



Nuclear Licensing Services

Nuclear power is a major contributor to the U.S. supply of clean energy and must be a competitive segment of the near-term and future electricity market. Utilities are pursuing a number of options to increase electricity production from their existing nuclear assets and working to expand their future fleet, and Tetra Tech is helping clients successfully navigate the process.

Tetra Tech supports clients with engineering evaluations of technical issues, preparation of submittals to the U.S. Nuclear Regulatory Commission (NRC), and development and implementation of inspection and modification programs to support the expansion of power output by license uprates and renewals, and development of license applications for new facilities.

Tetra Tech's licensing staff are familiar with the NRC regulatory processes and understand the associated regulations and guidance. Tetra Tech has proven experience with both engineering and licensing support for new plant deployment projects including Applications for Early Site Permits (ESPs), Applications for Combined Operating Licenses (COLAs), and Design Certification (DC) Applications for reactor technologies.

Our licensing engineers have experience interfacing directly with the NRC; they have excellent oral and written communication skills, and have demonstrated their ability to organize and execute complex document submittals. Our detail oriented staff provides competent development and review of technical content and ensures regulatory requirements are met.

Regulatory Support

Tetra Tech provides a broad range of licensing services to commercial utilities. Tetra Tech staff

includes experienced Regulatory Affairs, Licensing, and Design Engineering Managers. With more than five decades of experience, Tetra Tech staff have long assisted utilities in addressing numerous regulatory challenges as well as providing backlog support and recommending improvements to day-to-day licensing processes for the management of licensing basis material.

New Build Services

Tetra Tech has extensive experience in advising reactor vendors on strategy and approach for licensing applications under 10 CFR Part 52 processes. Tetra Tech prepared the Tier 2 Chapter 15 DCD application and associated technical and topical reports for the Mitsubishi US-APWR reactor and provided technical support for Chapters 6, 11, and 12. Tetra Tech was consistently involved with the US-APWR DCD project from the pre-application phase in 2009 through the slow-down of the licensing review in March 2014. Tetra Tech also provided Third Party reviews and technical consulting support in the area of digital I&C during pre-application phase of the KEPCO APR-1400 reactor application.

DCD/COL Activities

- Accident analysis
- Engineered safety features
- Severe accidents
- Emergency operating guidelines
- Radioactive waste management
- Radiation protection and ALARA programs
- Instrumentation and controls
- Preparation of license application documents

Tetra Tech also provided Owner Engineer and Operational Readiness review services at URENCO USA, the first new nuclear facility built in the United States in more than 30 years.

Operating Plant Services

Tetra Tech staff have served key roles in helping clients respond to regulatory commitments, validate safety analysis reports (SARs), and assist with other licensing-basis-related efforts and issues. Our licensing staff have assisted utilities preparing license amendment requests for increasing operational power levels and for evaluating the impacts of uprated power conditions on plant systems, structures, and components (SSCs) and the surrounding environment. We also have extensive experience preparing comprehensive reports evaluating the environmental impacts of license renewal and new builds, and evaluating the aging mechanisms most likely to affect safety-related SSCs or important to safety SSCs.

In addition to preparing licensing submittals, Tetra Tech provides support throughout the NRC review, including support for audits and inspections, the preparation and review of responses to requests for additional information, and participation at mandatory hearings.

Licensing Basis/Compliance

- FSAR update and/or validation
- Licensing basis reconstitution
- Reportability evaluations
- 10 CFR 50.59 evaluations
- Technical support for emergent regulatory issues
- On-site component design basis inspection (CDBI) support

License Renewal /SLR

- Environmental Reports
- Regulatory program impact reviews (EQ / Fire / HELB)
- Electric cable insulation evaluation
- Condition monitoring and assessment
- Life extension strategies
- Electronic licensing basis improvements

Power Uprate

- Environmental Reports
- Regulatory program impact reviews (EQ / Fire / HELB)
- Thermal cycle / remaining life assessment

Plant Modifications

- License amendments
- Technical specification changes
- Regulatory submittals



Environmental-related Services

Tetra Tech assisted in the first license renewal application for Calvert Cliffs in 1998 and continues to demonstrate its leadership in the preparation and execution of 10 CFR 51 environmental documents for nuclear power plants pursuing renewal of or uprate amendments to their operating licenses. Examples of some specific areas of support include:

- Responding to NRC Regulatory Information Summary 2007-08
- Providing licensing expertise to support NRC and other external agency audit of the Fermi 3 COLA
- Preparing responses to Requests for Additional Information for the Fermi 3 and Comanche Peak COLAs
- Consulting services to prepare the Michigan DNR & USACE Joint Permit Application to support the Fermi 3 Environmental Impact Statement
- Preparing the Environmental Reports for nine new build projects including
 - Aquatic and terrestrial ecology field surveys
 - Thermal plume and cooling tower deposition studies
 - Socioeconomic analyses



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