



Clinch River Nuclear Site

Construction Permit Application and Environmental Report

October 3, 2022

For Illustrative Purposes Only



Agenda

- Introductions
- Groundwater Monitoring to Establish Baseline Conditions
- Questions

Groundwater Monitoring to Establish Baseline Conditions

CRN Groundwater Data

CRN Early Site Permit Environmental Report (ESPA ER)

TVA's CRN ESPA ER contains groundwater monitoring data

- Basic geochemistry data from wells sampled in November 2013
- Extensive water-quality parameter data from wells sampled across four consecutive quarters, from December 2013 through November 2014.

CRN Construction Permit Application Environmental Report (CPA ER)

TVA intends to replicate the sampling program from ESPA ER

- Four consecutive quarters of sampling
- Comparative suite of wells as the ESPA ER
- Same water-quality parameters as the ESPA ER

RG 4.2 and NUREG-1555

- RG 4.2 states that “the purpose of the pre-application water monitoring program is to establish a baseline for assessing subsequent environmental effects on water resources attributable to building and operating the proposed station” (RG 4.2, Section 2.2.4)
- NUREG-1555 discusses the following “separate but related aspects of the applicant’s hydrological monitoring program” (NUREG-1555, Section 6.3.III):
 - Preapplication Monitoring – used to support the applicant’s baseline hydrological descriptions
 - Construction Monitoring – needed only in unusual circumstances when specific adverse impacts are predicted
 - Preoperational Monitoring – establishes a baseline for identifying and assessing environmental impacts from plant operation
 - Operational Monitoring – establishes impacts of operation of the plant

ESPA ER and FEIS

- CRN ESPA ER indicated that “eight quarterly sampling events provide a solid preoperational baseline dataset” (Section 6.3.2.2)
 - 2 years of quarterly sampling preceding preconstruction and construction (Section 6.3.2.2).
 - Quarterly sampling re-initiated for 2 years preceding start of construction (Section 6.6.2.2)
- NRC ESPA FEIS (Section 4.2.4.2)
 - 2 years of quarterly monitoring to provide a preoperational baseline

Groundwater Baseline Development

Suggested Approach: Combine Data Sets From ESPA ER and CPA ER to establish a baseline for the CRN Site

- CRN CPA ER to include a comparative suite of wells as the CRN ESPA ER
- Suite of parameters will be the same between the two ERs
- Combined data sets will contain eight quarters of data

Future Groundwater Monitoring

- Construction Monitoring – to be conducted if adverse impacts are predicted (per NUREG 1555)
- Preoperational Monitoring – to be conducted after construction to establish a baseline for operation
- Operational Monitoring – during plant operation

TVA

**TENNESSEE
VALLEY
AUTHORITY**