

# SNL Contract Tasks

E/118

- Task 1 Plane Impacts on Storage Casks and Transport Packages

- Task 1.1 ( ) Impacting HI-STORM Cask <sup>Ex 2</sup> CTH ZAPOTECH (under developer)
- Task 1.2 Small Plane Impacting HI-STORM
- Task 1.3 Simplified ( ) Model for NRC Use <sup>Ex 2</sup>
- Task 1.4 ( ) Impacting NAC-UMS <sup>Ex 2</sup>
- Task 1.5 Small Plane Impacting NAC-UMS
- Task 1.6 Small Plane Impacting Non-spent Fuel Packages

Portion's Ex 2

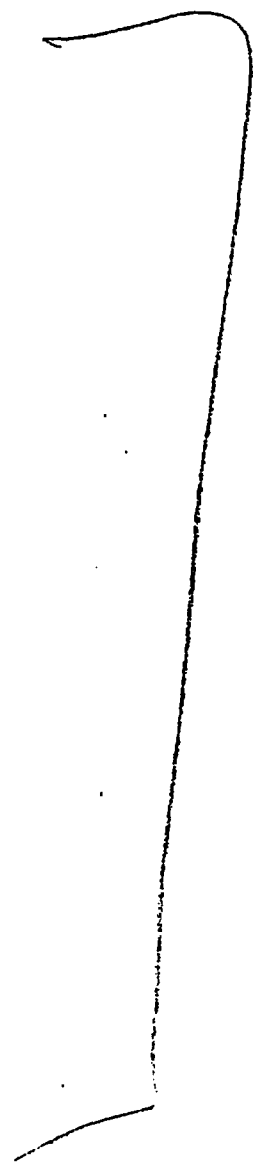
1.1 b

1.1. c Thermal

# SNL Contract Progress

- *Ex2* Evaluation
  - Structural
    - Codes - *CTH (2nd/3rd) - vendor development*
    - Speed
    - HI-Storm
      - Angles of impact
      - Models
    - NAC UMS
      - Just starting
      - Models

*Ex2*



# SNL Contract Progress

Ex 2

## Evaluation

### – Thermal

- Flame Temperature
- Jet Fuel Burn Rate
- Pool Depth
- Fire Duration
- Fully Engulfing
- Partially Engulfing

# SNL Contract Progress

- <sup>Ex2</sup> Evaluation
- Radiological/Dispersion

- Melcor

- Heat Transport
- Zirconium Oxidation
  - » Fission Product Release
  - » Added Heat Source

- MAACs + Hospital - all use distance @ minimums of 500 meters

- MACCS2\_Mills
- Benchmarked to actual fires

1.1	B.		PRONTO (Lagrangian Code)
1.1	C.		PRONTO
1.2	Database of the small planes prepared.	N/A	The database appears to be complete.

Ex2

Ex2

Ex2

annully

**OTHER ISSUES:**

1. Verify that the Computer codes PRONTO and CTH are validated for the present application.
2. SANDIA needs to determine the best estimate behavior and the potential variation in results.
3. Effect of the aircraft impact on the fuel tank and the extent of the fuel which may cause fire.

**SUMMARY:**

Based on the

the HI-STORM MPC

Ex2

# SNL Contract Progress

- Small Plane Analyses

- Plane

- Speed

-  Ex2