From:	Marshall, Michael
To:	Helker, David P:(Constellation Nuclear); Golub, Pareez E
Cc:	Jain, Bhagwat
Subject:	Heads-Up: Additional Comments and Questions on Constellations March 31st Presentation (L-2020-LRM-0041)
Date:	Wednesday, March 30, 2022 9:45:00 AM

Hello Dave and Pareez,

For your awareness, the NRC staff plans on asking the following question during the March 31st meeting between the NRC and Constellation concerning the planned Limerick digital instrumentation and controls license amendment request.

5. On Slide 9, the HFE plan is listed as part of the submittal contents. However after reviewing Slides 32 to 34, it appears certain elements of the HFE plan will not be included in the submittal contents. Please describe the HFE plan or summary description of the HFE plan that will be included in the submittal (e.g., what is the level of detail that will be provided regarding the implementation plan for staff and qualification be available post submittal).

6. On Slide 18, a proposed license condition is listed under regulatory commitments. It is unclear whether Constellation plans to include in the planned license amendment request a proposed license condition or a regulatory commitment to produce a license condition at a later date. Does Constellation plans to include a proposed license condition in the planned license amendment request that will be submitted to the NRC in August 2022? If Constellation only plans to provide a regulatory commitment to develop a proposed license condition at a later date, when does Constellation plan to supplement the amendment request with the proposed license condition?

7. On Slide 32 to 34, it is stated that a number of human factor engineering elements and activities will be completed post license amendment request submittal. Please provide the dates that the following will be available:

    a. RSR for Staffing & Quals
    b. IP and RSR Treatment of Important Human Actions
    c. Development of initial Prototype HSIs and Control Room Layout
    d. Combined RSR for Impacts to Procedures and Impacts to Training
    e. Combined RSR for V&V for Task Support and Design verification
    f. HSI Static/Dynamic workshop results
    g. Detailed ISV Implementation Plan

8. The discussion of the proposed license condition on Slide 35 only contains a high level conceptual description without sufficient details of the proposed license condition or the proposed integrated system [validation] implementation plan that the proposed license condition would reference. More detail is needed to provide feedback on whether the proposed license condition is an appropriate alternative to providing the information needed to make a determination that the proposed change meet applicable requirements for Limerick.

    a. Please provide a draft of the proposed license condition, so the NRC staff

can provide specific feedback on whether the approach proposed by Constellation is an appropriate alternative to providing the information needed to make a determination that the proposed change meet applicable requirements.

b. Please describe the parts of the proposed integrated system [validation] implementation plan that Constellation plans to rely on to demonstrate that the applicable requirements are met. In the description please map the parts of the proposed integrated system [validation] implementation plan to the applicable requirement(s).

c. According to the table on Slide 34, the proposed integrated system [validation] implementation plan will not be included in the planned license amendment request. Please describe

   i. The level of detail that Constellation plans to describe the proposed integrated system [validation] implementation plan in the planned license amendment request
   ii. The level of detail of the specific performance measures and criteria for diagnostic evaluations will be described in the planned license amendment request

9. For Constellations planned use of the proposed license condition, the proposed license condition cannot postpone staff review activities needed to verify that the applicable requirements are met as part of a license amendment review to some future date (e.g., future audit or inspection). Please describe how the proposed license condition will ensure that the information that the NRC staff may rely on in making its decision (e.g., specific performance measures and criteria for diagnostic evaluations, identification of critical operator actions, test objectives, methods for obtaining performance measures) will be implemented in accordance with the information submitted via the license amendment request and as understood by the NRC staff in its safety evaluation.

10. The second bullet on Slide 8 refers to required information per DI&C-ISG-06 Enclosure B, Alternate Review Process. This enclosure should be used as a cross-reference or checklist for addressing the descriptive material identified in the body of ISG6. It is intended to be used in conjunction with the referenced sections of ISG6 provided in parentheses for each row. Therefore, the required information for inclusion in the LAR is much more than just what the Enclosure lists. The NRC expectation is that all information submittal requirements in referenced sections in ISG 6 must also be included in the LAR.

11. The second bullet on Slide 9 refers to an FMEA to support WCAP 18461 for surveillance elimination. The NRC notes that there are PSAIs in the SE for this WCAP as well. The NRC staff therefore expects that information to address each of these PSAIs will be included in the LAR.

12. The sixth bullet on slide 9 identifies a CIM Diversity analysis as being included in the LAR submittal. The D3 analysis has a section on CIM diversity (Section

2.2.1). Is this duplicating information that is already in the D3 analysis or is it adding something else?

13. Slide 11 lists documents that will be complete and available for audit at the time of LAR submittal. These specific documents are not specifically called for in ISG6 however, the ISG does provide guidance on information to be provided in the LAR which may be contained in some of these documents. The following guidance is derived from ISG 6 in sections identified:

PPS Software Development Plan

D.4.1 “Information To Be Provided” This framework should supplement the licensee’s overall QA program descriptions with specific system, hardware, and software development activities, including a description of the proposed development life cycles, development documents to be produced, and management activities that will be implemented in the design and development of DI&C safety-related systems.

D.4.1 The NRC staff should verify that the licensee has identified those development activities addressed as part of the development process defined for an NRC-approved topical report and those activities that are part of the application-specific software development process.

Digital Modernization Project Configuration Management Plan

D.2.5.1 “Information To Be Provided” The LAR should describe and justify the use of redundancy in interfaces internal to a division for satisfying existing reliability goals or otherwise meeting or exceeding the reliability of the existing system.

PPS Reliability Analysis

D.2.5.1 “Information To Be Provided” The LAR should describe and justify the use of redundancy in interfaces internal to a division for satisfying existing reliability goals or otherwise meeting or exceeding the reliability of the existing system.

PPS Response Time Analysis

D.2.3.1 1.e. “Information To Be Provided” performance, including accuracy and response times (where appropriate, performance requirements are defined for different initial plant conditions and design-basis events).

D.2.4.1 “Information To Be Provided” The LAR should demonstrate how the range of response times in the new design falls within the range of response times credited in the accident analysis for the applicable modes of replacement system operation.

PPS Preliminary Software Hazard Analysis

D.4.1 1.h. “Information To Be Provided” Analyze hazards and incorporate requirements that eliminate or mitigate identified hazards throughout the development process.

Control & Information System Engineering System Quality Assurance Plan

C.2.2 2b. “Licensee Prerequisites for the Alternate Review Process“ The extent to which the vendor of the NRC-approved topical report, or a supplier with an approved 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities,” Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” quality assurance (QA) program, commits to performing detailed software design, implementation, and testing in accordance with the approved topical report.

Questions number 1 to 4 for the March 31st meeting were sent to Constellation in a separate email dated March 28, 2022. This list is not a complete list of questions that the NRC staff will have on the information contained in the March 31st presentation. The NRC staff will ask additional questions and will make additional comments during the March 31st meeting.

Best Regards,
Michael L. Marshall, Jr.
Senior Project Manager

Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

301-415-2871