE154, and 40RE163:

- Site 40RE120 consists of the structural debris of a twentieth century farmstead and a scatter of historic artifacts;
- Sites 40RE152, 40RE154, and 40RE163 [Exempted from Disclosure by Statute]

Mr. E. Patrick McIntyre, Jr.
Page 2
March 11, 2011

- Previously recorded site 40RE153 [] Exempted from Disclosure by Statute

- Site 40RE159 [] Exempted from Disclosure by Statute

TVA finds sites 40RE120, 40RE152, 40RE154, and 40RE163 ineligible for the NRHP due to a lack of intact archaeological deposits and/or research potential.

Pursuant to 36 CFR Part 800.4(d)(1), TVA will avoid all potentially eligible sites and the Hensley Cemetery within the APE for this undertaking. Should project plans change or unanticipated discoveries encountered, TVA will consult with your office.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding properties within the proposed project's APE that may have religious and cultural significance.

TVA has read the enclosed report and agrees with the recommendations of the authors. Pursuant to 36 CFR Part 800, TVA is seeking your concurrence that sites 40RE585-589, 40RE120, 40RE152, 40RE154, and 40RE163 are ineligible for the NRHP.

If you have any questions, please contact Richard Yarnell in Knoxville at (865) 632-3463 or by email at wryarnell@tva.gov.

Sincerely,

(Original signed by)

A. Eric Howard
Manager
Cultural Compliance
WT 11D-K

RY:MH:IKS:PS
Enclosure
cc: Ms. Jennifer Barnett (Enclosure)
Tennessee Division of Archaeology
1216 Foster Avenue, Cole Bldg. #3
Nashville, Tennessee 37210

Cynthia M. Anderson, LP 5D-C
Brenda E. Brickhouse, LP 5U-C
Ruth M. Horton, WT 11D-K
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Khurshid K. Mehta, WT 6A-K

Diedre B. Nida, LP 5U-C
Jeffrey Neal Perry, LP 5A-C
Andrea Lynn Sterdis, LP 5A-C
EDMS, WT 11D-K



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

March 31, 2011

Mr. A. Eric Howard
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

**RE: TVA, ARCHAEOLOGICAL ASSESSMENT, CLINCH RIVER SITE GEOPHYSICAL TEST,
UNINCORPORATED, ROANE COUNTY, TN**

Dear Mr. Howard:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, and in accordance with our previous correspondence, we concur that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

We further concur that sites 40RE585, 40RE586, 40RE587, 40RE588, 40RE589, 40RE120, 40RE152, 40RE154, and 40RE163 are not eligible for inclusion in the National Register of Historic Places.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Patrick McIntyre, Jr."

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

August 26, 2011

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

TVA is developing plans to construct up to six small modular nuclear generating reactors within the Clinch River Small Modular Reactors (SMR) project area in Roane County, Tennessee, and is currently preparing a Draft Environmental Impact Statement (DEIS) in compliance with the National Environmental Policy Act (NEPA). TVA identified the area of potential effects (APE) as the entire SMR project site, which consists of approximately 1185 acres bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River river miles 15.5R and 19.6R); on the northwest by Department of Energy land; and on the northwest by Grassy Creek.

Previous archaeological investigations within the APE have identified 39 archaeological sites and no historic architectural resources. TVA has recently conducted two Phase I surveys of portions of the SMR APE. A 2002 cultural resources survey of 188 acres for proposed ash disposal/storage and borrow areas within the SMR APE (then termed the Clinch River Breeder Reactor Site) documented one potentially eligible archaeological site (40RE549) within the SMR APE. A Phase I archaeological survey of 310 acres earlier this year for proposed site characterization work related to the SMR project documented five potentially eligible archaeological sites (40RE106-108, 40RE165, and 40RE166). TVA has consulted with your office regarding these findings and your office has concurred by letters dated July 25, 2003, and February 28, 2011, respectively.

TVA contracted with TRC to conduct a Phase I archeological survey of areas within the SMR APE, totaling 687 acres that were not covered by the above mentioned surveys. Enclosed is the draft report titled *Phase I Archaeological Survey of the Clinch River Small Modular Reactors Project (SMR), Roane County, Tennessee*. A historic structures survey was conducted by Ted Karpynec over a 0.5 mile architectural APE surrounding the SMR archeological APE, for which no historic structures were identified. A report of this survey will be submitted to your office.

The archaeological survey conducted on March 14 to April 29, 2011, identified 15 previously unrecorded archaeological sites (40RE590-598 and 600-602 and 605-607) and three isolated finds (IF 1-3). The survey also re-evaluated 20 previously identified archaeological sites within the study area (40RE104-106, 40RE108, 40RE122-125, 40RE128, 40RE140, 40RE151, 40RE153, 40RE155, 40RE160-164, 40RE167, and 40RE549).

Mr. E. Patrick McIntyre, Jr.
Page 2
August 26, 2011

TRC recommended that sites 40RE104-106, 40RE108, 40RE124, 40RE128, 40RE140, 40RE167, 40RE549, 40RE595, 40RE600, 40RE601, and 40RE605 are potentially eligible for the NRHP under criterion *d* of 36 CFR Part 63. TRC recommended that sites 40RE122, 40RE123, 40RE125, 40RE151, 40RE155, 40RE160-164, 40RE590-594, 40RE596-598, 40RE602, and 40RE606- 40RE607 are ineligible for the NRHP due to lack of stratified, intact cultural deposits or the low density of cultural material or the effects of prior disturbance.

TVA has reviewed the enclosed report and agrees with the findings and recommendations of the authors with one exception. It is TVA's opinion that 40RE605 is ineligible due to the low density of material and lack of clearly stratified deposits. Pursuant to 36 CFR 800, we are seeking your concurrence with TVA's findings and recommendations:

- Sites 40RE104-106, 40RE108, 40RE124, 40RE128, 40RE140, 40RE167, 40RE549, 40RE595, 40RE600, and 40RE601 are potentially eligible for the NRHP.
- Sites 40RE122, 40RE123, 40RE125, 40RE151, 40RE155, 40RE160-164, 40RE590-594, 40RE596-598, 40RE602, and 40RE605-40RE607 are ineligible for the NRHP.

Planning for the proposed SMR project is currently under development and finalization may not occur until fiscal year 2014. Pursuant to 36 CFR §§ 800.14(b)(1)(ii) and (b)(3), TVA proposes to develop, in consultation with your office and other consulting parties, a programmatic agreement to document the terms and conditions to resolve potential adverse effects of the undertaking.

If you have any questions or comments, please contact Richard Yarnell in Knoxville, Tennessee, at (865) 632-3463 or rwyarnell@tva.gov.

Sincerely,



Susan J. Kelly
Senior Manager and
Federal Preservation Officer
Federal Determinations
LP 5U-C

Enclosure



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

August 26, 2011

Those listed on page 4

TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

TVA is developing plans to construct up to six small modular nuclear generating reactors within the Clinch River Small Modular Reactors (SMR) project area in Roane County, Tennessee, and is currently preparing a Draft Environmental Impact Statement (DEIS) in compliance with the National Environmental Policy Act (NEPA). TVA identified the area of potential effects (APE) as the entire SMR project site, which consists of approximately 1185 acres bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River river miles 15.5R and 19.6R); on the northwest by Department of Energy land; and on the northwest by Grassy Creek.

Previous archaeological investigations within the APE have identified 39 archaeological sites and no historic architectural resources. TVA has recently conducted two Phase I surveys of portions of the SMR APE. A 2002 cultural resources survey of 188 acres for proposed ash disposal/storage and borrow areas within the SMR APE (then termed the Clinch River Breeder Reactor Site) documented one potentially eligible archaeological site (40RE549) within the SMR APE. A Phase I archaeological survey of 310 acres earlier this year for proposed site characterization work related to the SMR project documented five potentially eligible archaeological sites (40RE106-108, 40RE165, and 40RE166). TVA has consulted with your office regarding these findings in a letter dated February 17, 2011.

TVA contracted with TRC to conduct a Phase I archeological survey of areas within the SMR APE, totaling 687 acres that were not covered by the above mentioned surveys. An online version of the draft report titled *Phase I Archaeological Survey of the Clinch River Small Modular Reactors Project (SMR), Roane County, Tennessee* can be downloaded at <https://trcnet.trcsolutions.com/>. The report consists of four separate documents available on the portal: the report itself ("TVA_Clinch_Survey_additional_Draft_Report_Revised_7_29_11.doc"); the appendices ("TVA_Clinch_Survey_additional_Draft_Report_Revised_7_29_11_Appendices.pdf"); Figure 1 ("TVA_Clinch_Figure1_11X17.pdf"); and Figure 10 (TVA_Clinch_Figure10_11X17.pdf"). A historic structures survey was conducted by Ted Karpyne c over a 0.5 mile architectural APE surrounding the SMR archeological APE, for which no historic structures were identified. A report of this survey will be submitted to your office.

The archaeological survey conducted on March 14 to April 29, 2011, identified 15 previously unrecorded archaeological sites (40RE590-598 and 600-602 and 605-607) and three isolated finds (IF 1-3). The survey also re-evaluated 20 previously identified archaeological sites within the study area (40RE104-106, 40RE108, 40RE122-125, 40RE128, 40RE140, 40RE151, 40RE153, 40RE155, 40RE160-164, 40RE167, and 40RE549).

Those listed on page 4
Page 2
August 26, 2011

TRC recommended that sites 40RE104-106, 40RE108, 40RE124, 40RE128, 40RE140, 40RE167, 40RE549, 40RE595, 40RE600, 40RE601, and 40RE605 are potentially eligible for the listing in the National Register of Historic Places (NRHP) under criterion d of 36 CFR Part 63. TRC recommended that sites 40RE122, 40RE123, 40RE125, 40RE151, 40RE155, 40RE160-164, 40RE590-594, 40RE596-598, 40RE602, and 40RE606-40RE607 are ineligible for listing in the NRHP due to lack of stratified, intact cultural deposits or the low density of cultural material or the effects of prior disturbance.

TVA has reviewed the enclosed report and agrees with the findings and recommendations of the authors with one exception. It is TVA's opinion that 40RE605 is ineligible for listing in the NRHP due to the low density of material and lack of clearly stratified deposits.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with the following federally recognized Indian tribes regarding properties within the proposed project's APE that may have religious and cultural significance to them and eligible for listing in the NRHP: Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, Muscogee (Creek) Nation of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Kialegee Tribal Town, Thlophlocco Tribal Town, Seminole Tribe of Florida, Absentee Shawnee Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, and Shawnee Tribe of Oklahoma

By this letter, TVA is presenting our findings and recommendations:

- Sites 40RE104-106, 40RE108, 40RE124, 40RE128, 40RE140, 40RE167, 40RE549, 40RE595, 40RE600, and 40RE601 are potentially eligible for the NRHP.
- Sites 40RE122, 40RE123, 40RE125, 40RE151, 40RE155, 40RE160-164, 40RE590-594, 40RE596-598, 40RE602, and 40RE605-40RE607 are ineligible for the NRHP.

TVA is seeking your comments regarding this undertaking and any properties that may be of religious and cultural significance and may be eligible for the NRHP pursuant to 36CFR § 800.2 (c)(2)(ii), 800.3 (f)(2), and 800.4(a)(4)(b).

Planning for the proposed SMR project is currently under development and finalization may not occur until fiscal year 2014. Pursuant to 36 CFR §§ 800.14(b)(1)(ii) and (b)(3), TVA proposes to develop, in consultation with your office and other consulting parties, a programmatic agreement to document the terms and conditions to resolve potential adverse effects of the undertaking.

Those listed on page 4

Page 3

August 26, 2011

If you have any questions or comments, please contact me in Knoxville, Tennessee, at (865) 632-6461 or pbezzell@tva.gov.

Sincerely,

A handwritten signature in black ink that reads "Patricia Bernard Ezzell". The signature is fluid and cursive, with "Patricia" and "Bernard" stacked vertically and "Ezzell" written below them.

Patricia Bernard Ezzell
Tribal Liaison and Corporate Historian
Federal Determinations
WT 11D-K

Enclosures

**IDENTICAL LETTER AND ENCLOSURES SENT TO THE FOLLOWING LIST OF NAMES
ON AUGUST 26, 2011**

Dr. Richard Allen
Policy Analyst
Cherokee Nation
Post Office Box 948
Tahlequah, Oklahoma 74465-0948

Governor Bill Anoatubby
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Ms. Augustine Asbury
Cultural Preservation Coordinator
Alabama Quassarte Tribal Town
Post Office Box 187
Wetumka, Oklahoma 74883-0187

Second Chief Alfred Berryhill
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447-0580

Ms. LaDonna Brown
Tribal Historic Preservation Officer
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Mr. Bryant Celestine
Tribal Historic Preservation Officer
Alabama-Coushatta Tribe of Texas
571 State Park Rd. 56
Livingston, Texas 77351

Mr. Charles Coleman
NAGPRA Representative
Thlophlocco Tribal Town
Route 1, Box 190-A
Weleetka, Oklahoma 74880

Ms. Natalie Deere
Tribal Historic Preservation Officer
Seminole Nation of Oklahoma
Post Office Box 1498
Wewoka, Oklahoma 74884-1498

Ms. Robin DuShane (Enclosures)
Cultural Preservation Director
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Ms. Henryetta Ellis
Tribal Historic Preservation Officer
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper
Shawnee, Oklahoma 74801

Mr. Henry Harjo
Environmental Director
Kialegee Tribal Town
Post Office Box 332
Wetumka, Oklahoma 74883-0332

Mr. Tyler Howe
Historic Preservation Specialist
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719-0455

cc: Mr. Russ Townsend
Tribal Historic Preservation Officer
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719-0455

Mr. Ted Isham, Manager
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447-0580

Ms. Lisa C. LaRue
Director, Language, History and Culture &
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464-0746

Mr. Kirk Perry
Administrator
Division of Policy and Standards
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Ms. Jennifer Pietarila
Archaeological Data Analyst
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61 Box 21-A
Clewiston, Florida 33440

cc: Ms. Anne Mullins
Project Coordinator
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440

cc: Mr. Willard Steele
Tribal Historic Preservation Officer
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440

Mr. Kevin Scrivner
Preservation & Repatriation Manager
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

cc: Ms. Virginia (Gingy) Nail (w/Enclosure)
Assistant Tribal Historic Preservation Officer
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Mr. Emman Spain
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447-0580

Mr. Ron Sparkman (letter only)
Chairman
Shawnee Tribe
Post Office Box 189
Miami, Oklahoma 74355-0189

cc: Ms. Kim Jumper (Enclosures)
Tribal Historic Preservation Officer
Shawnee Tribe
Post Office Box 189
Miami, Oklahoma 74355-0189

Mr. Robert Thrower
Tribal Historic Preservation Officer
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, Alabama 36502

Chief Glenna J. Wallace (letter only)
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Mr. Elliot York
Archaeological Data Analyst
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440

From: Ezzell, Patricia Bernard
To: Ezzell, Patricia Bernard; "rallen@cherokee.org"; "Tyler B. Howe"; "Lisa Larue"; "tisham@muscogeeanation-nsn.gov"; "espain@muscogeeanation-nsn.gov"; "aberryhill@muscogeeanation-nsn.gov"; "Bryant J. Celestine"; "Augustine Asbury"; "Henry Harjo"; "CHARLES COLEMAN"; "Elliott York"; "Jennifer Pietarila"; "hellis@astribe.com"; "Robin Dushane"; "Kim Jumper"
Cc: "russtown@nc-cherokee.com"; "annemullins@semtribe.com"
Subject: CORRECTIONS RE: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE
Date: Friday, August 26, 2011 4:12:53 PM
Attachments: FINAL (external) - Clinch River SMR PhI survey draft rpt_TRIBAL.ltr.pdf

Hello Again,

We are experiencing a bit of technical difficulty here in our office. The subject letter that went out earlier today has some inaccuracies, and I want to send you the corrections.. Rather than recall the letter, I just want to make you aware of some language that should be corrected. These are not major changes, but I wanted to send you the correct language.

- (1) In paragraph 1, instead of ".....currently preparing a Draft Environmental Impact Statement (DEIS) in compliance with the National Environmental Policy Act (NEPA)." Please replace with "... currently initiating an environmental review." Although the DEIS is our target, we have not issued a public Notice of Intent.
- (2) In paragraph 1, instead of "TVA identified the area of potential effects (APE) as the entire SMR project site, which consists of approximately 1185 acres bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River river miles 15.5R and 19.6R)," the sentence should read "TVA identified the area of potential effects (APE) as the entire SMR project site, which consists of approximately **1190** acres bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River river miles 15.5R and 19.6R)."

I apologize for any inconvenience, and, as always, I appreciate your patience.

Sincerely,

Pat

Pat Bernard Ezzell
Program Manager
Tribal Liaison and Corporate Historian
Tennessee Valley Authority
400 W. Summit Hill Drive
460 WT 11D-K
Knoxville, Tennessee 37902
Phone: (865) 632-6461
E-mail: pbezzell@tva.gov

From: Ezzell, Patricia Bernard
Sent: Friday, August 26, 2011 2:29 PM
To: 'rallen@cherokee.org'; 'Tyler B. Howe'; 'Lisa Larue'; 'tisham@muscogeeanation-nsn.gov'; 'espain@muscogeeanation-nsn.gov'; 'aberryhill@muscogeeanation-nsn.gov'; 'Bryant J. Celestine'; 'Augustine Asbury'; 'Henry Harjo'; 'CHARLES COLEMAN'; 'Elliott York'; 'Jennifer Pietarila'; 'hellis@astribe.com'; 'Robin Dushane'; 'Kim Jumper'
Cc: 'russtown@nc-cherokee.com'; 'annemullins@semtribe.com'

Subject: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I
ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

Good Afternoon,

I hope this email message finds you well. By this email I am transmitting the attached letter regarding TVA's developing plans to construct up to six small modular nuclear generating reactors within the Clinch River Small Modular Reactors project area located in Roane County, Tennessee. Instructions on accessing the referenced documents are also attached.

Please provide any comments, or notification that you would like to participate in the development of the Programmatic Agreement, by September 26. As always, please contact me if you have any questions.

Sincerely,

Pat

Pat Bernard Ezzell
Program Manager
Tribal Liaison and Corporate Historian
Tennessee Valley Authority
400 W. Summit Hill Drive
460 WT 11D-K
Knoxville, Tennessee 37902
Phone: (865) 632-6461
E-mail: pbezzell@tva.gov

Freeman, Carol

From: Ezzell, Patricia Bernard
Sent: Wednesday, August 31, 2011 9:38 AM
To: Bair, Judith S; Blankenship, Sarah; Yarnell, W Richard; Cole, Stephen C
Subject: FW: CORRECTIONS RE: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

Comments from UKB on subject project for the files. Thanks--Pat

From: Lisa Larue [mailto:llarue@unitedkeetoowahband.org]
Sent: Monday, August 29, 2011 2:55 PM
To: Ezzell, Patricia Bernard
Subject: RE: CORRECTIONS RE: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

The United Keetowah Band of Cherokee Indians in Oklahoma has no objection to this project. However, if any human remains are inadvertently discovered, please cease work immediately, and contact us at the number below.

Thank you,

Lisa LaRue

Acting Tribal Historic Preservation Officer

United Keetowah Band of Cherokee Indians in Oklahoma

918-822-1952

From: Ezzell, Patricia Bernard [mailto:pbezzell@tva.gov]
Sent: Fri 8/26/2011 3:12 PM
To: Ezzell, Patricia Bernard; rallen@cherokee.org; Tyler B. Howe; Lisa Larue; tisham@muscogeeanation-nsn.gov; espain@muscogeeanation-nsn.gov; aberryhill@muscogeeanation-nsn.gov; Bryant J. Celestine; Augustine Asbury; Henry Harjo; CHARLES COLEMAN; Elliott York; Jennifer Pietarila; hellis@astribe.com; Robin Dushane; Kim Jumper
Cc: russtown@nc-cherokee.com; annemullins@semtribe.com
Subject: CORRECTIONS RE: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

Hello Again,

We are experiencing a bit of technical difficulty here in our office. The subject letter that went out earlier today has some inaccuracies, and I want to send you the corrections.. Rather than recall the letter, I just want to make you aware of some language that should be corrected. These are not major changes, but I wanted to send you the correct language.

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I apologize for any inconvenience, and, as always, I appreciate your patience.

Sincerely,

Pat

Pat Bernard Ezzell
Program Manager
Tribal Liaison and Corporate Historian
Tennessee Valley Authority
400 W. Summit Hill Drive
460 WT 11D-K
Knoxville, Tennessee 37902
Phone: (865) 632-6461
E-mail: pbezzell@tva.gov

From: Ezzell, Patricia Bernard

Sent: Friday, August 26, 2011 2:29 PM

To: 'rallen@cherokee.org'; 'Tyler B. Howe'; 'Lisa Larue'; 'tisham@muscogeeanation-nsn.gov'; 'espain@muscogeeanation-nsn.gov'; 'aberryhill@muscogeeanation-nsn.gov'; 'Bryant J. Celestine'; 'Augustine Asbury'; 'Henry Harjo'; 'CHARLES COLEMAN'; 'Elliott York'; 'Jennifer Pietarila'; 'hellis@astribe.com'; 'Robin Dushane'; 'Kim Jumper'

Cc: 'russtown@nc-cherokee.com'; 'annemullins@semtribe.com'

Subject: TVA, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE

Good Afternoon,

I hope this email message finds you well. By this email I am transmitting the attached letter regarding TVA's developing plans to construct up to six small modular nuclear generating reactors within the Clinch River Small Modular Reactors project area located in Roane County, Tennessee. Instructions on accessing the referenced documents are also attached.

Please provide any comments, or notification that you would like to participate in the development of the Programmatic Agreement, by September 26. As always, please contact me if you have any questions.

Sincerely,

Pat

Pat Bernard Ezzell
Program Manager
Tribal Liaison and Corporate Historian
Tennessee Valley Authority
400 W. Summit Hill Drive
460 WT 11D-K
Knoxville, Tennessee 37902
Phone: (865) 632-6461
E-mail: pbezzell@tva.gov



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

September 12, 2011

Ms. Kim Pilarski
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

RE: TVA, PHASE I ARCHAEOLOGICAL ASSESSMENT, CLINCH SMALL MODULAR REACTORS PROJ, UNINCORPORATED, ROANE COUNTY,

Dear Ms. Pilarski:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we concur that the project area contains archaeological resources potentially eligible for listing in the National Register of Historic Places. Archaeological sites 40RE104, 40RE105, 40RE106, 40RE108, 40RE124, 40RE128, 40RE140, 40RE167, 40RE549, 40 RE595, 40RE600, AND 40RE601 should be avoided by all ground-disturbing activities or subjected to Phase II archaeological testing and evaluation.

We further concur with your agency that the remaining sites identified and/or revisited during the current survey do not warrant additional investigation and are not eligible for inclusion in the National Register of Historic Places.

Upon receipt of the Phase II testing report or avoidance strategy, we will complete our review of this undertaking as expeditiously as possible. Please submit a minimum of two copies of each final report to this office in accordance with the Tennessee Historical Commission Review and Compliance Section Reporting Standards and Guidelines. Complete and/or updated Tennessee Site Survey Forms should be submitted to the Tennessee Division of Archaeology. Until such time as this office has rendered a final comment on this project, your Section 106 obligation under federal law has not been met. Please inform this office if this project is canceled or not funded by the federal agency. Questions and comments may be directed to Jennifer M. Barnett (615) 741-1588, ext. 105.

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

October 24, 2011

Mr. Clinton Jones
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

RE: TVA, ARCHAEOLOGICAL ASSESSMENT, CLINCH R. SMALL MODULAR REACTORS, UNINCORPORATED, ROANE COUNTY

Dear Mr. Jones:

At your request, our office has reviewed the above-referenced archaeological survey final report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). We find that the report meets the Tennessee SHPO Standards and Guidelines For Archaeological Resource Management Studies.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your continued cooperation is appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Patrick McIntyre, Jr."

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

April 2, 2015

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

**TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SMALL MODULAR REACTORS PROJECT,
PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE**

TVA initiated consultation with your office on August 26, 2011 regarding the above-named project, a proposal to develop up to six small modular nuclear generating reactors at the former Clinch River Breeder Reactor Site in Roane County, Tennessee (and seek a construction and operating license from the Nuclear Regulatory Commission for the project). TVA's findings are documented in the final report titled *Phase I Archaeological Survey of the Clinch River Small Modular Reactors Project (SMR), Roane County, Tennessee*. Your concurrence with our findings and determinations was received September 19, 2011. Our offices have agreed that 12 archaeological sites so far identified in the APE are potentially eligible for the NRHP. We also agree that if TVA develops plans that could affect any of those sites, TVA will conduct additional investigations in order to determine eligibility.

TVA placed this project on hold in 2012 due to funding issues. TVA is now resuming the development of project designs and the consideration of environmental impacts, including possible impacts to historic properties. TVA also has changed its focus from seeking a construction and operating license, to seeking an early site permit license. Once the early site permit application is approved by the Nuclear Regulatory Commission, TVA will begin preparing a combined construction and operating license application.

In addition to the APE that was under consideration in 2011, TVA is now considering possible development of two areas located outside that APE. TVA may propose infrastructure changes in these two areas to facilitate plant construction. These areas are located near the mouth of Grassy Creek and on Department of Energy (DOE) property between Grassy Creek and the State Route 58 bridge over the Clinch River. Therefore, TVA has enlarged the APE for archaeology as shown in Figure 1, below. This area comprises approximately 138 acres of land, most of which is owned by DOE. All other areas of the APE have been surveyed previously and were included in our previous consultation.

TVA contracted with AMEC Foster Wheeler (AMEC) for a Phase I archaeological survey of the expanded portion of the APE. The survey included all parts of this APE save one area that was included within a recent DOE survey, and which contains a portion of previously recorded site 40RE233 (Happy Valley Workers' Camp). The DOE survey recommended 40RE233 as eligible for inclusion in the NRHP. The current survey included 110.5 acres. Enclosed are two bound copies of the draft report titled *Phase I Archaeological Survey, TVA Clinch River SMR, Roane County, Tennessee* along with two CDs containing digital copies of the report.

Background research conducted by AMEC prior to the survey indicated that four archaeological sites (40RE135, 40RE138, 40RE139, and 40RE202) have been recorded previously within the APE. These sites were revisited during the current survey. Based on the findings, AMEC recommends that 40RE135 and 40RE202 have been destroyed by construction, and that the area where 40RE139 is

Mr. E. Patrick McIntyre, Jr.
Page Two
April 2, 2015

shown on the Tennessee Division of Archaeology (TDOA) site form contains no archaeological deposits. AMEC suggests that 40RE139 may have been mapped incorrectly when it was recorded. AMEC recommends further that 40RE138 may contain intact deposits that could be eligible for the NRHP, but that the site's NRHP eligibility is undetermined; a large part of the site was inaccessible with shovel testing because construction fill has been placed over the site. A more intensive field study would be needed in order to access any deposits that may lie beneath the fill.

The survey identified no previously unrecorded archaeological sites. The survey identified one isolated find and one non-site locale. AMEC recommends both ineligible for the NRHP.

TVA has reviewed the enclosed report and agrees with the findings and recommendations of the authors. Based on the information provided in this report, TVA determines that the isolated find, non-site locale, and sites 40RE135 and 40RE202 are ineligible for listing in the NRHP. TVA finds that no archaeological deposits associated with 40RE139 are located in the APE. Based on currently available information, TVA cannot fully evaluate the NRHP eligibility of site 40RE138.

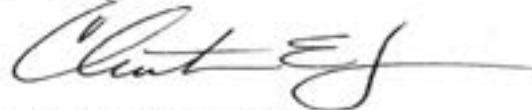
TVA's current plans for the project do not include any actions that would affect 40RE138 or 40RE233. If such plans are developed in future, TVA will consult further with your office.

Pursuant to 36 CFR Part 800.4(d)(1), we are seeking your concurrence with TVA's determinations concerning 40RE135, 40RE138, 40RE139, 40RE202, and the isolated find.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for the NRHP.

If you have any questions or comments, please contact Richard Yarnell at 865/632-3463 or wryarnell@tva.gov.

Sincerely,



Clinton E. Jones, Manager
Biological & Cultural Compliance
Safety, River Management and Environment
WT11B-K

SCC:CSD
Enclosures

cc (Enclosures):

Ms. Jennifer Barnett
Tennessee Division of Archaeology
1216 Foster Avenue, Cole Bldg. #3
Nashville, Tennessee 37210

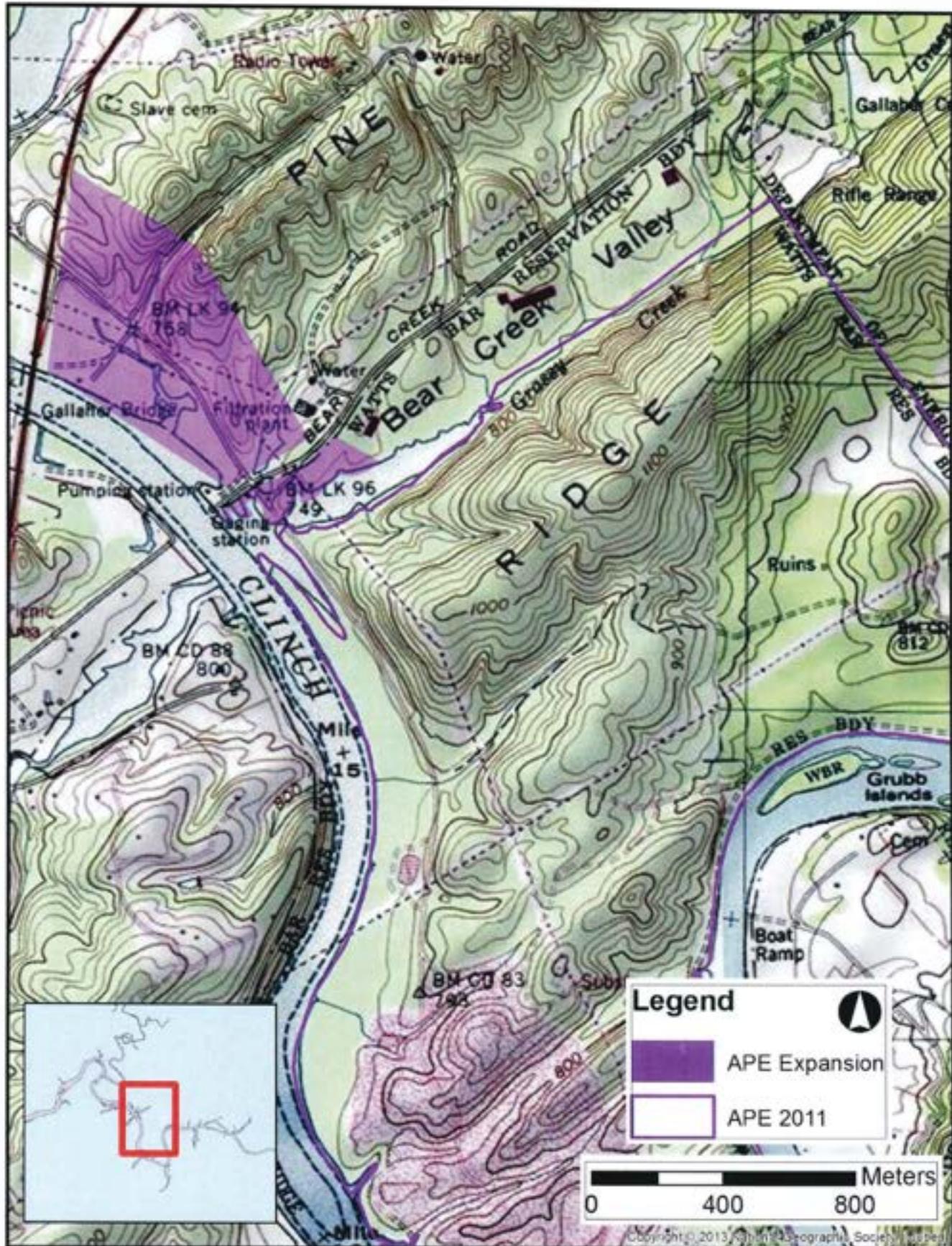


Figure 1. Clinch River SMR Project, APE Expansion area. Base map: Elverton and Bethel Valley, TN 7.5-min quadrangles.

**Phase I Archaeological Survey, TVA Clinch
River SMR, Roane County, Tennessee**

March 2015



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON ROAD
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

Received
4/13/15

April 7, 2015

Mr. Clinton Jones
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902

RE: TVA, ARCHAEOLOGICAL ASSESSMENT, CLINCH R. SMALL MODULAR REACTORS,
UNINCORPORATED, ROANE COUNTY, TN

Dear Mr. Jones:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we concur with the following determinations.

1. Sites 40RE135 and 40RE202 are not eligible for inclusion in the National Register.
2. Current plans will not affect eligible site 40RE233 and unevaluated site 40RE138.
3. Site 40RE139 is not located within the undertaking's area of potential effect.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

April 2, 2015

To Those Listed:

TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE (LATITUDE 35.916944, LONGITUDE -84.391389)

TVA initiated consultation with your office on August 26, 2011 regarding the above-named project, a proposal to develop up to six small modular nuclear generating reactors at the former Clinch River Breeder Reactor Site in Roane County, Tennessee (and seek a construction and operating license from the Nuclear Regulatory Commission for the project). TVA's findings are documented in the final report titled *Phase I Archaeological Survey of the Clinch River Small Modular Reactors Project (SMR), Roane County, Tennessee*. TVA and the State Historic Preservation Officer have agreed that 12 archaeological sites so far identified in the APE are potentially eligible for the NRHP. If TVA develops plans that could affect any of those sites, TVA will conduct additional investigations in order to determine eligibility.

TVA placed this project on hold in 2012 due to funding issues. TVA is now resuming the development of project designs and the consideration of environmental impacts, including possible impacts to historic properties. TVA also has changed its focus from seeking a construction and operating license, to seeking an early site permit license. Once the early site permit application is approved by the Nuclear Regulatory Commission, TVA will begin preparing a combined construction and operating license application.

In addition to the APE that was under consideration in 2011, TVA is now considering possible development of two areas located outside that APE. TVA may propose infrastructure changes in these two areas to facilitate plant construction. These areas are located near the mouth of Grassy Creek and on Department of Energy (DOE) property between Grassy Creek and the State Route 58 bridge over the Clinch River. Therefore, TVA has enlarged the APE for archaeology as shown in Figure 1, below. This area comprises approximately 138 acres of land, most of which is owned by DOE. All other areas of the APE have been surveyed previously and were included in our previous consultation.

TVA contracted with AMEC Foster Wheeler (AMEC) for a Phase I archaeological survey of the expanded portion of the APE. The survey included all parts of this APE save one area that was included within a recent DOE survey, and which contains a portion of previously recorded site 40RE233 (Happy Valley Workers' Camp). The DOE survey recommended 40RE233 as eligible for inclusion in the NRHP. The current survey included 110.5 acres. Please find enclosed the resulting report titled *Phase I Archaeological Survey, TVA Clinch River SMR, Roane County, Tennessee* along with two CDs containing digital copies of the report.

Background research conducted by AMEC prior to the survey indicated that four archaeological sites (40RE135, 40RE138, 40RE139, and 40RE202) have been recorded previously within the study area. These sites were revisited during the current survey. Based on the findings, AMEC

To Those Listed
Page Two
April 2, 2015

recommends that 40RE135 and 40RE202 have been destroyed by construction, and that the area where 40RE139 is shown on the Tennessee Division of Archaeology (TDOA) site form contains no archaeological deposits. AMEC suggests that 40RE139 may have been mapped incorrectly when it was recorded. AMEC recommends further that 40RE138 may contain intact deposits that could be eligible for the NRHP, but that the site's NRHP eligibility is undetermined; a large part of the site was inaccessible with shovel testing because construction fill has been placed over the site. A more intensive field study would be needed in order to access any deposits that may lie beneath the fill.

The survey identified no previously unrecorded archaeological sites. The survey identified one isolated find and one non-site locale. AMEC recommends both ineligible for the NRHP.

TVA has reviewed the enclosed report and agrees with the findings and recommendations of the authors. Based on the information provided in this report, TVA determines that the isolated find, non-site locale, and sites 40RE135 and 40RE202 are ineligible for listing in the NRHP. TVA finds that no archaeological deposits associated with 40RE139 are located in the APE. Based on currently available information, TVA cannot fully evaluate the NRHP eligibility of site 40RE138.

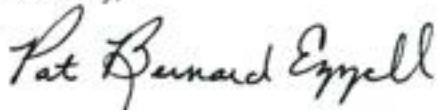
TVA's current plans for the project do not include any actions that would affect 40RE138 or 40RE233. If such plans are developed in future, TVA will consult further with your office.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with the following federally recognized Indian tribes regarding properties within the proposed project's area of potential effects that may be of religious and cultural significance to them and eligible for listing in the NRHP: Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, Muscogee (Creek) Nation of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama Quassarte Tribal Town, Kialegee Tribal Town, Thlopthiocco Tribal Town, Absentee Shawnee Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, and Shawnee Tribe of Oklahoma.

By this letter, TVA is providing notification of these eligibility determinations and is seeking your comments regarding this undertaking and any properties that may be of religious and cultural significance and may be eligible for listing in the NRHP pursuant to 36CFR §§ 800.2 (c)(2)(ii), 800.3 (f)(2), and 800.4 (a)(4)(b).

Please respond by May 02, 2015, if you have any comments on the proposed undertaking. If you have any questions, please contact me at (865) 632-6461 or by email at pbezzell@tva.gov.

Sincerely,



Patricia Bernard Ezzell
Tribal Liaison and Corporate Historian
Communications
WT 7D-K

SCC:PBE:CSD

**Phase I Archaeological Survey, TVA Clinch
River SMR, Roane County, Tennessee**

March 2015

IDENTICAL LETTER MAILED TO THE FOLLOWING ON APRIL 2, 2015:

Dr. Richard Allen
Policy Analyst
Cherokee Nation
Post Office Box 948
Tahlequah, Oklahoma 74465

Mr. Joseph Blanchard
Tribal Historic Preservation Officer
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper
Shawnee, Oklahoma 74801

Mr. Ace Buckner
Cultural Resources Director
Kialegee Tribal Town
Post Office Box 332
Wetumka, Oklahoma 74883

cc: Ms. Kara Gann
Assistant Cultural Resources Director
Kialegee Tribal Town
Post Office Box 332
Wetumka, Oklahoma 74883

Mr. Bryant Celestine
Tribal Historic Preservation Officer
Alabama-Coushatta Tribe of Texas
571 State Park Rd. 56
Livingston, Texas 77351

Mr. Charles Coleman
NAGPRA Representative
Thlophlocco Tribal Town
Route 1, Box 190-A
Weleetka, Oklahoma 74880

Ms. Robin DuShane
Tribal Historic Preservation Officer
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Ms. Dee Gardner
NAGPRA/Cell Tower Coordinator
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Mr. Tyler Howe
Historic Preservation Specialist
Eastern Band of Cherokee Indians
Post Office Box 45
Cherokee, North Carolina 28719

cc: Mr. Russell Townsend
Tribal Historic Preservation Office
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Ms. Miranda Panther
NAGPRA Coordinator
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Ms. Johnnie Jacobs
Manager
Cultural Preservation Department
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, Oklahoma 74447

cc: Mr. Jeff Fife
Secretary of Department of Interior Affairs
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, Oklahoma 74447

Ms. Odette Freeman
Assistant Manager
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, Oklahoma 74447

Ms. Johnnie Wesley
Secretary
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Mr. David Proctor
Traditional Cultural Advisor
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Ms. Lee Anne Wendt
Tribal Archaeologist
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Mr. Tim Thompson
Traditional Cultural Advisor
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Ms. Kim Jumper
Tribal Historic Preservation Officer
Shawnee Tribe
Post Office Box 189
Miami, Oklahoma 74355

cc: Jodi Hayes
NAGPRA Representative
Shawnee Tribe
PO Box 189
Miami, OK 74355

Mr. Steven Landsberry
Administrative Assistant
Alabama Quassarte Tribal Town
Post Office Box 187
Wetumka, Oklahoma 74883

Mrs. Lisa C. LaRue-Baker
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464

Mr. Emmann Spain
Tribal Historic Preservation Officer
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

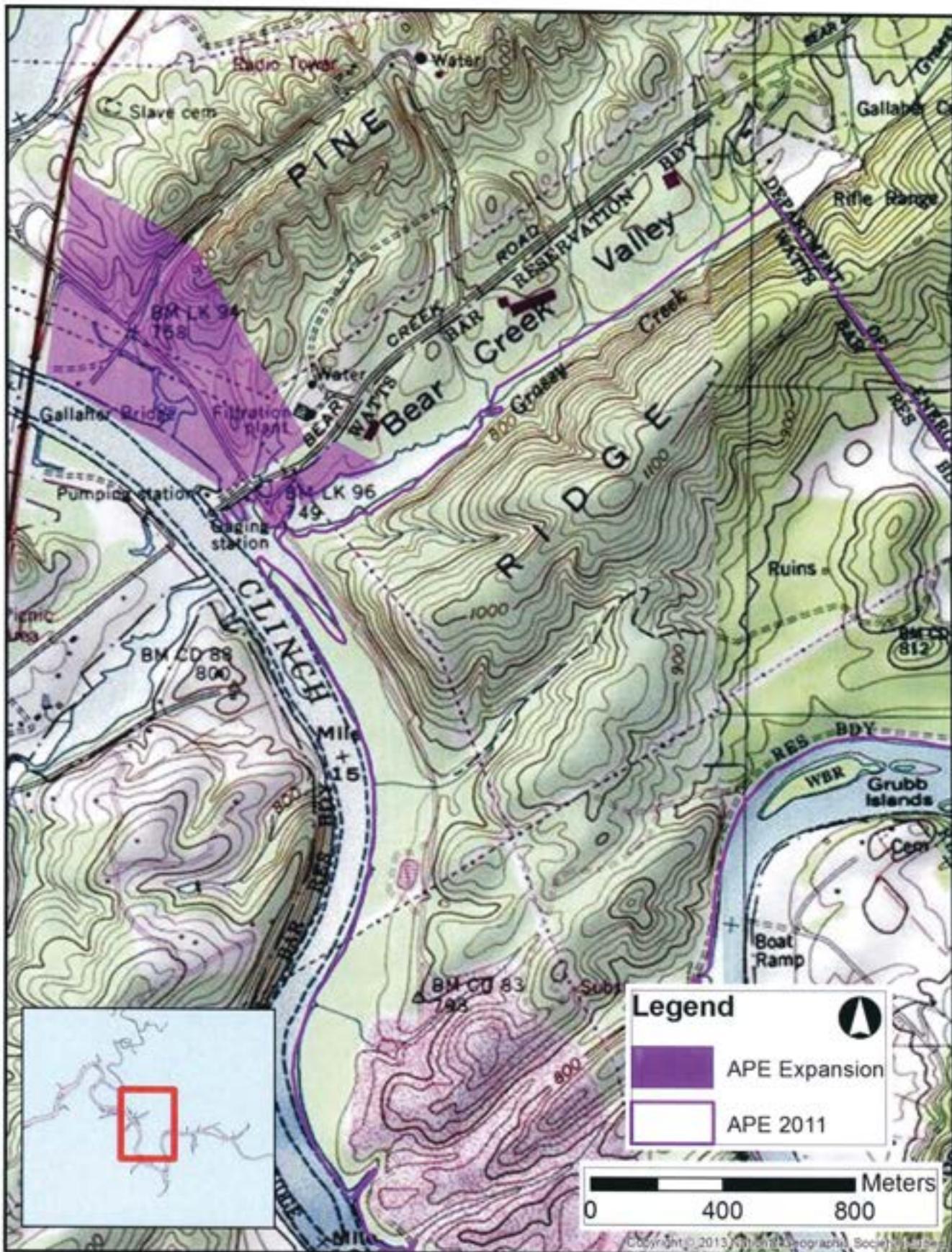


Figure 1. Clinch River SMR Project, APE Expansion area. Base map: Elverton and Bethel Valley, TN 7.5-min quadrangles.



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

May 20, 2015

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), CLINCH RIVER SMALL MODULAR REACTORS (SMR) PROJECT, PHASE I ARCHITECTURAL ASSESSMENT, ROANE COUNTY, TENNESSEE 35° 55.01' N / 84° 23.29' W

We recently re-opened consultation with your office regarding TVA's proposal to develop a nuclear generating plant utilizing small modular reactors (SMRs) at the Clinch River Site in Roane County, Tennessee and apply for an early site permit license from the Nuclear Regulatory Commission (prior to applying for a construction and operating license). To date, our consultation has been concerned with the undertaking's possible effects on archaeological properties. In this letter, we are initiating consultation regarding the undertaking's possible effects on historic architectural properties.

In 2011, we contracted with TRC Environmental Corporation, Inc. (TRC) to conduct a Phase I architectural survey of the APE, as it was then defined by TVA. No detailed plans had been developed; the undertaking under consideration consisted of geotechnical borings that were proposed as part of a site characterization study related to the SMR project. However, before we could consult with your office regarding this study, TVA placed the project on hold due to funding issues.

At that time, we considered the APE for architectural resources to consist of the area within a one-half mile radius of the "power block" area, which had been cleared of vegetation and disturbed by earth moving activities during the 1980s as site preparation for the then-proposed Clinch River Breeder Reactor facility. The 2011 letter report prepared by TRC notes that background research identified no previously recorded architectural properties and no National Register of Historic Places (NRHP) listings in the APE. The survey did not result in the identification of any previously unrecorded architectural properties. We have enclosed one unbound copy of this letter report.

TVA recently has resumed planning for the SMR project, and has developed a preliminary layout and land clearing plan. The extent of land clearing, as currently proposed, would extend beyond the power block area that was the basis of the 2011 APE. Therefore, we propose to expand the APE for visual effects to include areas that are within a one-half mile radius of the proposed land clearing, and that would have a visual line of sight to the project. Figure 1 (below) depicts the boundaries of proposed land clearing (467 acres), a project boundary (labelled "site boundary"), and an outline of the project layout. Figure 2 shows the current APE for architectural resources compared with the APE that was the basis of the 2011 study.

The new APE encompasses almost the entire former APE, but it also includes areas that were not considered in 2011. In order to determine whether these latter areas contain any architectural

Mr. E. Patrick McIntyre, Jr.
Page Two
May 20, 2015

properties older than 50 years that could potentially be eligible for inclusion in the NRHP, TVA Cultural Compliance staff conducted a desktop review followed by a field review of two properties. The desktop review consisted of a close examination and comparison of the following: the 1941 and 1968 (photo revised 1990) editions of the USGS Elverton, TN 7.5-minute quadrangle; the 1941 and 1998 editions of the Bethel Valley, TN 7.5-minute quadrangle; the 1939 TVA Watts Bar Reservoir land acquisition maps; and current aerial photography available from public domain sources through ESRI ArcGIS. Structures shown on the 1941 quadrangles that were absent from later editions were considered to be non-extant. Structures shown in the same location on both quadrangles and also visible in current aerial photography were considered to be extant structures that are at least 70 years old.

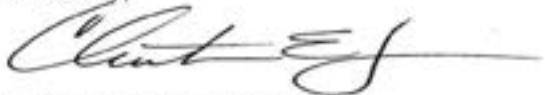
Seven structures within the current APE appear on both the 1941 USGS quadrangles and later editions. These are labelled 1-7 on Figure 2. Structure 2 (a barn) does not appear on current aerial imagery and has apparently been demolished. Four of the structures (numbers 4-7) are within the 2011 APE and were recommended ineligible by TRC in 2011. Structures 1 and 3 are within the current APE but were not included in the 2011 survey. On the 1939 TVA land acquisition map, Structure 1 is indicated as a two-story frame house surrounded by scattered fruit trees, a smoke house, and a shed (Figure 3). The 1939 map shows Structure 3 as a one-story frame house surrounding by an orchard and several outbuildings: a barn, two chicken houses, a smoke house, and two corn cribs (Figure 4).

A TVA archaeologist visited Structures 1 and 3 on May 8, 2015 and took photographs. Structure 1 (Figures 5 and 6) appears to be extant and in good condition, and shows signs of having been modified by at least one modern addition. Structure 3 (Figures 7 and 8) is abandoned and in poor condition. The proposed undertaking, as currently proposed, would not be visible from a person standing at either property. At Structure 1, views would be blocked by a stand of mature trees on the property, as well as a wooded area along the top of the hill overlooking the Clinch River. Structure 3 is entirely surrounded by thick secondary vegetation and is not visible from Industrial Park Road, which is the nearest public road. Therefore, TVA finds that both structures are outside the APE for visual effects.

Pursuant to 36 CFR Part 800.4(d)(1), we are seeking your concurrence with TVA's finding that the Clinch River SMR project, as currently proposed, would affect no historic architectural resources listed or eligible for listing in the NRHP. If TVA's plans for the undertaking change such that the APE would need to be modified or effects reconsidered, TVA will consult further with your office.

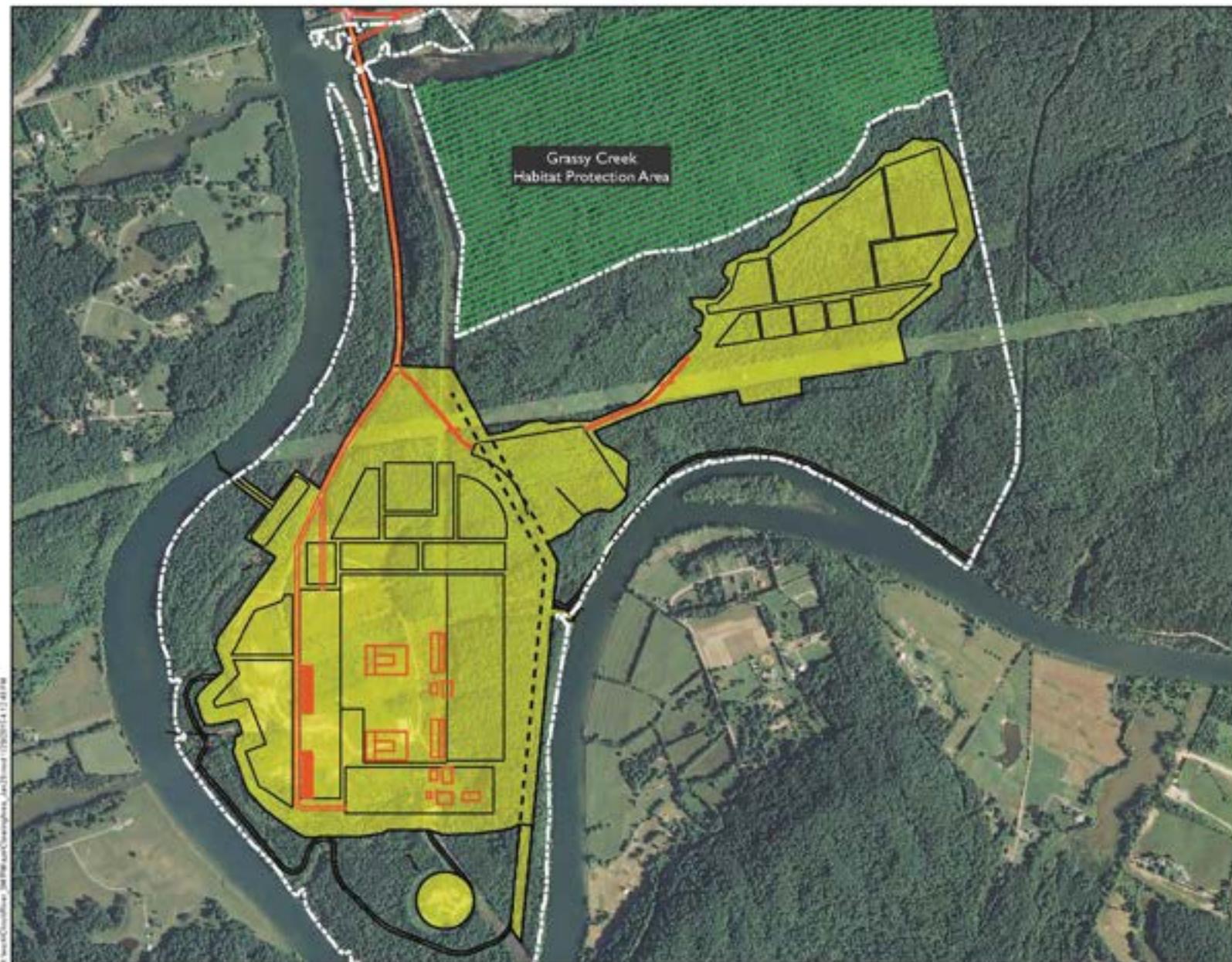
If you have any questions or comments, please contact Richard Yarnell at 865/632-3463 or wryarnell@tva.gov.

Sincerely,



Clinton E. Jones, Manager
Biological and Cultural Compliance
Safety, River Management and Environment
WT11B-K

SOC:CSD
Enclosure



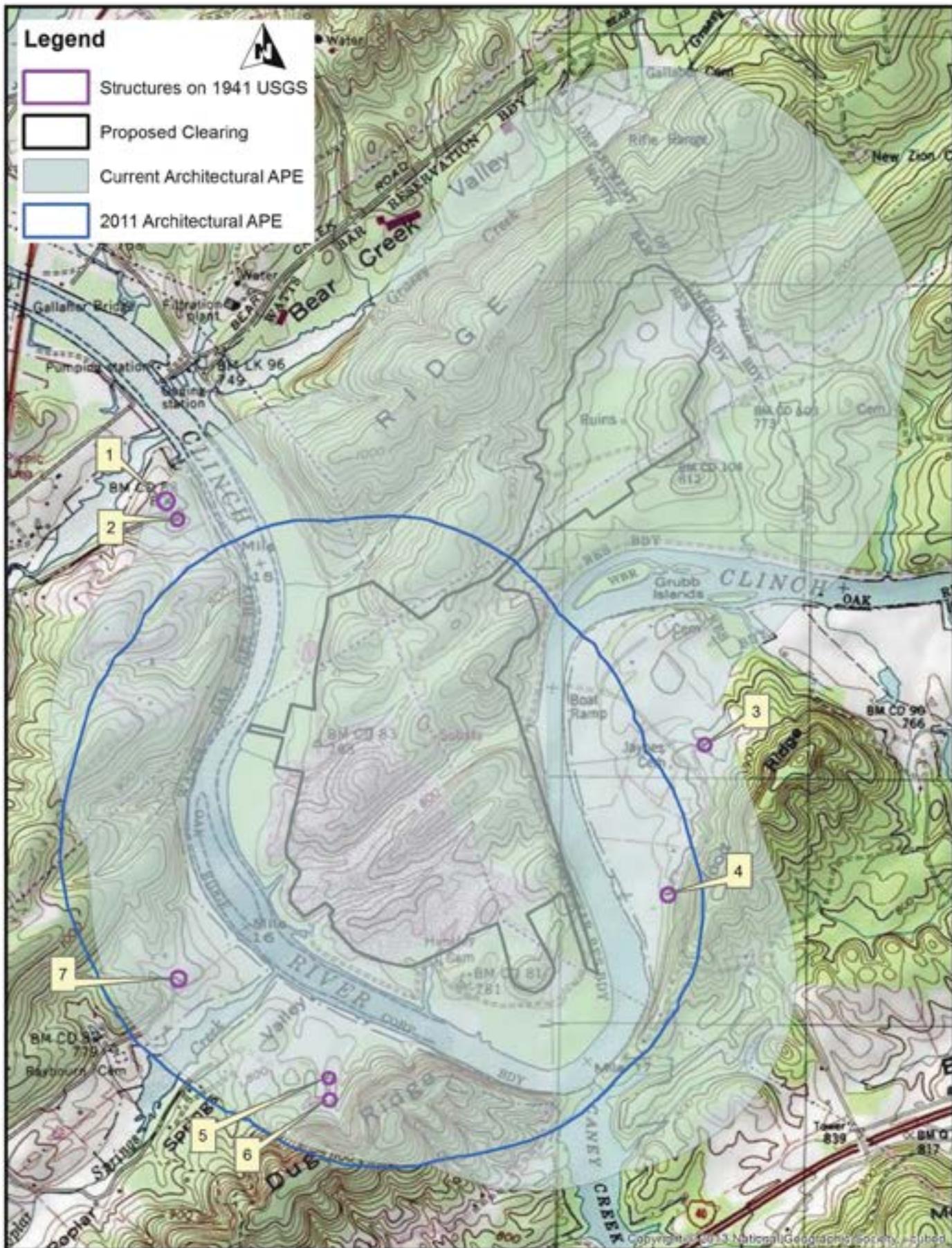


Figure 2. Current and former APEs; extent of proposed clearing; and structures indicated on 1941 U.S.G.S. Bethel Valley and Elvertown 7.5-minute quadrangles. Base map: USA Topo Map.

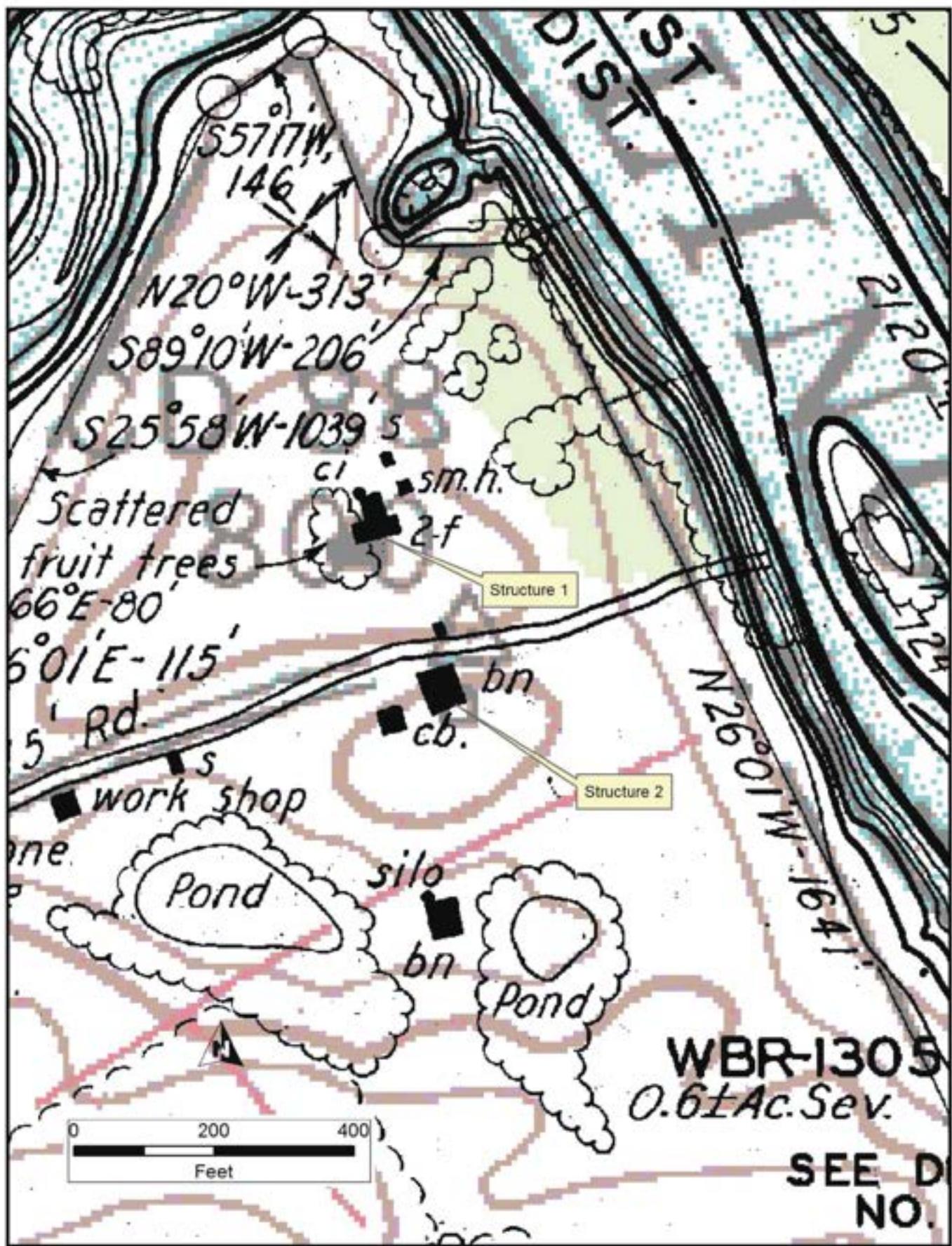


Figure 3. Structures 1 and 2 from the 1939 TVA Land Acquisition Map, overlaid on the 1968 U.S.G.S. Elvertown 7.5-minute quadrangle (photo revised 1990). Note: resolution limits of the maps' projections account for the slight differences in location.

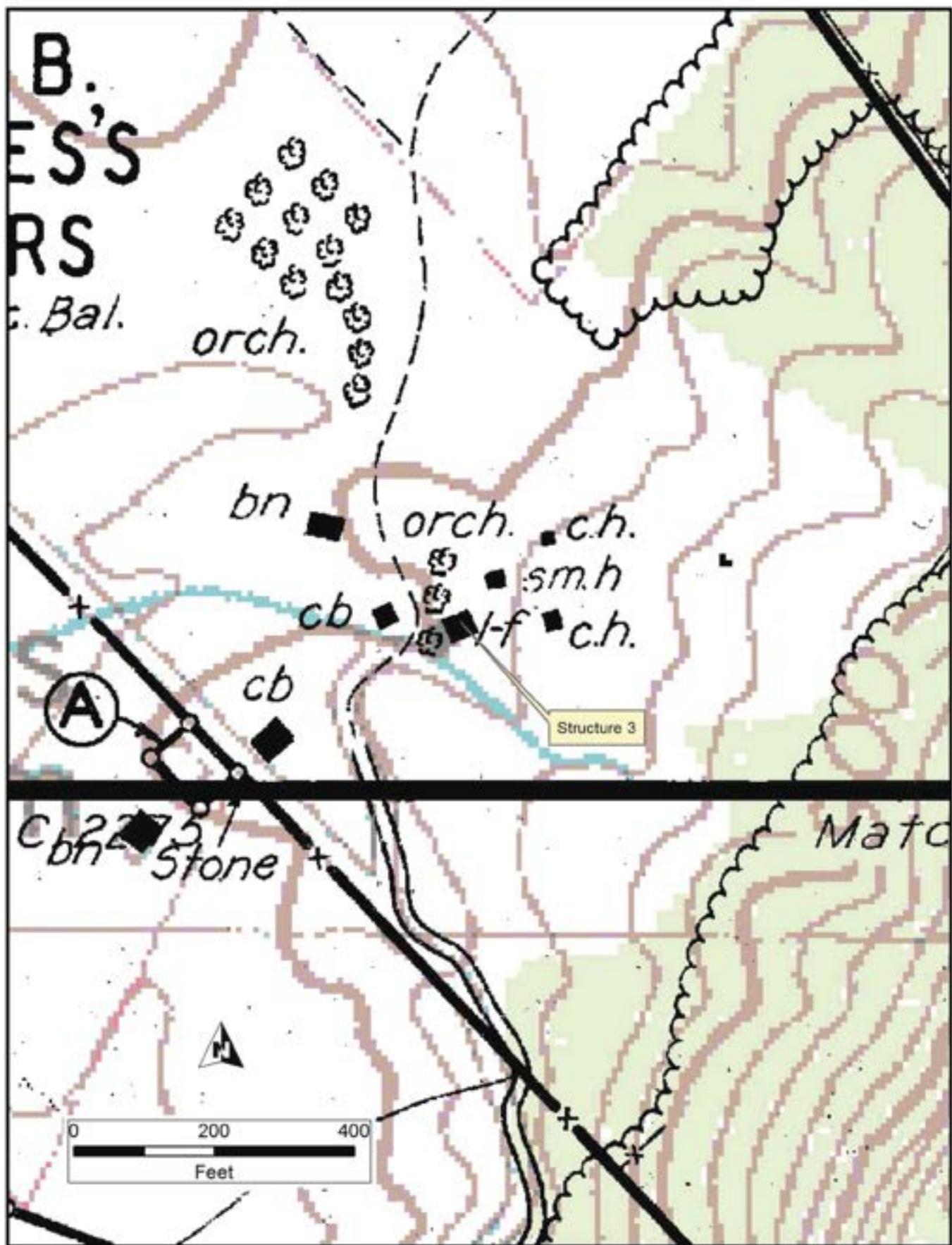


Figure 4. Structure 3 from the 1939 TVA Land Acquisition Map, overlaid on the 1998 U.S.G.S. Bethel Valley 7.5-minute quadrangle. Note: resolution limits of the maps' projections account for the slight differences in location.



Figure 5. Structure 1, southeast elevation.



Figure 6. Structure 1, south elevation.



Figure 7. Structure 3, northwest elevation.



Figure 8. Structure 3, lean-to porch, west elevation.



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON ROAD
NASHVILLE, TENNESSEE 37214
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

May 27, 2015

Received
5/29/15

Mr. Clinton E. Jones
Tennessee Valley Authority
400 W. Summit Hill Dr.
Knoxville, Tennessee, 37902-1499

RE: TVA, ARCHITECTURAL SURVEY REPORT, CLINCH RIVER SMR PHASE I,
UNINCORPORATED, ROANE COUNTY

Dear Mr. Jones:

In response to your request, received on Friday, May 22, 2015, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process.

Considering the information provided, we find that the area of potential effect contains no architectural resources eligible for listing in the National Register of Historic Places affected by this undertaking. You should notify interested persons and make the documentation associated with this finding available to the public.

This office appreciates your cooperation.

Sincerely,

E. Patrick McIntyre
Executive Director and
State Historic Preservation Officer

EPM/jyg

annuit coeptis

From: Baxter, John Tracy
To: Horton, Ruth M
Subject: FW: TVA Clinch River Modular Reactor Site - Bat Surveys
Date: Friday, February 05, 2016 12:49:15 PM
Attachments: [TVA_ClinchRiverModReactorProject_SurveyLocations_20110701.pdf](#)
[TVA_ClinchRiverModReactorProject_SurveyLocations_20110701_TOPO.pdf](#)

Here is the communication regarding the bat survey.

Bo Baxter

John T. (Bo) Baxter, Jr.
Manager – Natural Resources Compliance Programs
865 632-3360

From: David_Pelren@fws.gov [mailto:David_Pelren@fws.gov]
Sent: Tuesday, July 05, 2011 2:26 PM
To: Le Grand, Holly G
Cc: Baxter, John Tracy; Peggy_Shute@fws.gov; Mary_E_Jennings@fws.gov
Subject: Re: TVA Clinch River Modular Reactor Site - Bat Surveys

Holly -

The survey plan that you described in your 7/1/11 e-mail is adequate for documenting the presence / probable absence of Indiana bats at the Clinch River Modular Reactor Site. Given two nights of sampling at each mist net site and acoustic monitoring site, we concur with the plan.

Thank you for the update. We look forward to further coordination with you on this project.

David Pelren
Fish and Wildlife Biologist
Ecological Services
U.S. Fish and Wildlife Service
446 Neal St.
Cookeville, TN 38501
office phone: 931-525-4974
cell phone: 931-261-5844

"Le Grand, Holly G" <hlegrand@tva.gov>

07/01/2011 03:37 PM

To <David_Pelren@fws.gov>, <Peggy_Shute@fws.gov>

cc "Baxter, John Tracy" <jbxter@tva.gov>

Subject TVA Clinch River Modular Reactor Site - Bat Surveys

Hi Dave,

I wanted to follow up with you regarding the TVA nuclear modular reactor project along the Clinch River

near Oak Ridge (Roane County, TN). I shared maps with you and fellow FWS staff several months ago and our plans to characterize the habitat at the site this spring with respect to Indiana bat. We have done so and are gearing up to conduct mist nest surveys the weeks of July 11 and July 18.

I've attached maps of the site. The total acreage within the site boundary is 1255.2 acres, 240 of which is cleared, resulting in 1015.2 acres. Currently 101 non-cleared acres is slated for potential impact from proposed actions (located in the pink polygon on the maps). However, we have been asked to characterize the whole area within the site boundary for now (yellow polygon). Although not all of the 1015.2 acres is suitable habitat (based on our habitat assessments), we are planning to conduct mist net surveys based on this acreage to compare the habitat assessments with the survey data. Based on KY Indiana Bat Survey Guidance, 2 net sites are required for every 247 acres. This equates to 8 net sites (and 8 acoustical sampling sites) for this project area.

My federal collection permit # is TE117405-2 and TN state collection permit # is 750. Unless we are advised otherwise, our methods, survey effort, and reporting will follow the 2011 Indiana Bat Guidance for KY (dated 05/10/2011).

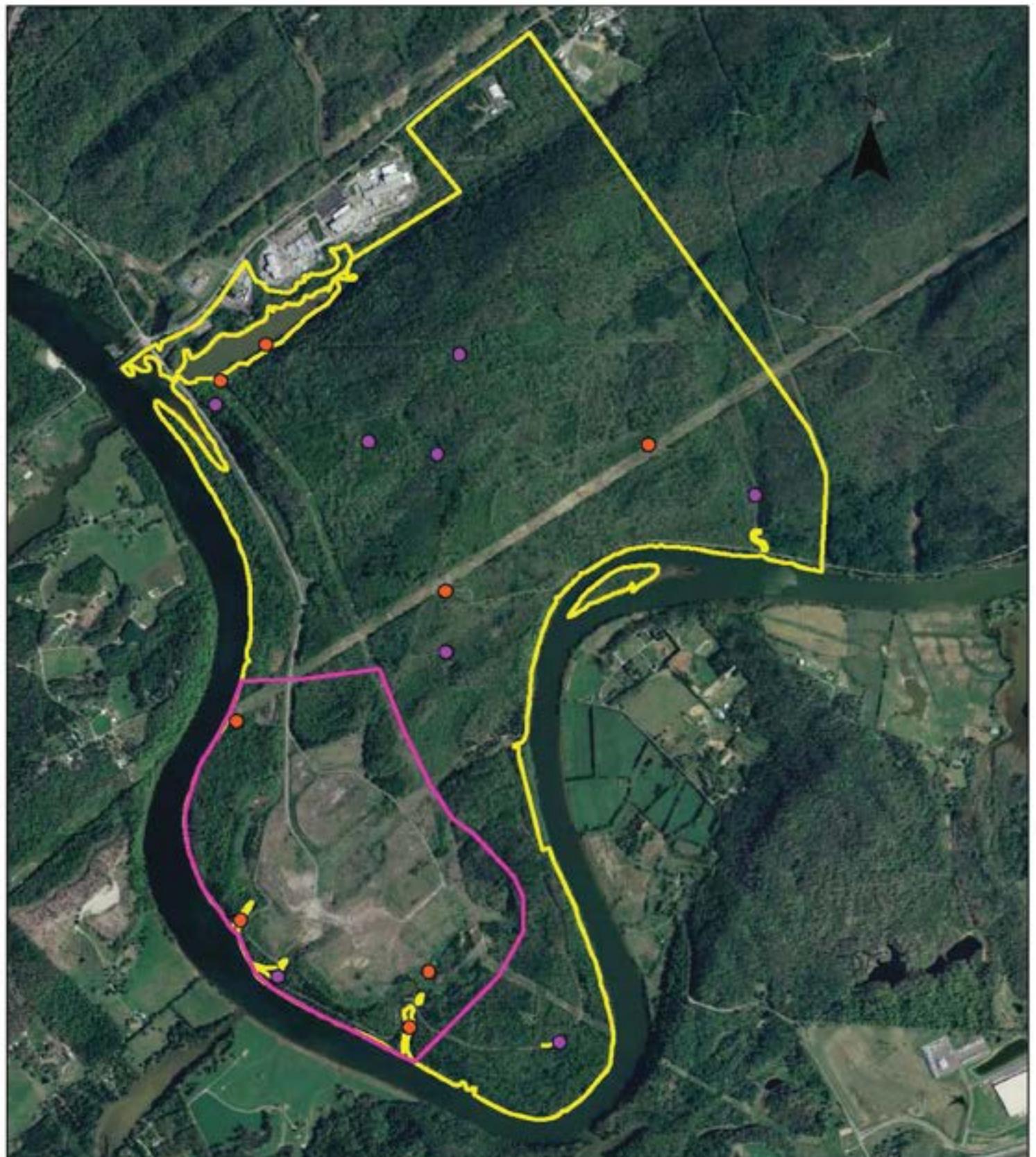
We had tentatively selected sites for mist netting during habitat assessments and via GIS. We plan to go out to the site the afternoon of Wednesday, July 6, to flag/confirm our selections and /or select alternate sites, as there is a possibility that recent storms have eliminated access or suitability of previously selected sites.

Please let me know as soon as possible if there are needed modifications to our approach as we plan to conduct our first round of surveys Monday, July 11.

Thanks!

Holly

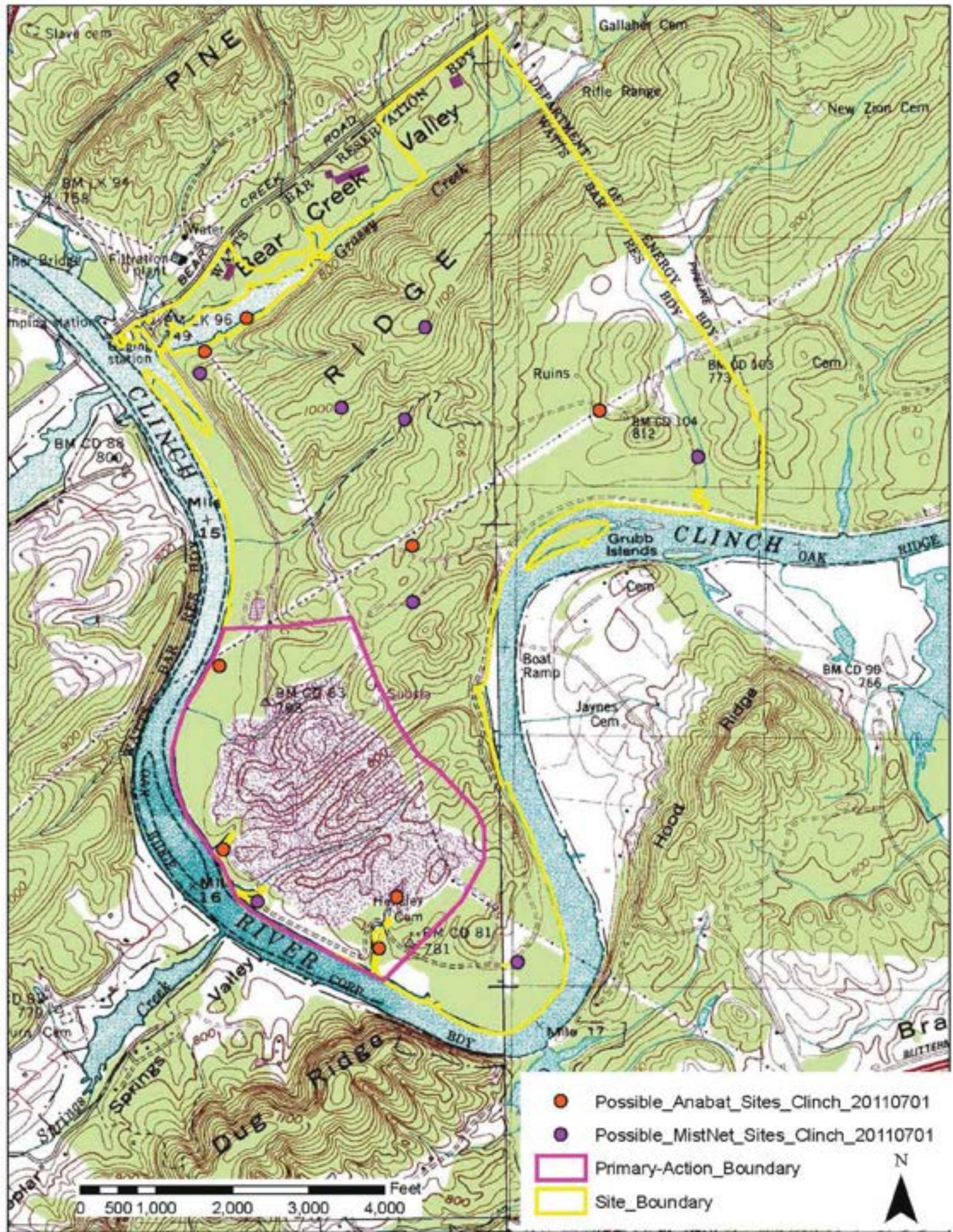
Holly LeGrand
Terrestrial Zoologist, Biological Permitting and Compliance
Tennessee Valley Authority
400 W. Summit Hill Drive, WT 11C
Knoxville, Tennessee 37902
865-632-4010



- Possible_Anabat_Sites_Clinch_20110701
● Possible_MistNet_Sites_Clinch_20110701
■ Primary-Action_Boundary
■ Site_Boundary

0 500 1,000 2,000 3,000 4,000 Feet

N



From: Baxter, John Tracy
To: Horton, Ruth M
Subject: FW: Notification of Proposed Mussel Survey
Date: Friday, February 05, 2016 12:50:30 PM
Attachments: EVALUATION OF FRESHWATER MOLLUSKS AND HABITAT.pdf
FIG_1_Clinch_R_MAP8.pdf
image001.png
image002.png

Mussel survey approval

Bo Baxter

John T. (Bo) Baxter, Jr.
Manager – Natural Resources Compliance Programs
865 632-3360

From: Howard, Charles S
Sent: Thursday, September 15, 2011 9:44 AM
To: Henry, Amy Burke
Cc: Baxter, John Tracy; Jones, Clinton E
Subject: FW: Notification of Proposed Mussel Survey

USFWS approved survey plan for Clinch R SMR site.

Chuck Howard
TVA Biological Compliance
865-632-2092
cshwarz1@tva.gov

From: Ross_Shaw@fws.gov [mailto:Ross_Shaw@fws.gov]
Sent: Wednesday, September 14, 2011 4:17 PM
To: Fister, Gerry
Cc: Olson, Chelsey; Howard, Charles S; Mary_e_Jennings@fws.gov; peggy_shute@fws.gov; Baxter, John Tracy; Stephanie_Chance@fws.gov
Subject: Re: Notification of Proposed Mussel Survey

Gerry:

Our staff have reviewed your proposed survey plan and are comfortable with what you have described. Please feel free to proceed.

Thank you for coordinating with us,
Todd

R. Todd Shaw
Fish & Wildlife Biologist
U.S. Fish & Wildlife Service - Tennessee Field Office
446 Neal Street
Cookeville, TN 38501
Phone: (931) 528-6481, ext. 215
Fax: (931) 528-7075

~ "Fister, Gerry" <gfister@thirdrockconsultants.com>

"Fister, Gerry"
<gfister@thirdrockconsultants.com>

09/13/2011 11:02 AM

To<ross_shaw@fws.gov>
cc<peggy_shute@fws.gov>, "Howard,
Charles S" <cshowar1@tva.gov>,
<Mary_e_Jennings@fws.gov>,
"Olson, Chelsey"
<colson@thirdrockconsultants.com>

SubjectNotification of Proposed Mussel
Survey

Todd,

Attached is a plan for a proposed survey to support evaluation of a site for development along the lower Clinch River. Third Rock Consultants will characterize the freshwater mollusk community in the Clinch River at river miles (CRM) 15 - 19 for the TVA. We hope to begin work on this project on Monday the 19th. I am sorry that I did not send this plan to you sooner but I hope that you are able to review this plan and allow the project to move forward as scheduled with concurrence.

If you have any questions or comments please free to contact me or Chuck Howard at TVA.

<<EVALUATION OF FRESHWATER MOLLUSKS AND HABITAT.pdf>>
<<FIG_1_Clinch_R_MAP8.pdf>>

(See attached file: EVALUATION OF FRESHWATER MOLLUSKS AND HABITAT.pdf)(See attached file: FIG_1_Clinch_R_MAP8.pdf)

Evaluation of Freshwater Mollusks and Habitat Clinch River Miles 15 – 19

Prepared by: Chuck Howard, TVA Aquatic Endangered Species Biologist

Background and Purpose

To support evaluation of a site for development along the lower Clinch River, the Tennessee Valley Authority (TVA) will characterize the freshwater mollusk community in the Clinch River at river miles (CRM) 15 - 19; Figure 1). TVA previously surveyed mussels and habitat near the site (CRS) in 1982 (Jenkinson 1982). That study, as well as others (Ahlsdorf 1984, Yokely 2005), showed that the lower Clinch River supports a mussel community with relatively low abundance and species richness, which is primarily the result of impoundment of the Clinch River (Melton Hill and Norris Dams upstream) and mainstem Tennessee River (Watts Bar Dam downstream). However, in 1991, TVA began a Reservoir Release Improvement program at Melton Hill Dam (CRM 23), which has presumably improved habitat conditions for mussels and other fauna in recent decades. Records of live pink mucket (federally endangered) and sheepnose (proposed endangered), as well as relic shells of other federally listed species, have been found in this reach of the river.

Mollusk Survey Plan

The mollusk survey plan will use survey methods and locations similar to that used by Jenkinson (1982) to provide a level of comparability between studies, as well as additional efforts to collect data near anticipated impact areas. A combination of semi-quantitative and qualitative sampling methods will be used. Although quantitative sampling can provide a more accurate estimate of mollusk density and improve detection of small or buried individuals, this method will be omitted due to potential legacy issues with contaminated sediments in this reach of the Clinch River.

The study area will include the river reach between CRM 15.0 and 19.0. Similar to the 1982 study, survey transects used to guide divers will extend bank to bank and will be spaced approximately 300 meters (or 0.2 miles) apart. Currently, proposed discharge and intake sites may be located near CRM 16.0 and 17.9, respectively (Note: TVA will provide coordinates for the mostly likely location of these impact areas immediately prior to the survey). Additional sampling transects will be placed approximately 50 meters upstream and downstream of both the discharge and intake sites. Thus, a total of 25 transects will be sampled using semi-quantitative methods. Based on map review of the site, river width in the study area appears to vary near 110 meters wide.

Divers will collect all mussels (live and dead) within 1m wide by 10m long sections along one side of the transect (= semi-quantitative samples). Each 10m² area along transects will be exhaustively searched by the diver using visual and tactile search methods that include disturbing the top inch of riverbed substrate by hand. It is presumed that a minimum of five minutes search time should be spent per sample to ensure thorough coverage; actual time spent per sample will be recorded to facilitate catch per hour calculations in conjunction with estimates of mussel density. Mussels will be placed into a mesh collection bag that will be retrieved and processed in the boat. The mesh size of the collection bag will be no larger than 6mm; if small juveniles are found or expected, then a mesh size of 3mm will be used.

Qualitative samples will consist of one-hour timed searches at each of five sites. Two of the five sites will occur at the discharge and intake sites, respectively. Currently, a barge dock site has not been included in the project description; however, if plans for a barge terminal develop, then one of the qualitative searches will occur at that location. The remaining qualitative searches ($n = 2$ or 3) will occur in areas of the study area with the most suitable

Evaluation of Freshwater Mollusks and Habitat Clinch River Miles 15 – 19

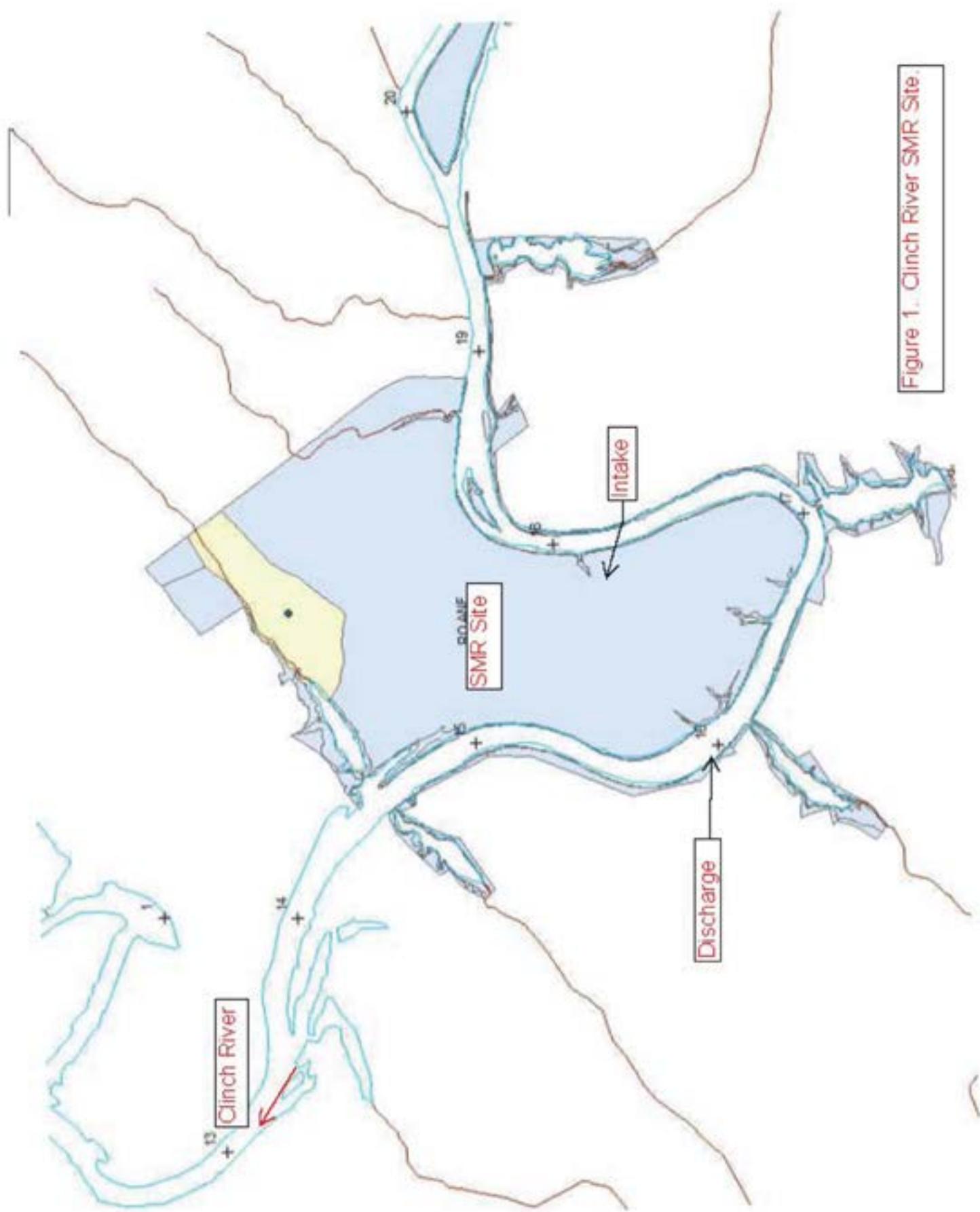
mollusk habitat based on semi-quantitative sampling data and the best judgment of the on-site malacologist.

All live mussels will be identified, counted, measured (length in mm), aged (external annuli count), sexed (if sexually dimorphic species), and returned to the river near their original location. Dead mussel shells will be identified and scored as either fresh dead or relic; only fresh dead shells will be quantified to provide an estimate of recent mortality. Voucher specimens of dead mussel shells and/or photographs of each species will be recorded. If zebra mussels (*Dreissena polymorpha*) are present, an estimate of % coverage of each live native (unionid) mussel will be estimated.

A cursory, qualitative effort will be spent collecting aquatic snails as well to characterize the general snail community in the study area. Since it is likely that snails will be present in limited areas containing large substrate particles, collection of snails will probably be opportunistic. While incidental collection of snails by divers will be beneficial, efforts should not hinder mussel sampling. It is recommended that time spent collecting snails be logged independently of time spent searching for mussels, both in semi-quantitative and qualitative samples. In general, live snails will be identified and counted on site, and sample location will be recorded. A small representation (5-10 individuals) of each species will be retained as voucher specimens for verification. Since shell condition is difficult to assess for dead snails, only a record of dead snail species will be noted. No federally listed snails have been recorded in the Clinch River near the CRS.

General water quality conditions (temperature, dissolved oxygen, conductivity, and pH, and velocity) will be measured at depths of one foot below the water surface and one foot above the riverbed surface at each rivermile (i.e., CRM 15, 16, 17, 18, and 19). Relative substrate composition (% of each particle size) will be estimated by the diver at the terminus of each 10-meter section of sampling transect. Depth and zebra mussel density will also be recorded at these locations. GPS coordinates will be recorded at each transect endpoint and a boundaries of qualitative searches. A full report describing the mollusk community and habitat will be produced, which will include GIS-based maps showing the distribution of mussel density and relative snail abundance, as well as habitat conditions (depth and substrate compositions).

Figure 1. Clinch River SMR Site





Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

May 11, 2016

Eric Oosahwee-Voss
Tribal Historic Preservation Officer
United Keetoowah Band of Cherokee Indians in Oklahoma
Post Office Box 1245
Tahlequah, Oklahoma 74465

Dear Mr. Oosahwee-Voss:

TENNESSEE VALLEY AUTHORITY (TVA), AMENDMENT TO THE 2015 PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE

In August 2015, TVA executed a programmatic agreement (PA) for the management of historic properties affected by TVA's proposed Clinch River Small Modular Reactor (SMR) project in Roane County, Tennessee. Recently, TVA has identified several items that need correction:

1. The PA's duration, as defined in Section VII.A, does not cover SMR construction. As currently defined in the PA, the Undertaking includes only a permitting action (the Early Site Permit Application, or ESPA) and a licensing action (the Combined License Application, or COLA). It is TVA's intent that the PA's stipulations concerning post-review discoveries be in effect during SMR construction, but this would not be the case as the PA is currently worded.
2. The PA erroneously lists two tribes (the Eastern Band of Cherokee Indians and the United Keetoowah Band of Cherokee Indians in Oklahoma) as concurring parties, WHEREAS in fact only one tribe asked to be included as a concurring party.
3. The ninth "WHEREAS" clause incorrectly states that DOE land that was exempted from a recent archaeological survey consisted of "circa 101 acres"; the correct figure is 14.6 acres.

In addition to these issues, there are a number of drafting issues that TVA has identified in the executed PA that would benefit from clarification:

- The following terms are not clearly defined in the PA and could have ambiguous meaning: project, project plans, undertaking, Signatories, SMR construction.
- The term "Invited Signatory" is used even though there is no invited signatory.
- There is redundancy between Section VII.B (Termination) and Section VII.D (Amendment).

Eric Oosahwee-Voss
Page Two
May 11, 2016

In order to resolve these issues and to make sure that the PA will remain an effective and internally consistent document, TVA proposes to amend the PA to correct these problems. TVA proposes to replace the existing text in pages 1-9 and page 12 with the revised text in an Amended and Restated PA. TVA proposes the following changes be included in the Amended and Restated PA:

Section: VII.A. Duration

Existing text:

This PA will be in effect for the duration of the Undertaking (i.e., until the Construction and Operating License has been approved by the NRC or the Undertaking has been terminated).

Proposed new text:

This PA will be in effect until construction of the SMR project is complete, or the Undertaking is otherwise terminated.

Section: First three WHEREAS clauses

Existing text:

WHEREAS, the Tennessee Valley Authority (TVA) proposes to apply for an Early Site Permit from the Nuclear Regulatory Commission (NRC) for the eventual construction of two or more small modular nuclear reactors ("Undertaking") within the Clinch River Small Modular Reactor (SMR) project area bordering Watts Bar Reservoir in Roane County, Tennessee (Appendix A); and

WHEREAS, upon NRC approval of the Early Site Permit TVA will apply for a Combined License for the proposed SMR facility; and

WHEREAS, TVA considers these two related actions - the Early Site Permit Application (ESPA) and the eventual Combined License Application (COLA) - as two sequential parts of a single, complex Undertaking, as "undertaking" is defined at 36 CFR § 800.16(y); and

Proposed new text:

WHEREAS, the Tennessee Valley Authority (TVA) proposes to apply for an Early Site Permit from the Nuclear Regulatory Commission (NRC), which would approve the Clinch River Small Modular Reactor (SMR) project area bordering Watts Bar Reservoir in Roane County, Tennessee (Appendix A) as a site suitable for construction and operation of a nuclear power facility; and

WHEREAS, subsequent to initiation of NRC review of the Early Site Permit, TVA may apply for a Combined License for the proposed Clinch River SMR facility, which would authorize TVA to construct and operate the proposed facility; and

WHEREAS, subject to future decisions, TVA may propose to construct and operate two or more SMRs at the Clinch River Nuclear Site; and

WHEREAS, TVA considers these related actions—the Early Site Permit Application (ESPA), the Combined License Application (COLA), and construction of two or more SMRs - as sequential parts of a single, complex undertaking (Undertaking), as "undertaking" is defined at 36 CFR § 800.16(y); and

*(This proposed change adds an additional WHEREAS clause)

Eric Oosahwee-Voss
Page Three
May 11, 2016

Section: Ninth WHEREAS clause

Existing text:

WHEREAS, TVA has conducted four archaeological surveys, including all parts of the APE (Appendix B), with the exceptions of circa 101 acres of DOE land in the northwestern part of the APE that was included in a recent DOE archaeological survey (Reed et al. 2011, Appendix E), and a circa 5-acre area consisting of an existing off-ramp from State Highway 58 (Pace 1995; Appendix F); and the surveys have identified 59 archaeological properties within that APE; and

Proposed new text:

WHEREAS, TVA has conducted four archaeological surveys, including all parts of the APE (Appendix B), with the exceptions of circa 14.6 acres of DOE land in the northwestern part of the APE that was included in a recent DOE archaeological survey (Reed et al. 2011, Appendix E), and a circa 5-acre area consisting of an existing off-ramp from State Highway 58 (Pace 1995; Appendix F); and the surveys have identified 59 archaeological properties within the APE; and

Section: Seventeenth WHEREAS clause

Existing text:

WHEREAS, *(to be enumerated upon conclusion of consultation)* tribes have agreed to participate in the development of this PA and sign the PA as concurring parties; and

Proposed new text:

WHEREAS, the United Keetoowah Band of Cherokee Indians in Oklahoma has agreed to participate in the development of this PA and sign the PA as a concurring party ("Concurring Party"); and

Section: End of Preamble

Existing text: (none)

Proposed change: Addition of two new WHEREAS clauses after the last of the existing WHEREAS clauses, as follows:

WHEREAS, TVA, the TN SHPO, and the Concurring Party executed the Programmatic Agreement, dated as of September 17, 2015 ("First Programmatic Agreement); and

WHEREAS, TVA, the TN SHPO, and the Concurring Party are entering into the PA to amend and restate the First Programmatic Agreement in its entirety;

Section: VII.B. Termination

Existing text:

If any Signatory to this PA determines that the terms cannot be, or are not being, carried out, that party shall immediately consult with the other signatories to seek amendments of the agreement. If the agreement is not amended within thirty (30) days of the initiation of such consultation (or another time period agreed to by all signatories), any Signatory may terminate the PA upon written notification to the other signatories.

Once the PA is terminated, and prior to work continuing on the Undertaking, TVA must

Eric Oosahwee-Voss
Page Four
May 11, 2016

either (a) execute a different PA, or (b) request, take into account, and respond to the comments of the Advisory Council under 36 CFR § 800.7. TVA shall notify TNSHPO as to the course of action it will pursue.

If TVA permanently cancels the Undertaking, all signatories will be notified, and this PA will be terminated.

Proposed new text:

If TVA or the TN SHPO determines that the terms of the PA cannot be, or are not being, carried out, the party making that determination shall immediately consult with the other party to seek amendments of the PA. If the PA is not amended within thirty (30) days of the initiation of such consultation (or another time period agreed to by all signatories), TVA or the TN SHPO may terminate the PA upon written notification to the other party. If the PA is so terminated, TVA shall ensure that historic properties within the APE for the Undertaking are protected from adverse effects of the Clinch River SMR project in accordance with Section 106 of the NHPA until such time that TVA may enter into a new PA or request the comments of the Council pursuant to 36 CFR § 800.7(a).

If TVA permanently cancels the Undertaking, TN SHPO and the Concurring Party will be notified and this PA will be terminated.

Section: VII.D. Amendment

Existing text:

If a Signatory to this PA determines that the terms of the PA cannot be or are not being carried out, the Signatories shall consult to seek a resolution of the issue. If, after due consultation, the issue is not resolved by amending the PA, then any Signatory may terminate the agreement after giving the other Signatories fifteen (15) days' notice. If the agreement is so terminated, TVA shall ensure that historic properties within the APE for the Undertaking are protected from adverse project effects in accordance with Section 106 of the NHPA until such time that TVA may enter into a new PA with the Signatories or request the comments of the Council pursuant to 36 CFR § 800.7(a).

Proposed change:

Strike this section, as it duplicates the language of VII.B Termination.

Section: Concurring Parties signature page

Existing text: (Lists both the Eastern Band of Cherokee Indians and the United Keetoowah Band of Cherokee Indians in Oklahoma)

Proposed change: Strike the signature line for the he Eastern Band of Cherokee Indians.

In addition to the above changes, TVA proposes to make the following changes to terms used throughout the PA, in order to add clarity and reduce the chances of ambiguity:

Eric Oosahwee-Voss
Page Five
May 11, 2016

TERM	PROPOSED CHANGE
“undertaking” (when referring to TVA’s proposed Clinch River SMR project)	“Undertaking”
“the Signatories”	“TVA and TN SHPO”
“Invited Signatory”	Strike this term
“federally-recognized Indian tribes”	“the Concurring Party”
“project”	“Clinch River SMR project”
“mitigation”	“mitigation measures”

Some additional, minor changes are also proposed, such as spelling out “Historic American Building Survey” and “Historic American Engineering Record” in Section III.B.3 (where the existing PA simply uses “HABS” and “HAER”, respectively), so that someone reading the document would understand what those acronyms stand for.

Enclosed is a copy of the Amended and Restated PA with TVA’s signature page signed by Wilbourne C. Markham, Jr. (Director, Environmental Permitting and Compliance and Federal Preservation Officer) and five blank signature pages for your signature. We respectfully ask that you review these proposed PA Amendments and either provide comments or sign and return all five signature pages within 30 days of receipt. Once the Amended and Restated PA has been executed, TVA will provide you with a complete copy, including original signatures on all signature pages.

Please sign and return all five signature pages to us for dissemination. If you have any questions or comments, please contact me at (865)632-6461 or by email at pbezzell@tva.gov.

Sincerely,



Patricia Bernard Ezzell
Senior Program Manager
Tribal Relations and Corporate Historian
Communications
WT 7D-K

MMS:CSD
Enclosure
cc: Karen Pritchett
United Keetoowah Band of Cherokee Indians in Oklahoma
Post Office Box 1245
Tahlequah, Oklahoma 74465

INTERNAL COPIES:

Nelson Blake, WT 6A-K
Jack Brellenthin, BR 4A-C
Peter Hastings, CNO NPG
Ruth Horton, WT11D-K
Khurshid Mehta, WT 6A-K
Jeff Perry, LP 5A-C
EDMS, WT11D-K

From: [Wells, Edward William III](#)
To: [Ezzell, Patricia Bernard](#)
Cc: [Cole, Stephen C](#); [Yarnell, W Richard](#)
Subject: FW: TVA CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE (LATITUDE 35.916944, LONGITUDE -84.391389)
Date: Wednesday, May 13, 2015 9:30:01 AM

For your records.

From: Emman Spain [mailto:ESpain@mcn-nsn.gov]
Sent: Tuesday, May 12, 2015 9:55 AM
To: Wells, Edward William III
Subject: RE: TVA CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE (LATITUDE 35.916944, LONGITUDE -84.391389)

TVA External Message. Please use caution when opening.

Mr. Wells,

The Muscogee (Creek) Nation has received TVA's notice of TVA Clinch River Small Modular Reactors Project and the Phase I Archaeological Survey in Roane County, Tennessee. The Muscogee Nation is unaware of any culturally significant sites within the project areas. Further, we concur with the determination that site 40RE233 is eligible for listing on the National Register of Historic Places and will be avoided. Thank you.

Emman Spain, THPO
Cultural Preservation Office
Muscogee (Creek) Nation
P. O. Box 580
Okmulgee, OK 74447
espain@mcn-nsn.gov
(918) 732-7678

From: Wells, Edward William III [<mailto:ewwells@tva.gov>]
Sent: Thursday, April 02, 2015 4:34 PM
To: 'rallen@cherokee.org'; 'Tyler B. Howe (tylehowe@nc-cherokee.com)'; 'Miranda Panther (mirapant@nc-cherokee.com)'; "ukbthpo-larue@yahoo.com" (ukbthpo-larue@yahoo.com); Emman Spain; Johnnie Jacobs; 'celestine.bryant@astribe.org'; 'islandsberry@alabama-quassarte.org'; 'kara.gann@kialegeetribes.net'; 'chascoleman75@yahoo.com'; "Joseph Blanchard" (joseph.blanchard@astribe.com); "Robin Dushane (RDushane@estoo.net)" (RDushane@estoo.net); "Dee Gardner" (dgardner@estoo.net) (dgardner@estoo.net); 'kjumper_shaneetribe@hotmail.com'
Cc: "Russell Townsend" (RussellT@nc-cherokee.com) (RussellT@nc-cherokee.com); Jeff Fife; Odette Freeman; David Proctor; Tim Thompson; Johnnie Wesley; LeeAnne Wendt; "Kim Jumper" (kim.jumper@shawnee-tribe.com) (kim.jumper@shawnee-tribe.com); "cecil.wilson@astribe.com" (cecil.wilson@astribe.com)
Subject: TVA CLINCH RIVER SMALL MODULAR REACTORS PROJECT, PHASE I ARCHAEOLOGICAL SURVEY, ROANE COUNTY, TENNESSEE (LATITUDE 35.916944, LONGITUDE -84.391389)

Good Afternoon,

I'm sending this email message on the behalf of Pat Ezzell and hope it finds you well. By

this email, I am transmitting the attached letter regarding TVA's potential infrastructure changes in two additional areas to facilitate construction of up to six small modular nuclear generating reactors at the former Clinch River Breeder Reactor Site in Roane County, Tennessee. TVA has enlarged the APE for archaeology. This area comprises approximately 138 acres of land, most of which is owned by the Department of Energy. All other areas of the APE have been surveyed previously and were included in our previous consultation. The survey identified no previously unrecorded archaeological sites. The survey identified one isolated find and one non-site locale. TVA determined that the isolated find, non-site locale, and previously identified sites 40RE135 and 40RE202 are ineligible for listing in the NRHP. TVA finds that no archaeological deposits associated with 40RE139 are located in the APE. Based on currently available information, TVA cannot fully evaluate the NRHP eligibility of site 40RE138. TVA's current plans for the project do not include any actions that would affect the previously identified sites 40RE138 or 40RE233. As plans are developed in future, TVA will consult further with your office. TVA is providing notification of these eligibility determinations and is seeking your comments regarding this undertaking and any properties that may be of religious and cultural significance and may be eligible for listing in the National Register of Historic Places.

The referenced report is attached.

As always, please do not hesitate to contact Pat Ezzell or me (while Pat's away) if you have any questions. Please respond by May 02, 2015, if you have any comments on the proposed undertaking.

Pat should be back in the office next week.

Thank you.

Sincerely,

Ted Wells

Edward "Ted" Wells
Archaeologist
Biological and Cultural Compliance
Office: 865-632-2259
Email: ewells@tva.gov

Dudley, Cynthia S

From: Ezzell, Patricia Bernard
Sent: Tuesday, July 21, 2015 3:42 PM
To: Tyler B. Howe (tylehowe@nc-cherokee.com); ukbthpo-larue@yahoo.com
Cc: Miranda Panther (mirapant@nc-cherokee.com); Russell Townsend (RussellT@nc-cherokee.com)
Subject: TVA, DRAFT PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE
Attachments: Clinch River SMR Draft PA THPO 20150721.pdf; Clinch River SMR PA for Phased Compliance_final draft 20150720.pdf

Good Afternoon,

I hope this email finds you well. By this message, I am transmitting the attached letter regarding TVA's development of a draft Programmatic Agreement (PA) for the Clinch River Small Modular Reactors project located in Roane County, Tennessee.

The draft PA is attached.

As always, please do not hesitate to contact me if you have any questions. Please respond with your comments no later than August 21, 2015.

Thank you!

Sincerely,

Pat

Pat Bernard Ezzell
Senior Program Manager
Tribal Relations and Corporate History
Tennessee Valley Authority
400 W. Summit Hill Drive
460 WT 7D-K
Knoxville, Tennessee 37902
Office Phone: (865) 632-6461
Cell phone: 865-304-9251
E-mail: pbezzell@tva.gov



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

July 21, 2015

To Those Listed:

TENNESSEE VALLEY AUTHORITY (TVA), DRAFT PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE

TVA initiated consultation with your office on August 26, 2011 regarding the above-named project, a proposal to develop two or more small modular nuclear generating reactors (SMRs) at the former Clinch River Breeder Reactor Site in Roane County, Tennessee (and seek a Combined License from the United States Nuclear Regulatory Commission for the project). This year, we have continued that consultation in letters regarding an additional archaeological survey (letter dated April 2, 2015). In our letter of August 26, 2011, we proposed developing a Programmatic Agreement (PA) with the Tennessee State Historic Preservation Officer (TNSHPO) and other consulting parties to document the terms and conditions to resolve potential adverse effects of the undertaking.

TVA has determined, in consultation with the TNSHPO, that the area of potential effects (APE) for archaeological resources consists of an approximately 1300-acre area bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River miles 14.05 and 19.0), and on the northeast by land owned by the U.S. Department of Energy (DOE). Recently, however, TVA proposed utilization of the State Highway 58 off ramp onto Bear Creek Road during the construction phase of the undertaking. Consequently, TVA has modified the APE to include this ca. 5-acre area, resulting in an APE that encompasses approximately 1,305 acres. Within this APE, TVA proposes to clear a ca. 456-acre area of vegetation as part of the site preparation work. The APE for historic architectural resources consists of the area within a one-half mile radius of the proposed land clearing, and that would have a visual line of sight to the project.

TVA has conducted four archaeological surveys including all parts of the APE with two exceptions: (1) some DOE land in the north part of the APE that was included in a recent DOE archaeological survey, during which eligible site 40RE233 was identified; and (2) the ca. 5-acre off-ramp from State Highway 58, which was included in a 1995 archaeological survey carried out by Duvall and Associates for the Tennessee Department of Transportation, and which has been disturbed by road construction. A total of 59 archaeological sites have been identified within the APE. Our offices have agreed that 16 of these sites are potentially eligible for the NRHP, and that one site determined by the Department of Energy (DOE) to be eligible for the NRHP is located in the undertaking's APE.

TVA considers this undertaking to be a type that accords with the meaning of the term "complex project" cited in 36 CFR § 800.14(b)(3) because it will involve multiple phases carried out by multiple groups within TVA as well as more than one outside entity, and so planning and project

To Those Listed
Page Two
July 21, 2015

development will be complex. Because planning may not be finalized for some months or years, TVA is unable to fully apply the criteria of adverse effect to the identified historic properties at this time, and will not be able to do so prior to seeking the Early Site Permit from the U.S. Nuclear Regulatory Commission. However, we anticipate that the construction and operation phases of the undertaking may result in adverse effects to one or more of these historic properties. Therefore, TVA proposes to develop a PA under 36 CFR § 800.14(b)(3) to govern the management of historic properties within the undertaking's APE.

TVA has prepared the enclosed draft PA regarding the management of historic properties that may be affected by the undertaking. You indicated that you would like to participate in this PA. By this letter, we ask that you provide comments on this draft PA no later than August 21, 2015. Upon mutual agreement by TVA and the TNSHPO, we plan to notify the Advisory Council on Historic Preservation and invite it to participate in this consultation pursuant to § 800.14(b)(3) and § 800.6(a)(1).

Please let me know if you still are interested in participating in this PA as concurring parties and if you have any comments.

Sincerely,



Patricia Bernard Ezzell
Senior Program Manager
Native American Tribal Relations and Corporate Historian
Public Relations and Corporate Information
Communications
WT460 7D-K

SCC:CSD:PBE
Enclosures

IDENTICAL LETTER MAILED TO THE FOLLOWING ON JULY 21, 2015:

Mr. Tyler Howe
Historic Preservation Specialist
Eastern Band of Cherokee Indians
Post Office Box 45
Cherokee, North Carolina 28719

cc: Mr. Russell Townsend
Tribal Historic Preservation Office
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Ms. Miranda Panther
NAGPRA Coordinator
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Mrs. Lisa C. LaRue-Baker
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464

PROGAMMATIC AGREEMENT
BETWEEN THE TENNESSEE VALLEY AUTHORITY
AND THE
TENNESSEE STATE HISTORIC PRESERVATION OFFICE
REGARDING THE MANAGEMENT OF HISTORIC PROPERTIES AFFECTED BY
THE CLINCH RIVER SMR PROJECT

WHEREAS, the Tennessee Valley Authority (TVA) proposes to apply for an Early Site Permit from the Nuclear Regulatory Commission (NRC) for the eventual construction of two or more small modular nuclear reactors (“Undertaking”) within the Clinch River Small Modular Reactor (SMR) project area bordering Watts Bar Reservoir in Roane County, Tennessee (Appendix A); and

WHEREAS, upon NRC approval of the Early Site Permit TVA will apply for a Combined License for the proposed SMR facility; and

WHEREAS, TVA considers these two related actions—the Early Site Permit Application (ESPA) and the eventual Combined License Application (COLA)—as two sequential parts of a single, complex Undertaking, as “undertaking” is defined at 36 CFR § 800.16(y); and

WHEREAS, this Undertaking has the potential to affect historic properties as defined at 36 CFR § 800.16(l); and

WHEREAS, TVA, in consultation with the Tennessee State Historic Preservation Officer (TN SHPO) and pursuant to 36 CFR § 800.4(a)(1), has determined the area of potential effects (APE) for this proposed federal undertaking, for archaeological resources, to be an approximately 1305-acre area bounded on the west, south, and east by Watts Bar Reservoir (between Clinch River miles 14.05 and 19.0); and on the northeast by land owned by the Department of Energy (DOE) (Appendix B); and

WHEREAS, TVA has consulted with TN SHPO regarding this undertaking, in accordance with 36 CFR Part 800, regulations of the Advisory Council on Historic Preservation (“Council”) implementing Section 106 of the National Historic Preservation Act (NHPA); and,

WHEREAS, TVA has consulted on a government-to-government basis regarding this undertaking with the Eastern Band of Cherokee Indians, Cherokee Nation, Chickasaw Nation, Alabama Quassarte Tribal Town, Muscogee (Creek) Nation, Alabama-Coushatta Tribe of Texas, Thlophlocco Tribal Town, Seminole Nation of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Absentee Shawnee Tribe of Oklahoma, Kialegee Tribal Town, United Keetoowah Band of Cherokee Indians in Oklahoma, Seminole Tribe of Florida, Shawnee Tribe, and Poarch Band of Creek Indians; and

WHEREAS, TVA has conducted four archaeological surveys, including all parts of the APE (Appendix B), with the exceptions of ca. 101 acres of DOE land in the northwestern

part of the APE that was included in a recent DOE archaeological survey (Reed et al. 2011, Appendix E), and a ca. 5-acre area consisting of an existing off-ramp from State Highway 58 (Pace 1995; Appendix F); and the surveys have identified 59 archaeological properties within that APE; and

WHEREAS, TVA has determined that the APE for historic architectural resources consists of a one-half mile radius surrounding the area in which vegetation clearing would take place in preparation for the construction phase of the undertaking (Appendix B); and

WHEREAS, TVA, after conducting a historic architectural survey within a portion of the architectural APE and conducting its own desktop and field study of the remaining portion, has found that no historic architectural resources that are included or eligible for inclusion in the National Register of Historic Places (NRHP) are located within this APE, and TN SHPO has concurred with this finding; and

WHEREAS, TVA, in consultation with the TN SHPO and Native American tribes, has determined that 16 archaeological properties within the APE (40RE104, 40RE105, 40RE106, 40RE107, 40RE108, 40RE124, 40RE128, 40RE138, 40RE140, 40RE165, 40RE166, 40RE167, 40RE549, 40RE595, 40RE600, and 40RE601) are potentially eligible for inclusion in the NRHP (Appendix C); and

WHEREAS, archaeological site 40RE233 (Happy Valley Workers' Camp), which is located on Department of Energy (DOE) land within the APE, was investigated by the DOE in 2011 (Reed et al. 2011) and was recommended eligible for inclusion in the NRHP, and TVA agrees with that recommendation; and

WHEREAS, planning for the proposed Undertaking is currently ongoing and finalization may not occur for several months or years; and

WHEREAS, the Undertaking has the potential to adversely affect an unknown number of the 16 potentially eligible properties and eligible site 40RE233 , but as yet the scales and precise locations of the various parts of the Undertaking are incompletely known; and

WHEREAS, TVA elects to fulfill its obligations under Section 106 of the NHPA for the undertaking through execution and implementation of this Programmatic Agreement (PA), as provided for in 36 CFR § 800.14(b)(3)); and

WHEREAS, (*to be enumerated upon conclusion of consultation*) tribes have agreed to participate in the development of this PA and sign the PA as concurring parties; and

WHEREAS, TVA will provide the public an opportunity to express their views on this undertaking by means of various notices and public meetings;

NOW THEREFORE, pursuant to 36 CFR § 800.14(b), TVA shall take into account the effects of this undertaking on historic properties in accordance with the following stipulations.

STIPULATIONS

TVA shall ensure that the following stipulations are implemented:

I. PHASED IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES

A. IDENTIFICATION

As TVA develops the details of the Undertaking, TVA will consider further the possible effects of the Undertaking on eligible and potentially eligible properties within the APE. The APE will remain as shown in Appendix B unless TVA determines, in consultation with the TN SHPO, that final project plans warrant revising the APE in order to better delineate the area in which there is potential for effects on historic properties. Should the APE be revised by TVA in consultation with TN SHPO, TVA shall take any additional steps necessary to identify historic properties within the revised APE, and this may include one or more additional Phase I identification surveys. Said surveys shall be carried out in a manner consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* (48 FR 44720-23) and the Tennessee Historic Commission, Review and Compliance Section, *Reporting Standards: Archaeological and Architectural Resource Identification Studies (Survey Reports)*. TVA shall submit draft and final Survey Reports to TN SHPO and the Signatories for comment within a thirty (30) day period, pursuant to 36 CFR § 800.4(d).

If project plans include activities that would disturb soils or sediments to depths greater than the maximum depth investigated previously during the archaeological surveys of the APE (approximately 80 cm or 31 in), in areas with potential for deeply buried cultural deposits, the APE will be enlarged in the vertical dimension, within areas with potential for deeply buried deposits (see Appendix D), to include deposits not previously investigated that could be affected by the Undertaking. Such testing will be carried out in the manner described in the preceding paragraph.

B. EVALUATION

1. TVA shall evaluate the NRHP eligibility of any cultural resources within the APE that TVA and TN SHPO have agreed are "potentially eligible" or of "undetermined" NRHP eligibility, and that would be adversely affected by the Undertaking, pursuant to 36 CFR § 800.4(c). The terms "potentially eligible" and "of undetermined eligibility" are equivalent for purposes of this PA.
2. TVA, in consultation with TN SHPO and federally-recognized tribes, shall conduct investigations to evaluate the significance of the following two (2) types of cultural resources, pursuant to § 800.4(c)(1):
 - a) Archaeological sites which are of undetermined NRHP eligibility and would be adversely affected by the Undertaking; and
 - b) Above-ground historic resources which have not been previously evaluated or require further evaluation in order to determine their eligibility for listing on the NRHP and would be adversely affected by the Undertaking.

3. The investigation stipulated by part I.B.2, above, shall consist of conducting a Phase II evaluation study in a manner consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* (48 FR 44720-23) and the Tennessee Historic Commission, Review and Compliance Section, *Reporting Standards: Archaeological and Architectural Resource Identification Studies (Survey Reports)*. A scope of work will be developed in consultation prior to the implementation of the investigation, and will specify the procedures to be used in determining the eligibility of the property pursuant to 36 CFR § 800.4(c). TVA shall submit draft and final reports, which shall contain a recommendation on the property's eligibility for listing on the NRHP, to TN SHPO and federally-recognized Indian tribes for comment within a thirty (30) day period.
4. Upon completion of the Phase II evaluation study of an undetermined property, if TVA and TN SHPO agree that the property meets NRHP criteria, the property shall be considered eligible for inclusion in the NRHP. Should a dispute arise on the eligibility of an identified property, TVA will consult with TN SHPO to resolve the objection. If TVA and the SHPO do not agree, or if the Advisory Council on Historic Preservation (Council) or the Secretary of the Interior (Secretary) so request, TVA shall obtain a determination of eligibility from the Secretary of Interior pursuant to 36 CFR § 63. If an Indian tribe that attaches religious or cultural significance to an identified property does not agree, it may ask the Council, pursuant to 36 CFR § 800.4(c)(2), to request the TVA Federal Preservation Officer to obtain a determination of eligibility from the Secretary of Interior.

C. RESULTS OF IDENTIFICATION AND EVALUATION

If, after carrying out the steps in Section I.B (above), TVA has found (in consultation with TN SHPO and federally-recognized Indian tribes) that the property in question is not eligible for the NRHP, then TVA shall notify the Signatories and make the documentation available for public inspection pursuant to 36 CFR § 800.4(d)(1).

If, after carrying out the steps in Section I.B (above) and finding (in consultation with TN SHPO and federally-recognized Indian tribes) that the property in question is eligible for inclusion in the NRHP, TVA shall continue to seek ways to avoid adverse effects to the historic property, as outlined below in Section II of this PA.

II. AVOIDANCE

TVA, in consultation with the Signatories, shall seek ways to avoid adverse effects to properties determined eligible for inclusion in the NRHP whenever economically prudent and technically feasible. To the extent practicable, the following measures shall be taken by TVA to avoid adverse effects to historic properties:

- A. Avoid locating any project elements within the identified boundaries of NRHP-eligible historic properties.
- B. Mark or delineate sensitive archaeological areas located within the APE on the plans to be used in construction. Any special conditions placed on such areas for construction will be detailed on these plans.
- C. Avoid locating any TL structure, substation, building, or infrastructure within the viewshed of any NRHP-eligible historic architectural resource.

III. RESOLUTION OF ADVERSE EFFECTS TO HISTORIC PROPERTIES

If, after carrying out the steps in Sections I and II, TVA finds that the undertaking would result in an adverse effect to an historic property, and has determined in consultation with the Signatories that avoidance of the historic property in the APE is not possible, then TVA shall notify the Council pursuant to 36 CFR § 800.6(a)(1), providing the documentation specified in § 800.11(e), and shall invite the Council to participate. TVA shall treat that historic property in the manner outlined below.

A. MINIMIZATION

TVA will consult with the Signatories in order to seek a course of action that will minimize any adverse project-related effects to historic properties, if any such course is realistically possible.

B. MITIGATION

1. If avoidance and minimization alternatives have been determined by TVA, in consultation with the Signatories, not to be technically feasible or economically prudent, TVA will notify the Council pursuant to 36 CFR § 800.6(a)(1), and will develop treatment measures for mitigation of adverse effect(s) to historic properties. TVA shall consult with the Signatories to reach agreement on appropriate treatment measures.
2. In the case of an NRHP-eligible archaeological site, mitigation shall consist of data recovery. TVA will develop a Data Recovery Plan written by a qualified professional archaeologist that meets the standards set forth in *Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines*. Upon concurrence by the Signatories, TVA will distribute the Data Recovery Plan to all Signatories. The Data Recovery Plan shall be developed consistent with the applicable provisions in 36 CFR §§ 800.5 and 800.16, the standards set forth in Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines, and the standards set forth in the Tennessee SHPO Standards and Guidelines for Archaeological Resource

Management Studies (March 2009 revision). The Data Recovery Plan shall specify, at a minimum:

- a) the property, properties, or portions of properties where data recovery is to be carried out;
 - b) any property, properties, or portions of properties that will be destroyed without data recovery;
 - c) the research questions to be addressed through data recovery, with an explanation of their relevance and importance;
 - d) the field and laboratory methods to be used, with an explanation of their relevance to the research questions;
 - e) the methods to be used in analysis, data management, and dissemination of data;
 - f) a schedule for the implementation of the above parts of the Plan;
 - g) the curation facility selected by TVA in consultation with the TN SHPO; and the procedures for curation of the recovered materials and records consistent with the curation standards prescribed in 36 CFR Part 79 except for items specified under Stipulation V.B below (human remains);
 - h) procedures (outlined below in Section V of this PA) for the treatment of any human remains discovered within the APE as a consequence of the implementation of the Data Recovery Plan;
 - i) proposed methods for involving the interested public in data recovery and for disseminating results of the work to the interested public; and
 - j) a proposed schedule for the submission of progress reports to the TN SHPO.
3. In the event of potential for impacts to historic architectural properties (historic district, site, building, structure, or object), mitigation would be developed in consultation with the Signatories. Such measures could include any of the following (as well as any other measures that TVA and TN SHPO (and the Council, if the Council has decided to participate), agree TVA should implement):
- a) Vegetation screening
 - b) HABS- or HAER-equivalent documentation
 - c) Preparation of a Tennessee Historical and Architectural Resource form
 - d) National Register of Historic Places nomination

- e) Interpretive panels presenting summary historical information about the resource in a location accessible for public viewing.
- f) Presentation of a historical research paper at a public meeting or professional conference.

IV. POST REVIEW DISCOVERIES

TVA shall ensure that previously unidentified archaeological sites located within the Undertaking's APE that are inadvertently discovered during the implementation of the Undertaking will be subject to the following compliance measures:

- A. Sites will be protected and stabilized to prevent any further disturbance until the Signatories make an informed NRHP eligibility determination.
- B. Any additional compliance steps necessary to fulfill TVA's obligations under Section 106 and the terms of this PA will be completed.
- C. Ground-disturbing work will stop within a 50-foot radius of the discovery until steps IV.A and B have been completed in consultation with TN SHPO.

V. TREATMENT OF HUMAN REMAINS

If human remains are identified within the APE as a consequence of the implementation of the Undertaking or any treatment plans developed through implementation of this PA, TVA shall:

- A. ensure that the treatment of any human remains discovered within the APE complies with all state and federal laws concerning archaeological sites and treatment of human remains;
- B. immediately cease all ground-disturbing activities within a three (3) meter (ca. 10-ft) radius of the burial;
- C. notify the Roane County Coroner and the Tennessee State Archaeologist within twenty-four (24) hours;
- D. notify the Signatories and potentially culturally affiliated federally-recognized tribal governments within seventy-two (72) hours and invite them to comment on any plans developed to treat the human remains; and
- E. ensure that the remains are treated in a manner consistent with the Council's *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* (2007), and will be conducted in accordance with the applicable provisions of Tennessee Code Annotated (T.C.A.) 46-4-101 et seq. (*Termination of Use of Land as a Cemetery*); T.C.A. 11-6-116, (*Excavation of Areas Containing Native American Indian Remains*); T.C.A. 11-6-119 (*Reburial of Human Remains or Native American Burial Objects following Discovery or Confiscation*), and Tennessee Rules and Regulations Chapter 0400-9-1 (*Native American Indian Cemetery Removal and Reburial*).

VI. REPORTS

TVA shall ensure that all cultural resources investigations undertaken for compliance with this PA are recorded in formal written reports that meet the Secretary of Interior's Standards and Guidelines for Identification (48 FR 44720-23) and the Tennessee Historic Commission, Review and Compliance Section, *Reporting*

Standards: Archaeological and Architectural Resource Identification Studies (Survey Reports). The TN SHPO and other consulting parties shall be afforded thirty (30) days to review and comment on any archaeological reports submitted as compliance with this agreement.

TVA shall distribute copies of all final reports and Plans to the Signatories. Throughout the duration of this PA, Signatories shall have 30 days to review and comment on all cultural resource survey reports concerning identification of historic properties or evaluation of identified properties, and proposed plans provided by TVA. Comments received by TVA from the Signatories shall be taken into consideration in preparing final documents.

VII. ADMINISTRATIVE CONDITIONS

A. DURATION

This PA will be in effect for the duration of the Undertaking (i.e., until the Construction and Operating License has been approved by the NRC or the Undertaking has been terminated).

B. TERMINATION

If any Signatory to this PA determines that the terms cannot be or are not being carried out, that party shall immediately consult with the other signatories to seek amendments of the agreement. If the agreement is not amended within thirty (30) days of the initiation of such consultation (or another time period agreed to by all signatories), any Signatory may terminate the PA upon written notification to the other signatories.

Once the PA is terminated, and prior to work continuing on the Undertaking, TVA must either (a) execute a different PA, or (b) request, take into account, and respond to the comments of the Advisory Council under 36 CFR § 800.7. TVA shall notify TNSHPO as to the course of action it will pursue.

If TVA permanently cancels the Undertaking, all signatories will be notified and this PA will be terminated.

C. DISPUTE RESOLUTION

Should a Signatory or Invited Signatory object within thirty (30) days after receipt of any plans, specifications, contracts, or other documents provided for review pursuant to this Agreement, TVA shall consult with the objecting party to resolve the dispute. If TVA determines that the objection cannot be resolved, TVA, or the objecting party, may seek guidance from the Council pursuant to 36 CFR § 800.2(b)(2). TVA will take any Council comment provided in response to such a request into account in resolving any such dispute. The Signatories are responsible for carrying out all actions under this PA that are not the subject of the dispute.

D. AMENDMENT

If a Signatory to this PA determines that the terms of the PA cannot be or are not being carried out, the Signatories shall consult to seek a resolution of the issue.

If, after due consultation, the issue is not resolved by amending the PA, then any Signatory may terminate the agreement after giving the other Signatories fifteen (15) days' notice. If the agreement is so terminated, TVA shall ensure that historic properties within the APE for the Undertaking are protected from adverse project effects in accordance with Section 106 of the NHPA until such time that TVA may enter into a new PA with the Signatories or request the comments of the Council pursuant to 36 CFR § 800.7(a).

EXECUTION of this Programmatic Agreement by the Tennessee Valley Authority and the Tennessee State Historic Preservation Officer, the filing of this Agreement with the Advisory Council on Historic Preservation (Council), and the implementation of the terms of the Agreement evidence that TVA has, in accordance with Section 106 of the National Historic Preservation Act, taken into account the effects of this Undertaking on Historic Properties and afforded the Council an opportunity to comment.

INTERNAL COPIES:

Jack Brellenthin, BR 4A-C
Michelle Cagley, KFP 1T-KST
Geraldine Gallman, WT 7D-K
Amy Henry, WT11D-K
Ruth Horton, WT11D-K
Susan Jacks, WT11C-K
Clint Jones, WT11C-K
Paul Pearman, BR 4A-C
Jeff Perry, LP 5A-C
Richard Yarnell, WT11D-K
EDMS, WT CA-K

From: [Ezzell, Patricia Bernard](#)
To: [Dudley, Cynthia S](#); [Yarnell, W Richard](#); [Cole, Stephen C](#); [Jones, Clinton E](#)
Subject: Fw: TVA, DRAFT PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE
Date: Wednesday, July 29, 2015 5:27:03 PM

Hello,
Here are the comments on the PA from the UKB. Thanks!--Pat

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

Original Message

From: Lisa LaRue-Baker - UKB THPO <ukbthpo-larue@yahoo.com>
Sent: Wednesday, July 29, 2015 11:58 AM
To: Ezzell, Patricia Bernard
Reply To: ukbthpo-larue@yahoo.com
Cc: ebird@unitedkeetowahband.org
Subject: Re: TVA, DRAFT PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE

TVA External Message. Please use caution when opening.

Looks good to me!!

Lisa C. Baker
Acting THPO
United Keetoowah Band of Cherokee Indians in Oklahoma
PO Box 746
Tahlequah, OK 74465

c 918.822.1952
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On Tue, 7/21/15, Ezzell, Patricia Bernard <pbezzell@tva.gov> wrote:

Subject: TVA, DRAFT PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE
To: "Tyler B. Howe (tylehowe@nc-cherokee.com)" <tylehowe@nc-cherokee.com>, "ukbthpo-larue@yahoo.com" <ukbthpo-larue@yahoo.com>
Cc: "Miranda Panther (mirapant@nc-cherokee.com)" <mirapant@nc-cherokee.com>, "Russell Townsend (RussellT@nc-cherokee.com)" <RussellT@nc-cherokee.com>
Date: Tuesday, July 21, 2015, 2:42 PM

Good Afternoon,
I hope this email finds you well. By this message, I am transmitting the attached letter regarding TVA's development of a draft Programmatic Agreement (PA) for the Clinch River Small Modular Reactors project located in Roane County, Tennessee.

The draft PA is attached.

As always, please do not hesitate to contact me if you have any questions. Please respond with your comments no later than August 21, 2015.

Thank you!

Sincerely,

Pat

Pat Bernard Ezzell
Senior Program Manager

Tribal Relations and
Corporate History

Tennessee Valley
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Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

August 10, 2016

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), AMENDED AND RESTATED PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE—FINAL COPY

Enclosed are one hard copy and one electronic copy on CD of the executed Amended and Restated Programmatic Agreement (PA) for the management of historic properties affected by TVA's proposed Clinch River Small Modular Reactor (SMR) project in Roane County, Tennessee. TVA is providing identical copies to the United Keetoowah Band of Cherokee Indians in Oklahoma and the Advisory Council on Historic Properties.

If you have any questions or comments, please contact Richard Yarnell at 865/632-3463 or wryarnell@tva.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Clinton E. Jones".

Clinton E. Jones
Manager, Biological and Cultural Compliance
Safety, River Management and Environment
WT11C-K

SCC:CSD
Enclosure



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

August 24, 2016

Ms. Najah Duvall-Gabriel
Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, DC 20001-2637

Dear Ms. Duvall-Gabriel:

TENNESSEE VALLEY AUTHORITY (TVA), AMENDED AND RESTATED PROGRAMMATIC AGREEMENT, CLINCH RIVER SMALL MODULAR REACTORS PROJECT, ROANE COUNTY, TENNESSEE - FINAL COPY

TVA and the Tennessee State Historic Preservation Officer (SHPO) have executed a programmatic agreement (PA) for the management of historic properties affected by TVA's Clinch River Small Modular Reactors (SMR) Project in Roane County, Tennessee. The United Keetoowah Band of Cherokee Indians in Oklahoma has signed the PA as a Concurring Party.

Enclosed are one hard copy and one electronic copy on CD of the executed PA. TVA has provided identical copies to the United Keetoowah Band of Cherokee Indians in Oklahoma and the Tennessee Historic Preservation Officer.

If you have any questions or comments, please contact Richard Yarnell at 865-632-3463 or wryarnell@tva.gov.

Sincerely,

Clinton E. Jones
Manager, Biological and Cultural Compliance
Safety, River Management and Environment
WT11C-K

SCC:CSD
Enclosure

Part 3 Appendix B

Revision 1

Tennessee Valley Authority (TVA)

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

Part 3 Appendix B

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

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

1.0 Objective of the Environmental Protection Plan

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

2.0 Environmental Protection Issues

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

2.1 Aquatic Resources Issues

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

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

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2.2 Terrestrial Resources Issues

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

2.3 Endangered Species Act of 1973

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

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

3.0 Consistency Requirements

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

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

4.0 Administrative Procedures

4.1 Plant Reporting Requirements: Non-routine Reports

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

4.2 Review and Audit

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

4.3 Records Retention

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

4.4 Changes in Environmental Protection Plan

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

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