Key Issues and Motivation for Higher BWR Burnups

NRC Category 2 Meeting

Bill Gassmann

February 2, 2021

Exelon Generation®

Motivation

- Enhancements to fuel safety and economics are critical to the nuclear industry
- Evolutionary changes to fuel designs and materials have enabled increases in discharge burnups and uranium-235 enrichments over the past several decades
- GNF, Southern Nuclear, and Exelon Nuclear are working to realize higher BWR fuel burnup limits with a corresponding increase in enrichment limits above 5%
- Advanced fuel designs such as Accident Tolerant Fuel (ATF) will likely enable further burnup and enrichment limit increases
- Overall impact of this process will be an improvement in both safety and economics

Motivation

- Higher burnup (HBU) and increased enrichment (IE) are not ATF technologies, but are considered key components of the ATF program and can accelerate ATF commercialization
- ATF, including HBU and IE, has a high priority for the NRC and the industry
- We appreciate the continued NRC staff engagement on these topics as these plans evolve

Issues

- Southern Nuclear and Exelon Nuclear support the GNF initiative to implement a Risk-Informed Performance-Based approach to HBU, ATF, and IE fuel and reload licensing
  - Focus should be placed on licensing and regulatory issues commensurate with their importance to public health and safety
  - Seek the best balance between safety, performance and uncertainty
  - An increase in the licensed BWR HBU limit, along with ATF and IE, lends itself to a Risk-Informed approach as GNF will present

End of Open Meeting