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MEMORANDUM TO: Dennis C. Morey, Chief
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

FROM: J. Andrew Proffitt, Project Manager */RA/*
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SUBJECT: SUMMARY OF DECEMBER 6, 2018, OPEN PUBLIC MEETING
ON THE PATH FORWARD ON FUEL BURNUP EXTENSION

On December 8, 2018, the U.S. Nuclear Regulatory Commission (NRC) staff held an Open public meeting as part of an Electric Power Research Institute (EPRI) Fuel Reliability Program Enrichment and Burnup Extension Workshop in Charlotte, NC to discuss the path forward on fuel burnup extension. External attendees included representatives of Electric Power Research Institute (EPRI), fuel vendors, nuclear power plant operators, the Nuclear Energy Institute, the U.S. Department of Energy, and others also participated on the phone. The staff's presentation can be found at Agencywide Documents Access and Management System (ADAMS) Accession No. ML18338A480.

Paul Clifford, Senior Technical Advisor for Reactor Fuel of the Division of Safety Systems in the Office of Nuclear Reactor Regulation presented the staff's perspective on the path forward on fuel burnup extension. The presentation covered past operating experience and lessons learned, current updates to the regulations and guidance that are underway related to this operating experience, potential barrier to the extension of the current fuel burnup limits, legacy fuel performance issues, and a proposed path forward and approach.

The staff's proposed approach, considered a starting point for the conversation with stakeholders on a viable path forward, included an industry agreement on a burnup limit, each fuel vendor developing a single topical report to address burnup extension with the potential of separate topical report supplements to address legacy issues, each licensee submitting a license amendment request for extended burnup addressing all impacts on their licensing basis, and NRC granting a conditional approval requiring periodic self-assessment and reporting, as necessary, to address gaps and uncertainty in the empirical database.

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Discussion following the presentation included acknowledgement by the fuel vendors that legacy issues need to continue to be addressed and are a pre-requisite to plants extending fuel burnup limits. A proposed approach by vendors to proceed in a step-wise fashion of extending burnup for fuel assemblies that operate at lower power first followed by extension of the limits for all fuel assemblies. This approach would allow for extension of the limit without the need to address the dispersal of fuel due to fragmentation at higher burnups as the rods in lower power assemblies are not anticipated to perforate under loss of coolant accident conditions. Vendors also expressed concern with the notion of a single, agreed upon value for the extended burnup limit. This is due to the potential for a technical justification that the use of a more advanced fuel pellet or cladding alloys should allow a vendor to seek a higher value for the limit.

There were no questions or comments from the phone line.

All attendees appreciated the staff perspective provided at the meeting and believe that it is a good starting point to continue the discussion on the approach for extending the burnup limit.

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