

***AMENDMENT No. 1
to C of C 1029
to INCLUDE the
24PT4-DSC***

***Transnuclear - NRC Meeting
8/20/03***

Purpose

- ▶ ***Present an overview of Amendment 1 to C of C 1029***
- ▶ ***Discuss NRC staff questions***

Meeting Agenda

- ▶ ***Status of Advanced NUHOMS® System Applications***
- ▶ ***New Payload for Advanced NUHOMS® System***
- ▶ ***Differences Between 24PT1-DSC and 24PT4-DSC***
- ▶ ***Analyses Methodologies Used***
- ▶ ***Summary of 24PT4-DSC Amendments***

Status of Advanced NUHOMS® System Application - Storage

- ▶ ***10CFR72, General License (C of C 1029),
AHSM and 24PT1-DSC:***
 - ◆ ***C of C issued effective February 5, 2003***
- ▶ ***FSAR Revision 0 submitted to NRC on
3/19/03***
- ▶ ***Amendment to C of C 1029 for 24PT4-DSC
submitted to NRC for Review and Approval
4/30/03***

Status of Advanced NUHOMS® System Application - Transportation

- ▶ ***10CFR71, MP187 cask with 24PT1-DSC
payload (C of C 9255)***

- ◆ ***C of C Revision 6 issued 11/16/01, incorporating
the 24PT1-DSC payload***

- ▶ ***Current C of C expires on 9/10/03***

- ◆ ***Consolidated SAR and License Renewal
Application Submitted to NRC 8/6/03***

Status of Advanced NUHOMS® System Application - Transportation (cont.)

► *Transportation License for 24PT4-DSC*

- ◆ *New payload for MP197 cask, C of C 9302***
- ◆ *Amendment to C of C 9302 to be submitted by
1st Quarter, 2004 (after RAI responses to C of C
1029 Part 72 amendment are submitted)***

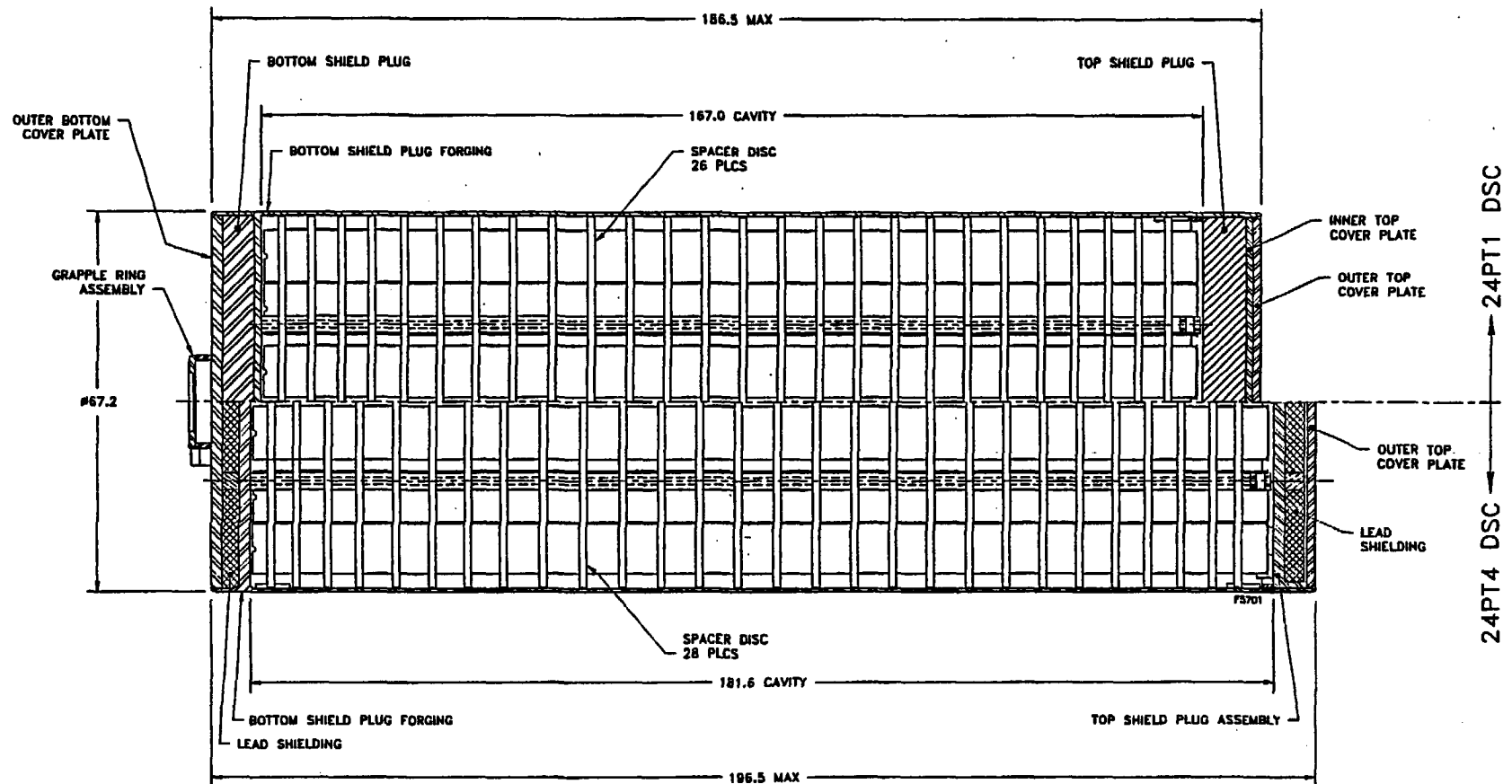
New Payload for Advanced NUHOMS® System

- ▶ ***New 24PT4-DSC to accommodate
CE 16 x 16 fuel***
- ▶ ***Same AHSM, OS197 on-site transfer cask
and support equipment design
accommodates 24PT4-DSC***

Differences Between 24PT1-DSC and 24PT4-DSC

Parameter		24PT1-DSC	24PT4-DSC
Payload	Fuel Type	WE 14 x 14 (UO ₂)	WE 14 x 14 (MOX)
	Cladding Material	Stainless Steel	Zircaloy-4
	Maximum Enrichment	4.05 weight % U ²³⁵	3.31 weight % fissile Pu
	Maximum Heat Load per DSC	14 kW	13.706 kW
	Maximum Fuel Burnup	45 GWd/MTU	25 GWd/MTU
	Maximum Number of Damaged Fuel Assemblies	4	1
Length		186.5"	196.5"
Number of Spacer Discs		26	28
Fuel Spacers Required		Yes	No
Shield Plugs		Carbon Steel (Electroless Nickel Coated)	Lead (Stainless Steel Encased)
Spacer Disc Material		SA-537, Cl. 2; Carbon Steel (Electroless Nickel Coated)	SA-533, Gr. B, Cl. 1 (Code Case N-499-1); Carbon Steel (Electroless Nickel Coated)
Neutron Absorber Boron Loading		.025 g/cm ² B10	0.025 g/cm ² B10 & 0.068 g/cm ² B10; poison rods

Comparison of 24PT1 DSC vs. 24PT4 DSC



Analysis Methodology - Structural

- ▶ ***Same methodology for structural analysis as 24PT1-DSC***
- ▶ ***No impact on AHSM or transfer cask structural analyses, including seismic analysis***

Analysis Methodology - Criticality

- ▶ ***Same methodology for criticality analysis as 24PT1-DSC, addressing the following items identified in the C of C 1029 SER:***
 - ◆ ***Bounding cladding thickness used in all criticality analyses***
 - ◆ ***Poison plates explicitly modeled***

Analysis Methodology - Shielding

► ***Addressed the following items identified in the C of C 1029 SER:***

- ◆ ***3-D shielding analysis used for calculating AHSM, transfer cask and offsite dose rates***
- ◆ ***Analysis performed using MCNP code***
- ◆ ***MCNP 3-D analysis/methodology used to model a loaded NUHOMS® System and validated against measured data for the same system***

Analysis Methodology - Thermal

- ▶ ***No new analysis for AHSM / OS197 cask thermal analyses, 24 kW DSC used***
- ▶ ***Addressed the following items identified in the C of C 1029 SER:***
 - ◆ ***Analysis methodology validated against test data and alternate confirmatory analysis***
 - ◆ ***24PT4-DSC thermal analysis uses ANSYS code, 3-D model***

Analysis Methodology - Thermal (cont.)

- ◆ ***Uses ISG 11, Rev. 2 acceptance criteria for peak fuel cladding temperatures***

Summary of 24PT4-DSC Amendments

- ▶ ***24PT4-DSC to accommodate CE 16 x 16 fuel payload***
- ▶ ***3-D shielding analysis used and validated against measured data***
- ▶ ***SAR thermal analysis methodology validated against test data***
- ▶ ***Additionally, SAR thermal analysis methodology validated by alternate confirmatory analysis***

24PT4-DSC Amendments Schedule

- ▶ ***Amendment to C of C 1029 submitted 4/30/03***
- ▶ ***RAIs scheduled to be issued to TN by 10/29/03***
- ▶ ***TN scheduled to respond to RAIs by 12/24/03***
- ▶ ***Preliminary C of C and SER scheduled to be issued by 4/19/04***
- ▶ ***Final C of C 1029 amendment approval anticipated by 9/04***
- ▶ ***Amendment to C of C 9302 to be submitted by 1st Quarter, 2004 (to allow incorporation of any changes from Part 72 RAIs)***
- ▶ ***C of C 9302 amendment approval anticipated by 9/04***