

# **NRC Subsequent Pre-Submittal Meeting Next Generation Fuel Palo Verde Units 1, 2, and 3**

March 24, 2016



# APS/Westinghouse Attendees

- Thomas Weber – Department Leader, Regulatory Affairs, APS
- Michael DiLorenzo – Section Leader, Regulatory Affairs, APS
- Robert Hicks – Sr. Engineer, Transient Analysis, APS
- Thomas Zalewski – Project Manager, Westinghouse



# Agenda

- Introduction
- Proposed Action to Address IN 2012-09, *Irradiation Effects on Fuel Assembly Spacer Grid Crush Strength*
- Proposed Application of Thermal Conductivity Degradation Penalties
- Use of VIPRE-W in Thermal Hydraulic Analysis
- NGF License Amendment Request Submittal Timeline



# Introduction

- Follow-up Public Meeting for CE16NGF
  - Approved in WCAP 16500-P-A (Rev 0 and Supplement 1)
  - Successful Lead Assembly Program
  - Spent Fuel Pool Criticality LAR
  - COLR Methodologies
  - Technical Specification DNBR Limit
- WCAP-16500 Supplement 2
  - Three Minor Design Changes to Spacer Grids
  - IN 2012-09

# Action to Address IN 2012-09

- APS is proposing the following license condition to address IN 2012-09:

APS will incorporate guidance into the current licensing basis regarding fuel assembly integrity under externally applied forces as described in IN 2012-09 within 2 cycles following Mode 4 entry with the first NGF transition core. APS will notify the NRC when this action is completed.

# Thermal Conductivity Degradation (TCD)

- PVNGS is planning to apply a penalty to the bounding radial fall off curve
- PVNGS is planning to apply the same FATES TCD related penalty approved for St. Lucie and Waterford-3



# Use of VIPRE-W in Thermal Hydraulic (T-H) Analysis

- VIPRE-W is an NRC approved T-H code
- First time application for CE 16x16 fleet requires a 2-stage VIPRE-W
- PVNGS will provide additional detail on the implementation of 2-stage VIPRE-W in the LAR

# Submittal Timeline

- Planned submittal by June 30, 2016
  - Requires NRC approval of WCAP-16500 Supplement 2
- APS is requesting acceptance review within two months
- APS is requesting approval of the amendment within 12-18 months of submittal
- This timeline supports the planned first use of NGF in Fall 2018





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