

**From:** Jason Schaperow *RES*  
**To:** Steven Arndt  
**Date:** Tue, Jul 18, 2000 10:19 AM  
**Subject:** MACCS Analysis for Spent Fuel Pool Accidents

I recommend we send the following e-mail message to Mark Rubin and Bob Palla (cc: George Hubbard):

Yesterday, you requested (1) the individual risk of an early fatality within one mile and (2) the individual risk of a cancer fatality within ten miles. We checked the MACCS code manual. These individual risk results are available under the MACCS output variable TYPE8OUT. This variable gives the population-weighted risk as described on page 6-54 of the MACCS2 code manual. In the earlier runs we made, this variable was set to give the results you requested. For the early fatality risk, this variable was set for 0 to 2.1 km (.52 km Exclusion Area Boundary). For the cancer fatality risk, this variable was set for 0 to 16.1 km. The following are the results you requested:

Case 45a early fatality risk 3.66E-2 ✓  
Case 45a cancer fatality risk 5.16E-2 ✓

Case 45b early fatality risk 3.23E-2 ✓  
Case 45b cancer fatality risk 4.98E-2 ✓

Case 46b early fatality risk 1.40E-3 ✓  
Case 46b cancer fatality risk 2.55E-3 ✓

Yesterday, you indicated a possible need for results with a different reactor power than that used in the earlier runs. (The reactor power is a multiplier on the fission product inventory in the spent fuel.) Because the early fatality risk and cancer fatality risk models are non-linear, the easiest way to get results for a different reactor power is to rerun the code.

We intend to provide a final version of Appendix 4A by Tuesday, July 18. This final version will include the above early fatality risk and cancer fatality risk numbers.

**CC:** Charles Tinkler, John Flack

*I-91*