

**From:** Jason Schaperow *RE+*  
**To:** Glenn Kelly  
**Date:** Fri, Apr 21, 2000 4:44 PM  
**Subject:** Evacuation Sensitivity

Please see attached note.

**CC:** Charles Tinkler, Farouk Eltawila, Mark Rubin, R...

*I-116*

April 21, 2000

To: Glenn Kelly, NRR  
 From: Jason Schaperow, RES

The first table below shows the MACCS results presented at the April 5, 2000, ACRS meeting. These results are based on evacuation of 99.5% of the people from the 10-mile Emergency Planning Zone. The 99.5% number is a best estimate from the NUREG-1150 study. You requested sensitivity calculations using an evacuation of 95% of the people. The second table below shows the MACCS results for this sensitivity. This sensitivity shows that the early fatalities increase by a factor of 10 for the scenario involving evacuation before release.

Mean Consequences for Surry Population Density (within 10 miles, 1 out of 200 people do not evacuate)					
Case	Decay Time Prior to Accident	Distance (miles)	Early Fatalities	Societal Dose (person-rem)	Cancer Fatalities
Base	1 year	0-100	1.01	4.54x10 <sup>6</sup>	2,320
11	1 year (100% ruthenium release)	0-100	95.3	9.53x10 <sup>6</sup>	9,150
14	1 year (100% ruthenium release) <sup>1</sup>	0-100	.132	6.75x10 <sup>6</sup>	6,300

<sup>1</sup>Based on evacuation before release.

Mean Consequences for Surry Population Density (within 10 miles, 1 out of 20 people do not evacuate)					
Case	Decay Time Prior to Accident	Distance (miles)	Early Fatalities	Societal Dose (person-rem)	Cancer Fatalities
1	1 year	0-100	1.01	4.54x10 <sup>6</sup>	2,320
45	1 year (100% ruthenium release)	0-100	92.2	9.50x10 <sup>6</sup>	9,150
46	1 year (100% ruthenium release) <sup>1</sup>	0-100	1.32	6.84x10 <sup>6</sup>	6,430

<sup>1</sup>Based on evacuation before release.