

September 27, 2013

Mr. Daniel P. Stout, Senior Manager
SMR Technology
Tennessee Valley Authority
1101 Market Street LP 5A
Chattanooga, TN 37402-2801

SUBJECT: REVISED KEY ASSUMPTIONS FOR POSSIBLE LICENSING AND
CONSTRUCTION OF SMALL MODULAR REACTORS AT THE CLINCH RIVER
SITE

Dear Mr. Stout:

In a June 14, 2013, letter¹, the Tennessee Valley Authority (TVA) described revisions to key assumptions associated with the possible licensing and construction of small modular reactors (SMRs). TVA's letter was provided in response to a request² by the Nuclear Regulatory Commission (NRC) staff to reassess these assumptions in light of changes in the expected sequence of applications for certification of the mPower SMR design and a construction permit (CP) for the Clinch River site. In addition, the NRC staff held a public meeting on July 23, 2013³ to discuss TVA's plans for coordinating its application with the mPower design certification review. On the basis of TVA's June 14, 2013, letter, and discussions during the meeting, the NRC staff determined some additional clarifications would be beneficial.

NRC generally supports TVA's planned approach, which relies upon similarity between the CP application and the mPower design certification (DC) application, and expects there will be considerable synergy between the NRC staff reviews of these applications. TVA refers to its planned approach as "one design/one review."

The terminology "one design/one review" has been used to describe NRC's approach for new reactor licensing reviews being conducted in accordance with the regulations in 10 CFR 52. In current practice, NRC staff review conclusions for a reference combined license (RCOL) application are repeated for the reviews of subsequent combined license (SCOL) applications that reference the same certified design, to the extent that the content of the SCOL and RCOL applications is identical. In such cases, identical application content can lead to identical staff review and equivalent licensing products (i.e., combined licenses).

¹ "Tennessee Valley Authority (TVA) - Revision To The Key Assumptions Letter For The Possible Licensing And Construction Of Small Modular Reactor Modules At The Clinch River Site," Agencywide Documents Access and Management System (ADAMS) accession number ML13191B262.

² "Responses To Regulatory Issue Summary 2012-12 And Coordination Of U.S. Nuclear Regulatory Commission Review Of Planned Construction Permit And Design Certification Applications," April 9, 2013, ADAMS accession number ML13093A357.

³ "Summary Of July 23, 2013, Meeting Key Assumptions For The Clinch River Construction Permit Application And Coordination With Design Certification Application", August 22, 2013, ADAMS accession number ML13225A207.

This approach was described in Regulatory Issue Summary 2006-006⁴, setting a “goal of having “one issue, one review, one position” for multiple COL applications. While TVA’s approach is similar in many respects to the “one design/one review” scheme, there are important differences. TVA’s proposal differs from that model in that the content of the respective CP and DC applications will not be identical in all cases. Furthermore, the products of the respective application reviews (i.e., a construction permit and design certification issued in accordance with 10 CFR 50.35 and 10 CFR 52.54, respectively), if granted, are not identical and each requires different regulatory findings. Thus, in this case, the “one design/one review” concept is not completely applicable, as the submittals are not identical and associated licensing decisions are not equivalent.

To avoid confusion, the NRC staff does not plan to use the term “one design/one review” to characterize TVA’s licensing approach in the NRC’s documents, planning discussions, and briefings. Instead, NRC staff will describe the approach as a “closely-coordinated review.” The NRC staff believes this term is a more accurate characterization of the expected benefit to reviewing similar, if not identical, information in the two applications, and will conduct its planning accordingly.

To conduct this closely-coordinated review, it is essential to maintain consistency between the CP and DC applications. The NRC staff’s planning and review efforts are more complex if the submittals do not provide consistent content at nearly the same time.

In the July 23, 2013, meeting, TVA and its partner, Generation mPower (GmP), described how they plan to maintain consistency between the applications, stating that the initial CP application will be derived from the initial DC application. If a topic is addressed acceptably in the DC review, it should be found acceptable in the CP review, assuming an adequate level of information is provided with the CP application. However, there will often be differences in the content between the CP and DC applications, as described in the TVA and GmP presentation. These differences create the possibility that if the CP application provides less information on a topic than the DC application, additional information may be required to provide sufficient documentation to meet CP regulatory requirements, even if that topic is adequately addressed in the DC application. In addition, the regulatory standard for issuance of a construction permit (defined in 10 CFR 50.35) is different from the standard for issuing a design certification (defined in 10 CFR 52.54), so even if the application content is the same, there will be some distinctions in the NRC staff’s conclusions. It is also expected that changes to TVA’s CP application will lag behind revisions to the DC application, which could further complicate NRC’s schedule planning and coordination.

In reviewing TVA’s June 14, 2013, letter, the NRC staff has also identified areas where clarification of the scope and content of the planned construction permit and subsequent operating license reviews is needed. As an example, TVA claimed that NRC staff can “rely upon the earlier review performed by the staff as part of the DCA (design certification application) review.” The NRC staff is concerned that this statement could lead to misunderstanding and underestimation of the staff’s level of effort in reviewing the construction permit application. A further concern is how TVA plans to address topics consistent with

⁴ Regulatory Issue Summary 2006-06, “New Reactor Standardization Needed To Support The Design-Centered Licensing Review Approach,” May 31, 2006, ADAMS accession number ML053540251.

D. Stout

-3-

10 CFR Part 52 application content, but not presently required for 10 CFR Part 50 applications. The NRC staff expects to discuss these issues, along with approaches for maintaining consistency between the applications, in future meetings in preparation for receipt of your application in order to plan for an efficient and effective review.

Questions regarding this letter can be directed to the Clinch River pre-application project manager, Joseph Williams, who may be reached at (301)415-1470, or via email at joseph.williams@nrc.gov.

Sincerely,

/RA/

Michael E. Mayfield, Director
Division of Advanced Reactors and Rulemaking
Office of New Reactors

Project No. 0785

cc: Clinch River Mailing List

D. Stout

-3-

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cc: Clinch River Mailing List

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(Revised 08/01/2013)

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