



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

CNL-13-150

December 30, 2013

10 CFR Part 50

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Project Number 785

**SUBJECT: TENNESSEE VALLEY AUTHORITY (TVA)  
CLINCH RIVER PROJECT  
TVA VOLUNTARY RESPONSE TO RIS 2013-18**

- References:
- 1) NRC Regulatory Issue Summary 2013-18, Licensing Submittal Information and Design Development Activities for Small Modular Reactor Designs
  - 2) NRC letter to TVA dated September 27, 2013, Revised Key Assumptions for Possible Licensing and Construction of Small Modular Reactor Modules at the Clinch River Site
  - 3) TVA letter to NRC dated December 22, 2010, Addendum to the Key Assumptions Letter for the Possible Licensing and Construction of Small Modular Reactor Modules at the Clinch River Site

The purpose of this letter is to provide TVA's voluntary response to the NRC Regulatory Information Summary (RIS) 2013-18 (Reference 1). TVA is providing this information solely to assist the NRC in its planning and scheduling efforts.

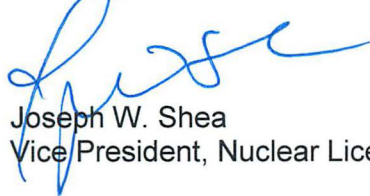
TVA plans to submit a Construction Permit Application (CPA) to the NRC for review in the second quarter of calendar year (CY) 2015. This submittal date is based on expected submittal to the NRC of the Design Certification Application (DCA) by Generation mPower in the third quarter of CY 2014. Development of the CPA is based in part on inputs from the DCA. TVA anticipates submitting a CPA for up to four mPower Small Modular Reactor (SMR) units at the Clinch River Site in Oak Ridge, Tennessee.

TVA and Generation mPower are working closely to coordinate and integrate plans and schedules. TVA has carefully reassessed the CPA development plans and schedules considering engineering requirements, design certification application development status, and other factors that may impact project development and schedule.

U.S. Nuclear Regulatory Commission  
Page 2  
December 30, 2013

TVA's voluntary response to this RIS is provided in Enclosure 1. If you have any questions, please contact Pete Gaillard in Chattanooga, Tennessee, at (423) 751-2088, or by email at [pcgaillard@tva.gov](mailto:pcgaillard@tva.gov).

Sincerely,



Joseph W. Shea  
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Enclosure

TVA Voluntary Response to NRC Regulatory Issue Summary 2013-18

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U.S. Nuclear Regulatory Commission  
Page 3  
December 30, 2013

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U.S. Nuclear Regulatory Commission  
Page 4  
December 30, 2013

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## **Enclosure 1**

### **TVA Voluntary Response to NRC Regulatory Issue Summary 2013-18**

On November 15, 2013, the U.S. Nuclear Regulatory Commission (NRC) issued NRC Regulatory Issue Summary (RIS) 2013-18, Licensing Submittal Information and Design Development Activities for Small Modular Reactor Designs (Reference 1). The RIS was issued "to obtain new or updated information on the scheduling of CP, ESP, COL, DC, DA, or ML application submissions related to SMR designs".

The following information is provided in response to RIS 2013-18. TVA and Generation mPower worked closely to coordinate our responses to RIS 2013-18. Only those questions for which TVA has direct responses are addressed in this enclosure. This response should be considered in light of any response provided by Generation mPower.

#### **Design and Licensing Submittal Information**

*When (month and year) are applications planned for design-related applications and what NRC action will be requested (i.e., a CP, DC, DA, or ML, or a COL that does not reference a DC or DA)?*

TVA intends to submit a Construction Permit Application (CPA) to the NRC for review in the second quarter of calendar year 2015. This submittal date is based on submittal to the NRC of the Design Certification Application (DCA) by Generation mPower in the third quarter of CY 2014. Development of the CPA is based, in part, on inputs from the DCA. TVA anticipates submitting a CPA for up to four mPower SMR units at the Clinch River site in Oak Ridge, Tennessee.

*Will the applicants be organized into DCWGs? If known, what is the membership of the DCWG, and which party is the primary point-of-contact designated for each DCWG?*

TVA expects that the Final Safety Analysis Report, which will be submitted as part of the Operating License Application, could serve as a template for a reference mPower COL applicant in the future. The TVA CPA, the Generation mPower Design Certification Application (DCA) and the Final Safety Analysis Report will be aligned to ensure the applications will be standardized and will provide the necessary coordination to achieve the desired design-centered licensing review approach. In addition, protocols are being developed to ensure that coordinated responses are provided for Requests for Additional Information (RAIs) that have generic applicability to the CPA and DCA. These protocols will also help maintain configuration management among the applications.

TVA participates with other utilities interested in mPower technology as a design center at least every six weeks. This DCWG provides feedback to Generation mPower at system design reviews and through licensing document reviews. TVA is committed to standardization and welcomes the feedback from other utilities to ensure that Generation mPower's design has broad utility appeal. As the initial licensee, TVA has responsibility and will serve as primary contact point.

*Have protocols been developed to provide coordinated responses for requests for additional information with generic applicability to a design center?*

As noted earlier, protocols are being developed to ensure that coordinated responses are provided for RAIs with generic applicability to the design center and to maintain configuration management among the applications.

*Which applicant that cites the design will be designated as the reference COL applicant, or, alternatively, how will various applications (e.g., CP, DC, or COL applications) be coordinated to achieve the desired design-centered licensing review approach?*

TVA's CPA is expected to be the lead site-specific license application for the standard Generation mPower design. In the NRC's response (Reference 2) to TVA's Addendum to the Key Assumptions Letter (Reference 3), the NRC described TVA's licensing approach as a "closely coordinated review." This describes the benefit of the NRC reviewing very similar information in the DCA and the CPA. TVA recognizes the importance of maintaining standardization of content and format between the DCA and TVA's CPA during the review process, and this closely coordinated review will achieve the desired design-centered licensing review approach.

The DCA and OLA will be coordinated to ensure that the standard design is changed to be consistent with changes during the construction phase, if any. This further demonstrates that TVA is fully committed to standardization while using the 10 CFR Part 50 process to pursue the license for the first plant.

*When (month and year) will CP, COL, or ESP applications be submitted for review? In addition, what are the design, site location, and number of units at each site?*

At this time, TVA intends to submit a CPA to the NRC for review in the second quarter of calendar year 2015. This submittal date is based on Generation mPower's anticipated submittal to the NRC of the DCA in the third quarter of CY 2014. Development of the CPA is based, in part, on inputs from the DCA. TVA anticipates submitting a CPA for up to four mPower SMR units at the Clinch River site in Oak Ridge, Tennessee.

At this time, TVA does not plan to submit a COL or an ESP for SMRs at its Clinch River Site.

*Are vendors or consultants assisting in the preparation of the application(s)? If so, please describe their roles and responsibilities for the design and licensing activities.*

The CPA is being developed by TVA with support from Generation mPower. TVA has also contracted with ENERCON to provide Emergency Planning services, Barge Waggoner Sumner & Cannon for flooding analysis, and with AECOM for support in the development of the Environmental Report and Environmental Impact Statement. Pro2Serve, EXCEL Services, and Burns & Roe are contracted to provide licensing support services.

### **Design, Testing, and Application Preparation**

*What is the applicant's status in the development and implementation of a quality assurance program?*

TVA-NQA-PLN89-A "Tennessee Valley Authority Nuclear Quality Assurance Program," is the governing Quality Assurance program for the Clinch River SMR. TVA is currently developing specific implementing procedures for the Clinch River SMR project.