Update on Transportation of TN-40 Dry Storage Cask Application

April 19, 2006
Presentation to NRC

Attachment 2

Purpose

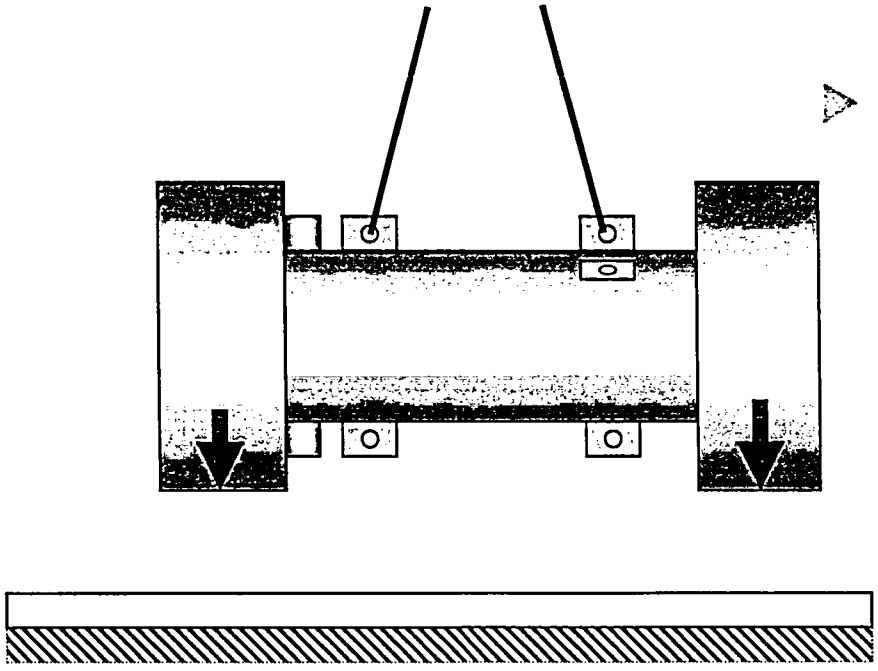
- *Update From the 1/15/2004 Meeting*
- *Discuss Burnup Credit/Moderator Exclusion Approach for Criticality Analysis (Proprietary Session)*
- *Discussion*

1/3 Scale Impact Limiter Testing

TN-40 Drop Test Plan

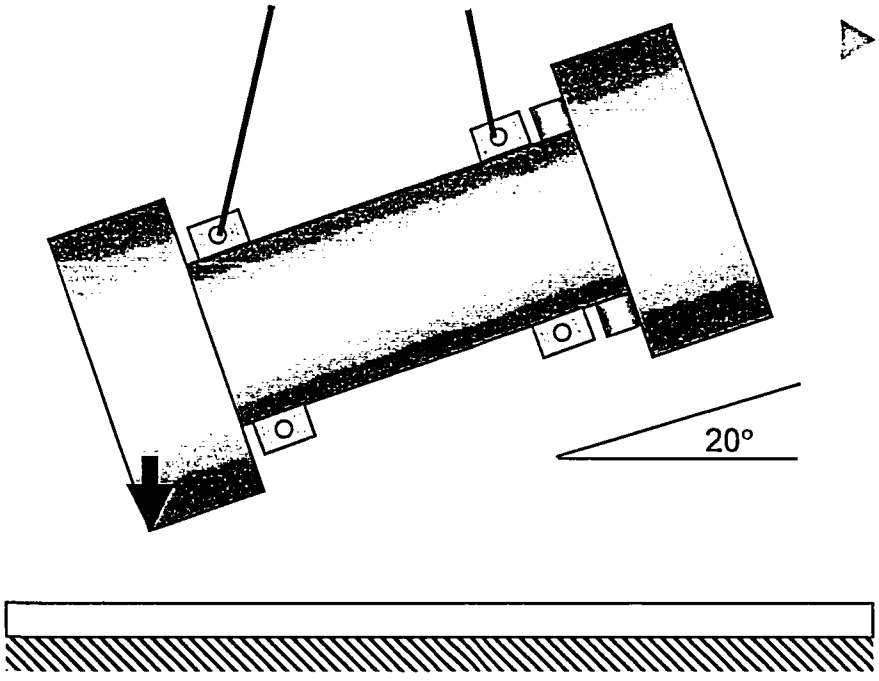
- *Test Description*
  - *1/3 scale impact limiters and dummy cask*
  - *Three 30' drops and one 40" drop on pin*
  - *Accelerometers on dummy cask*
- *Test Goals*
  - *Validation of calculated acceleration values*
  - *Demonstrate that the crush depths are acceptable (limiter does not bottom out)*
  - *Demonstrate the adequacy of the impact limiter enclosure and attachment design*
  - *Evaluate the effects of low temperature (-20°F) on dynamic performance of the impact limiters*
  - *Evaluate the effects (puncture depth and shell damage) of a 40 inch drop onto a scaled six inch diameter puncture bar on a previously crushed impact limiter*

Drop #1



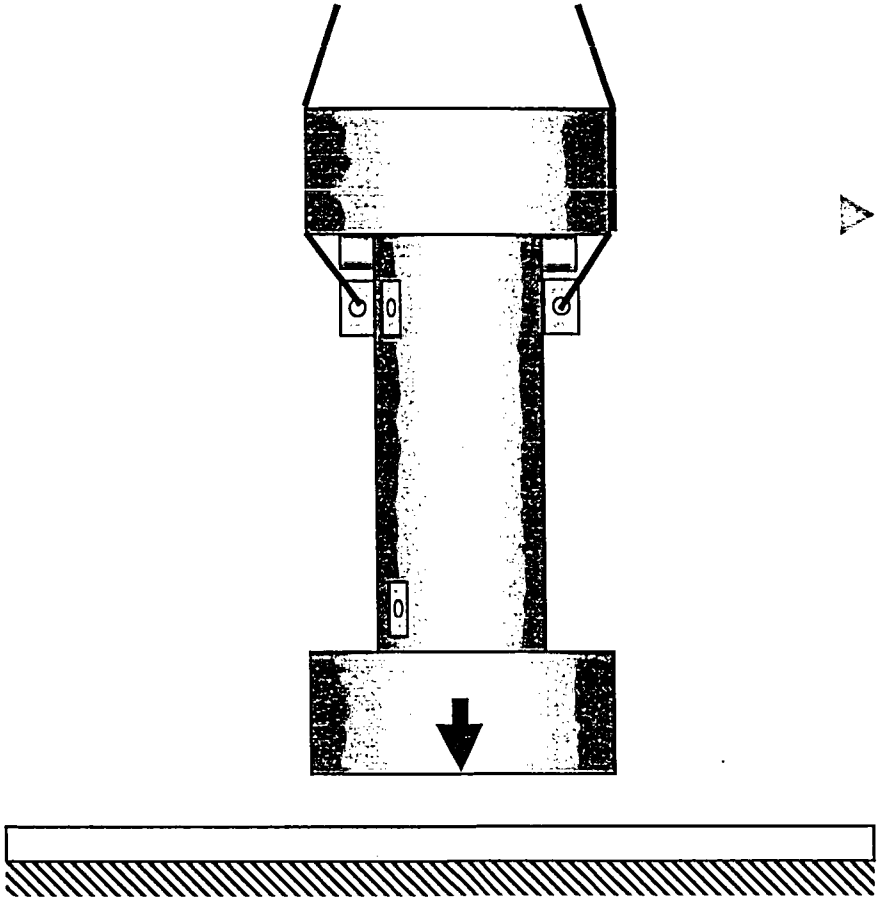
- **Side Drop**
  - *This orientation generates the highest transverse acceleration as well as significant deformation*

Drop #2



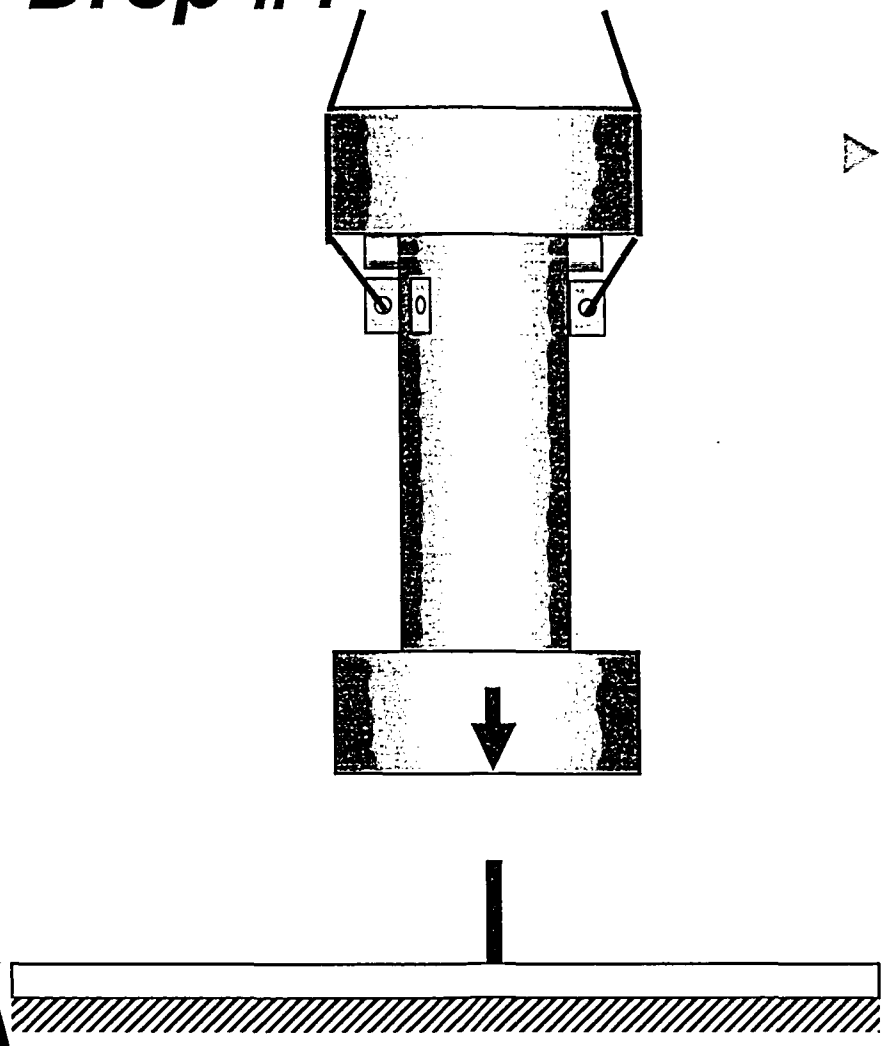
- *Slap down*
  - *This orientation puts the highest load on the impact limiter attachment bolts, tie rods, and stainless steel shell*

Drop #3



- End Drop
  - Low Temperature
    - Bottom limiter chilled to -20° F
    - Chilled limiter used is from drop #2
    - This orientation causes the highest axial acceleration

Drop #4



- Pin Drop
  - 40" drop onto 2" diameter pin
  - Puncture of limiter through crushed area from previous end drop
  - This orientation was chosen because it assures that the puncture impact absorbs 100% of the drop energy