TN 32PT RAI RESPONSE

August 1, 2002

TRANSNUCLEAR

PURPOSE OF MEETING

> Review RAI response with NRC staff

> Identify and resolve differences between

- TN 32PT DSC basket thermal model and results
- NRC confirmatory analysis model and results

RAI BACKGROUND

> Transnuclear's Simplified Model used isotropic material properties to represent the aluminum, poison plates and associated helium-filled gaps, and XM-19 stainless steel and associated helium-filled gaps

> In the RAI, the NRC staff questioned this modeling approach

ACCOMPLISHMENTS

> In response to the RAI, TN has completed the following

- Developed Detailed Model to address the isotropic property question
- The Detailed Model explicitly includes
  - XM-19 basket structure
  - Helium-filled gaps
  - Aluminum plates
  - Poison plates
- Evaluated the thermal case with the minimum margin on peak clad temperature
- Compared the Simplified Model to the Detailed Model

SIMPLIFIED vs. DETAILED MODEL RESULTS

Maximum Temperature (°F)

70° Storage Case	*Peak Clad*	*Aluminum*	*XM-19*	*Rail*
> Simplified Model	613	597	597	369
> Detailed Model	611	596	596	367

Note: Allowable peak clad temperature limit is 615°F for this case.

CONCLUSIONS

> The Simplified Model predicts slightly higher temperatures than the Detailed Model

> The Detailed Model results demonstrate reasonable assurance that the 32PT DSC can store spent fuel with a total heat load of 24 kW as specified in the amendment application