November 1999

Complete release of volatile isotopes

3.5 cores

Prompt fatalities with early evacuation < 1

~~March 2000~~

March 2000

With ruthenium

Prompt fatalities with early evacuation < 1

Prompt fatalities with late evacuation increases one to two orders of magnitude

9 to 134 uniform population density

1 to 95 Surry density

Long term within 100 miles & 500 miles

Societal Dose: no increase to factor of 2

Cancer fatalities: no increase to factor of 4

Overall modest increase

1 core / late evacuation

Boil off / slow drain down / no ruthenium = No prompt

Rapid drain down & air ingession (significant ruthenium release = 50% reduction in prompt

Long term consequences regardless of ruthenium reduced consequences by only modest 20→40%

9/107

November Base Case
Evacuation 1.4 hrs after release

March Base Case changed to evacuation 3 hours before release