

CHAPTER 5

5.0 PERMITS AND APPROVALS

This chapter contains detailed descriptions of the permits and approvals TVA would obtain and maintain throughout the SQN license renewal term. The current operating licenses for Units 1 and 2 are set to expire at midnight on September 17, 2020, and September 15, 2021, respectively. If the NRC approves TVA's LRA, each unit's renewed license would permit operation for an additional 20-year period beyond the current expiration dates.

Implementation of Alternatives 2a – New Nuclear Generation or 2b – New Natural Gas-Fired Generation would also require permits and licenses. Many of the permits required to operate new generating plants described in Alternatives 2a or 2b would be similar to the permits discussed below for SQN's continued operation. Additional permits for construction of new plants would also be required. The construction and permitting period for Alternative 2a would be expected to be approximately 10 years or more, while the construction and permitting period for Alternative 2b would be expected to take approximately two – four years for construction after permits are obtained.

As part of the normal operation of SQN, permits are routinely maintained and monitored for applicability, and SQN's staff is committed to compliance with all applicable permits. Therefore, continued operation during the license renewal period would require SQN to maintain, renew, and update current permits (as required). The following permits are needed for operation of SQN:

- Operating license.
- NPDES permit.
- RCRA hazardous waste permit.
- General storm water permit.
- Air pollution control permits (for the emergency generators, generators, auxiliary boilers, insulation saw, cooling towers, and abrasive blasting).
- Annual asbestos permit, as needed.
- Solid waste disposal – construction/demolition waste landfill permit.
- Radioactive waste delivery license for Tennessee.

5.1. Overview of Required Permits/Approval

This section provides a brief background discussion and synopsis of the considerations involved for each type of permit. The permits described focus on the preferred alternative, license renewal, discussed in this SEIS. The equipment, processes, procedures, and programs that support SQN operations are already in place, having been completed under the various applicable permits and licenses, beginning with initial plant construction

approximately 30 years ago. Other than the renewal of the operating licenses issued by the NRC, no new permits or approvals are required.

The license renewal program would not require major new construction, alterations, or refurbishment to SQN to maintain consistency with the current licensing basis. An expansion of the ISFSI would be required but is expected to be of no significant impact and therefore, not considered as refurbishment. The actual expansion of the ISFSI would be handled as a separate project. Separate assessments and specific permits and construction activities for this expansion are not discussed in detail in this SEIS.

5.1.1. Operating License Renewal

5.1.1.1. Operating License Renewal Background

U.S. nuclear power plants are originally licensed to operate for 40 years. This term was specified by Congress in the Atomic Energy Act of 1954. The law was fashioned after the Communications Act of 1934, in which radio stations were licensed to operate for several years and allowed to renew their licenses as long as the stations continued to meet their charters. The Atomic Energy Act allowed for nuclear power plants to renew their licenses. Congress selected a 40-year term for nuclear power plant licenses because this period was a typical amortization period for an electric power plant. The 40-year license term was not based on safety, technical, or environmental factors. (NEI 2009) To allow for the license renewal process, the NRC published regulations (10 CFR Part 54) in December 1991 establishing the regulatory requirements governing the renewal of nuclear plant operating licenses. Since issuing the original license renewal rule (hereinafter referred to as the Rule), the NRC, following public involvement, amended the Rule in May 1995.

The NRC requires submission of several documents for license renewal (10 CFR Part 54). These documents identify the SSCs from SQN and their intended functions. Once an integrated plant assessment is done to identify applicable passive, long-lived structures and components or commodity groupings, an aging management review (AMR) is conducted. This review includes time-limited aging analyses (TLAAs). Exemptions to aging effects are also evaluated and their applicability to the analysis is justified.

5.1.1.2. License Renewal Documentation

There are certain regulatory requirements that must be satisfied in order to obtain a renewed operating license, which would allow continued operation of a nuclear power plant beyond its original license term. The license renewal application contains general technical information regarding technical specifications and environmental information, each of which is addressed below. The application must be filed no earlier than 20 years prior to the expiration of the operating license currently in effect.

General information required includes the plant site and the plant owner and operator. This includes administrative information similar to that filed with the original operating license application. The LRA must also include general information about conforming changes to the standard indemnity agreement required by the NRC regulations (10 CFR §140.92, Appendix B) to account for the expiration term of the proposed renewed license.

Technical information in the LRA includes the following:

- The integrated plant assessment (IPA), which demonstrates that the effects of aging on long-lived, passive structures and components are being adequately managed

such that the intended functions are maintained consistent with the current licensing basis (CLB) documents (Technical Specification, ODCM, etc.) in the renewal period.

- The listing of structures and components subject to the AMR and the results of the AMR analysis.
- The listing and evaluation of TLAAs and any exemptions in effect based on TLAAs.
- A supplement to the plant's UFSAR that contains a summary description of the programs and activities cited as managing the effects of aging and the evaluation of TLAAs.
- Changes to the CLB of the plant.

Information regarding technical specifications would include any changes or additions to the plant's technical specifications necessary to manage the effects of aging during the period of extended operation. The aging analysis and any potential recommended changes would ensure that SQN is capable of operating safely for the 20-year period beyond the current license expiration dates.

The LRA contains environmental information related to a supplement or a revision to the original environmental report that complies with the NRC requirements (10 CFR Part 51). This document contains environmental information required by the NRC from TVA and is used by the NRC to compose the SQN-specific supplement to the NRC-produced GEIS for license renewal of nuclear plants. The information comprising this document would use information from TVA's NEPA review (i.e., this SEIS). The supplemental SQN environmental report that will be produced for the LRA and this SEIS contain information from the NRC GEIS (NRC 1996). This NUREG-1437 is currently in draft revision and being reviewed by the public and the nuclear industry. Both the original NUREG-1437 and the draft NUREG-1437 are used where applicable in this SEIS.

5.1.2. NPDES Permit

In accordance with the CWA of 1977 and the Tennessee Water Quality Control Act of 1977, a permit was issued to regulate the discharge of various plant effluents into the Tennessee River. The permit specifies discharge limitations and monitoring requirements at each discharge point (DSN). The current permit was issued January 31, 2011 by TDEC; it became effective on March 1, 2011 and will expire on October 31, 2013. (TDEC 2011)

5.1.3. Resource Conservation and Recovery Act

SQN has a RCRA identification number (TN5640020504) that allows the facility to manage, store, and offer for transportation hazardous wastes. When hazardous wastes are produced at SQN, programs and procedures are in place to ensure compliance with RCRA. SQN would continue to retain this RCRA identification number during the period of license renewal. TVA also has a permitted RCRA storage facility at Muscle Shoals, Alabama, (AL2640090005) to handle all hazardous waste shipped from SQN and other TVA facilities. Details of the hazardous waste program are found in Section 3.14. Management of wastes is controlled by an SQN technical instruction (TVA 2008b).

5.1.4. General Storm Water Permit

SQN has a general storm water permit (TNR 050015) for managing storm water runoff collected at the site by various drainage features. This permit would be maintained for the period of license renewal.

5.1.5. Air Pollution Control Permits

SQN has permits to operate its two cooling towers, two insulation saws, two auxiliary boilers, the carpentry shop, one abrasive blaster, and its four emergency diesel generators and two other generators. These permits are issued under the Chattanooga-Hamilton County APCB; permits are for a period of five years and then must be renewed (renewal due July 2012).

5.1.6. Solid Waste Disposal Permit

TVA-SQN has an inert solid waste landfill permit (DML 331050021) for the landfill on the SQN site. The total permitted area of this landfill is approximately 18 acres. The landfill has not been used in the last 10 years, and there are no plans to use the landfill in the future.

This permit allows SQN to dispose of the following materials in its landfill: non-hazardous, non-radioactive solid wastes including scrap lumber, bricks, sandblast grit, crushed metal drums, glass, wiring, non-asbestos insulation, roofing materials, building siding, scrap metal, concrete with reinforcing steel, and similar construction and demolition wastes. Management of the landfill is controlled by an SQN technical instruction that includes an appendix with specific instructions for solid waste disposal. (TVA 2008b)

5.1.7. Tennessee Radioactive Waste Delivery License

The TDEC radioactive waste delivery license for shipment inside the State of Tennessee, T-TN002-L10, allows for the shipment of radioactive material from SQN to facilities within the state. SQN ships LLRW (Class A only) to the Oak Ridge, Tennessee, facility where it is processed, packaged, and shipped to a LLRW disposal facility such as the Energy Solutions facility at Clive, Utah. SQN does not normally ship directly to a disposal facility.