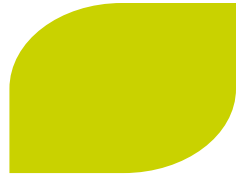


Non-Proprietary Version



**AREVA TN**

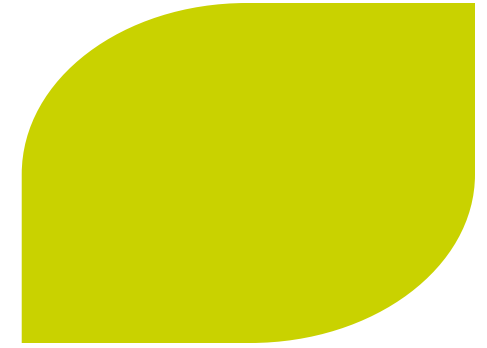
**CoC 9302 - MP197HB License Revision Pre-Application Meeting – AREVA TN – March 16th 2016 - p.1**



# CoC 9302 MP197HB Transport Cask Pre-Application Meeting

AREVA TN  
Design Engineering & Licensing Team  
NRC, Rockville, MD

AREVA TN

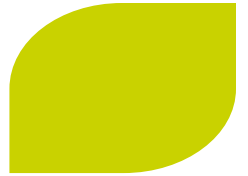


# CoC 9302 R9 Agenda



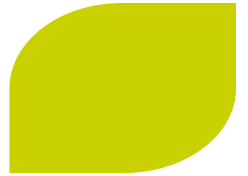
- ▶ **Background**
- ▶ **Licensing Approach – Non-Proprietary Overview**
- ▶ **Questions (Non-Proprietary)**
- ▶ **Licensing Approach – Proprietary (Open Discussion)**

# Background



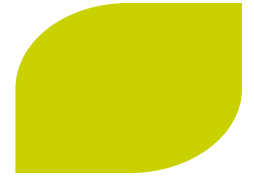
- ▶ **The current revision of CoC 9302 for the MP197HB transport cask is Revision 7**
- ▶ **An application for Revision 8 of CoC 9302 is planned for submitted in the 3<sup>rd</sup> quarter of 2016 for a scope not related to today's meeting.**
- ▶ **Associated with today's meeting, AREVA TN plans to subsequently submit an application for Revision 9 to CoC 9302, involving the NUHOMS<sup>®</sup>-32PTH1 DSC:**
  - **All changes applicable to 32PTH1 DSC only**
  - **Allow Poison Rods Assembly for criticality control in addition to burnup credit**

# Licensing Approach Non-Proprietary Overview



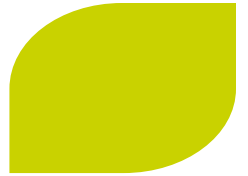
- ▶ **Considers what has been done in the SAR analysis supporting Rev. 7 of CoC 9302 including:**
  - 10 CFR 71.55, general requirement for fissile material packages
  - 10 CFR 71.59, standards for arrays of fissile material packages
- ▶ **Considers NRC Interim Staff Guidance 8 Revision 3 (Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks)**
- ▶ **Considers NRC RIS 2015-xx (Considerations in Licensing High Burnup Spent Fuel in Dry Storage and Transportation)**

# Criticality



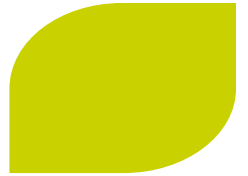
- ▶ **NUHOMS<sup>®</sup>-32PTH1 designed to transport up to 32 intact or reconstituted PWR fuel assemblies, with or without control components, or up to 16 damaged fuel assemblies with the remaining fuel intact**
- ▶ **Loading curves for intact and damaged fuel determined in burnup credit analysis → Initial enrichment, burnup, cooling time as function of neutron absorber type requirements**
- ▶ **Additionally, full reconfiguration and defense-in-depth analysis for high burnup fuel**
- ▶ **Criticality evaluation meets 10 CFR 71.55 and 10 CFR 71.59 requirements, ISG-08 rev.3 and NRC RIS 2015-xx**

# Power Plant Need



- ▶ **A Client Nuclear Power Plant is to be decommissioned:**
  - Significant numbers of underburned fuel assemblies due to plant shutdown (Example: 4.4 wt% U-235 FA at 18 GWd/MTU)
  - Existing analysis and loading curves in CoC 9302 for MP197HB transport cask rev. 7 do not allow such underburned FAs
- ▶ **Revision of CoC 9302 to allow Poison Rods Assembly for criticality control in addition to burnup credit**

# CoC 9302 Rev.9 – 32PTH1– Criticality



- ▶ **Poison Rods Assembly for criticality control in addition to burnup credit**
  - **Poison Rods type: Ag-In-Cd alloy rods employed as PWR Control Rods**
  - **Control Rods worth analysis**
  - **Application in criticality analysis**



# Questions (Non-Proprietary)

