NUREG/CR-4949
BMI-2153
R3, RV

Source Term Calculations for Assessing Radiation Dose to Equipment

NUREG/CR--4949
TI89 017823

Manuscript Completed: May 1987
Date Published: July 1989

Prepared by
R. S. Denning, R. Freeman-Kelly,
P. Cybulskis, L. A. Curtis

Battelle Columbus Division
505 King Avenue
Columbus, OH 43201-2693

Prepared for
Division of Engineering
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, DC 20555
NRC FIN A1322

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ABSTRACT

This study examines results of analyses performed with the Source Term Code Package to develop updated source terms using NUREG-0956 methods. The updated source terms are to be used to assess the adequacy of current regulatory source terms used as the basis for equipment qualification. Time-dependent locational distributions of radionuclides within a containment following a severe accident have been developed. The Surry reactor has been selected in this study as representative of PWR containment designs. Similarly, the Peach Bottom reactor has been used to examine radionuclide distributions in boiling water reactors. The time-dependent inventory of each key radionuclide is provided in terms of its activity in curies. The data are to be used by Sandia National Laboratories to perform shielding analyses to estimate radiation dose to equipment in each containment design. See NUREG/CR-5175, "Beta and Gamma Dose Calculations for PWR and BWR Containments."

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REPORT
on
SOURCE TERM CALCULATIONS FOR ASSESSING
RADIATION DOSE TO EQUIPMENT
(NRC-04,84-127, Task 21)

by
R. S. Denning, R. Freeman-Kelly,
P. Cybulskis and L. A. Curtis

Battelle
Columbus Division

May 29, 1987

I. INTRODUCTION

The purpose of this study was to develop updated source terms¹ using NUREG-0956 (Ref. 1) methods to compare with the source terms used as a basis for equipment qualification. If an accident were to occur in a nuclear power plant in which the fuel were damaged, radioactive material would be released to the containment. In order to provide assurance that vital safety equipment will continue to operate in the radiation environment associated with released radioactivity, the Nuclear Regulatory Commission requires demonstration that vital equipment can withstand specified levels of release. Current regulatory requirements (Ref. 2) are based on a representation of accident source terms developed in TID 14844 (Ref. 3). The prescribed source term assumes 100% release of the noble gases, 50% release of iodine and 1% release of the other radionuclides.

The radiation environment produced by the TID 14844 source term has in the past been believed to represent an upper bound for the type of accident under consideration. The design basis conditions assumed for equipment qualification involved core uncover and some fuel damage, but the eventual

¹ Source term is defined as a release of radioactive material. Although sometimes used to refer to the release from the plant to the environment, in this report source term specifically relates to the release from the fuel to the containment.

arresting of fuel degradation due to the injection of emergency coolant. The thermal-hydraulic environment was based on a large loss-of-coolant accident accompanied by successful operation of the emergency core cooling system. A realistic source term for this accident would involve the gap release from a small fraction of the fuel rods in the core and would be much smaller than the TID 14844 release. In order to assure protection against a broader spectrum of scenarios involving core damage, the TID 14844 source terms, which were intended to be representative of a core meltdown accident, have been combined with the design basis accident thermal-hydraulics.

Subsequent to the Three Mile Island Unit 2 accident, the Nuclear Regulatory Commission established an Accident Source Term Program Office to assess the technical basis for predicting severe accident source terms, to develop improved methods of analysis and to determine whether the existing treatment of source terms in the regulatory process should be changed. The principal product of this effort, "Reassessment of the Technical Bases for Estimating Source Terms", NUREG-0956, was published in June of 1986. The report describes an improved approach to predicting severe accident source terms and recommends that, for the near term, the Source Term Code Package (Ref. 4) be used as a basis for source term analyses. The purpose of this report is to use results obtained with the Code Package to assess the adequacy of current regulatory source terms used as the basis for equipment qualification.

Using the results of analyses performed previously with the Code Package, Battelle has developed time-dependent locational distributions of radionuclides within the containment following a severe accident. The inventory of each key radionuclide is provided in terms of its activity level in curies. Based on the Battelle results, Sandia National Laboratories is performing shielding analyses to estimate the dose to equipment in the containment.

II. PWR ANALYSES

The Surry reactor has been selected as representative of PWR containment designs because it is one of the NUREG-1150 reference plants for which a number of Source Term Code Package analyses have been performed.

Three of the Surry analyses (AB epsilon, S2D epsilon and TMLB epsilon) were reviewed and locational distributions tabulated according to elemental groups. A number of factors influence the time-dependent location of radionuclides in these accidents. In defining appropriate conditions for use in assessing the potential radiation environment for vital equipment, it is necessary to consider which aspects of the release could produce the most severe radiation environment.

1. Release from fuel in-vessel. In general it would be expected that the larger the release of radioactivity during the in-vessel heat-up of the fuel, the greater the potential radiation environment. For the different sequences analyzed the in-vessel release estimates are quite similar. The estimated uncertainty in these release estimates is approximately an order of magnitude for the volatile elements (noble gases, iodine, cesium and tellurium) and two orders of magnitude for the less volatile elements.
2. Timing of release. The earlier the release the higher the contribution of the high activity short-lived radionuclides to equipment exposure. The AB sequence involves the earliest uncovering of the core and progression into core melting.
3. Reactor coolant system retention. Radionuclides captured in the reactor coolant system are not available for transport within the containment and deposition within the vicinity of vital equipment. The AB sequence with a hot leg break has minimal reactor coolant system retention.
4. Timing of containment failure. For the purposes of equipment qualification, the radiation environment is more severe if the containment does not fail. For the delayed meltthrough scenarios analyzed with the Source Term Code Package, results can be adjusted simply to simulate the case where the containment does not fail.

5. Core recovery. The existing design basis conditions for equipment qualification do not involve vessel meltthrough and core-concrete attack. Since the issue of whether or not to consider complete core meltdown accidents for equipment qualification is still an open question, both arrested and complete core melt sequences should be considered separately. Based on the time-dependent distribution of radionuclides, it is possible to adapt Source Term Code Package analyses performed for full core meltdown accidents to correspond to arrested sequences in which core cooling is reestablished.
6. Fission product release ex-vessel. In full core meltdown accidents a significant release of radioactive and inert aerosols can be produced during the period of core-concrete attack. In general the earlier the attack begins the larger the release of radioactivity. An overlying pool of water can provide scrubbing of the release. In the Surry plant water would be present in the reactor cavity in the S2D sequence but not in the AB and TMLB sequences.
7. Spray operation. The operation of sprays would lead to rapid removal of radioactivity from the containment atmosphere. Sprays could also remove some material deposited on surfaces in the containment and transport it to the sump. It would be difficult to predict how much relocation of previously deposited material would occur. It is expected, however, that the more limiting case for equipment exposure involves the retention of radionuclides on surfaces in the containment rather than transport to the sump. Sprays operate in the S2D sequence but not in the AB and TMLB sequence.

For a number of reasons, it was concluded that the AB epsilon scenario would provide the best basis for performing equipment exposure analyses. It involves the fastest meltdown, there is little reactor coolant system retention, the containment sprays don't operate and there is no overlying pool of water in the reactor cavity. The AB sequence is also quite similar to the design basis thermal-hydraulic accident that has been used for regulatory analyses in the past. In order to provide an envelope of expected radiation environments, however, it was decided to treat four variations of the AB epsilon scenario.

Case 1. The base case results are taken directly from the BMI-2104 analyses. Results were renormalized to account for any predicted leakage to the environment. After 24 hours, at which the calculation ended, airborne radionuclides other than the noble gases were assumed to be deposited.

Case 2. An arrested sequence was developed by removing the contribution from the core-concrete attack period.

Case 3. A case in which containment sprays operate was simulated by removing all airborne radioactivity other than noble gases to the sump instantaneously. No activity was assumed to remain on containment surfaces.

Case 4. An arrested sequence with sprays operating was simulated by transferring the airborne activity in Case 2 directly to the sump. No activity is assumed to remain on containment surfaces.

In the PWR analyses, the following key parameters were used:

Containment Volume	$5.097 \times 10^{10} \text{ cm}^3$
Sedimentation Area	$1.251 \times 10^7 \text{ cm}^2$
Wall Diffusion Area	$1.474 \times 10^8 \text{ cm}^2$

The results of the Source Term Code Package are characterized by fractions of the core inventory of elemental groups of radionuclides. The elemental groups are described in Table 1. The Code Package does not account for the decay of radionuclides. The results of the four cases are tabulated in Tables 2 to 5 for the respective cases. The time period for the analysis is the first year following the accident. A more detailed breakdown in time is required immediately after the accident than at later times. The logarithm of the time intervals selected is approximately equal. Since the Sandia analyses require the specification of the activity of different radionuclides as a function of time, it was necessary to perform ORIGEN 2 analyses to calculate the time-dependent inventory of radionuclides and to convert the core inventory fractions into absolute inventories of radionuclides as a function of time.

The ORIGEN 2 calculation for the PWR plant involved an end of cycle analysis of a reactor with fuel at three burnups: 11,000, 22,000, and 33,000 MwD/MTU. Table 6 presents the inventory of each of the key radionuclides as a function of time. The corresponding elemental group is also indicated for each radionuclide. The time-dependent locational distribution for each radionuclide is obtained by combining Table 6 with the elemental group distribution tables. Microfiche copies of the radionuclide distribution tables are provided with this report.

In order to evaluate the potential impact of higher burnups, an ORIGEN 2 calculation was performed for a core composed of five regions of burnup: 11,000; 22,000; 33,000; 44,000; and 55,000 MwD/MTU. Results were compared with the earlier calculation for the isotopes with the highest activity in each of the seven radionuclide groups. Three decay times were considered: 1 hour; 24 hours; and 32 days. In general, the change in activity for the key isotopes was very small, less than a few percent. The only group for which the higher burnup could result in significantly higher doses to equipment is Group 3, which contains cesium and rubidium isotopes. The activities of the 134, 136 and 137 isotopes of cesium are higher by factors of 2.0, 1.5 and 1.5 respectively for the higher burnup core. Group 3 represents a small fraction of the released radioactivity early in the accident, but, as the activities of Groups 1, 2 and 4 decrease with time, Group 3 could become a major contributor to the dose to equipment. The dose

TABLE 1. RADIONUCLIDE GROUPS

Group	Elements
1	Xe, Kr
2	I, Br
3	Cs, Rb
4	Te, Sb, Se
5	Ba, Sr
6	Ru, Rh, Pd, Mo, Tc
7	La, Zr, Nd, Eu, Nb, Pm, Pr, Sm, Y, Ce, Pu, Np

TABLE 2. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF FISSION PRODUCTS FOR CASE 1 OF THE SURRY AB-EPSILON SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 1

FISSION PRODUCT GROUP IS 1

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	1.000E+00	.000E+00	.000E+00	.000E+00
2	1.000E+00	.000E+00	.000E+00	.000E+00
4	1.000E+00	.000E+00	.000E+00	.000E+00
8	1.000E+00	.000E+00	.000E+00	.000E+00
16	1.000E+00	.000E+00	.000E+00	.000E+00
24	1.000E+00	.000E+00	.000E+00	.000E+00
48	1.000E+00	.000E+00	.000E+00	.000E+00
96	1.000E+00	.000E+00	.000E+00	.000E+00
192	1.000E+00	.000E+00	.000E+00	.000E+00
384	1.000E+00	.000E+00	.000E+00	.000E+00
768	1.000E+00	.000E+00	.000E+00	.000E+00
1536	1.000E+00	.000E+00	.000E+00	.000E+00
3072	1.000E+00	.000E+00	.000E+00	.000E+00
6144	1.000E+00	.000E+00	.000E+00	.000E+00
8760	1.000E+00	.000E+00	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	6.740E-01	1.580E-01	1.580E-01	.000E+00
2	2.170E-01	4.860E-01	2.890E-01	.000E+00
4	9.920E-02	5.800E-01	3.130E-01	.000E+00
8	1.300E-02	6.530E-01	3.270E-01	.000E+00
16	1.740E-03	6.620E-01	3.290E-01	.000E+00
24	.000E+00	6.630E-01	3.300E-01	.000E+00
48	.000E+00	6.630E-01	3.300E-01	.000E+00
96	.000E+00	6.630E-01	3.300E-01	.000E+00
192	.000E+00	6.630E-01	3.300E-01	.000E+00
384	.000E+00	6.630E-01	3.300E-01	.000E+00
768	.000E+00	6.630E-01	3.300E-01	.000E+00
1536	.000E+00	6.630E-01	3.300E-01	.000E+00
3072	.000E+00	6.630E-01	3.300E-01	.000E+00
6144	.000E+00	6.630E-01	3.300E-01	.000E+00
8760	.000E+00	6.630E-01	3.300E-01	.000E+00

TABLE 2. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	6.640E-01	1.570E-01	1.590E-01	.000E+00
2	2.150E-01	4.810E-01	2.880E-01	.000E+00
4	9.810E-02	5.740E-01	3.120E-01	.000E+00
8	1.280E-02	6.460E-01	3.260E-01	.000E+00
16	1.720E-03	6.550E-01	3.280E-01	.000E+00
24	.000E+00	6.560E-01	3.290E-01	.000E+00
48	.000E+00	6.560E-01	3.290E-01	.000E+00
96	.000E+00	6.560E-01	3.290E-01	.000E+00
192	.000E+00	6.560E-01	3.290E-01	.000E+00
384	.000E+00	6.560E-01	3.290E-01	.000E+00
768	.000E+00	6.560E-01	3.290E-01	.000E+00
1536	.000E+00	6.560E-01	3.290E-01	.000E+00
3072	.000E+00	6.560E-01	3.290E-01	.000E+00
6144	.000E+00	6.560E-01	3.290E-01	.000E+00
8760	.000E+00	6.560E-01	3.290E-01	.000E+00

FISSION PRODUCT GROUP IS 4

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	6.290E-02	8.520E-03	5.350E-03	.000E+00
2	8.160E-02	4.400E-02	1.930E-02	.000E+00
4	1.690E-01	1.430E-01	3.950E-02	.000E+00
8	5.890E-02	3.190E-01	7.140E-02	.000E+00
16	8.540E-03	3.630E-01	8.160E-02	.000E+00
24	.000E+00	3.700E-01	8.320E-02	.000E+00
48	.000E+00	3.700E-01	8.320E-02	.000E+00
96	.000E+00	3.700E-01	8.320E-02	.000E+00
192	.000E+00	3.700E-01	8.320E-02	.000E+00
384	.000E+00	3.700E-01	8.320E-02	.000E+00
768	.000E+00	3.700E-01	8.320E-02	.000E+00
1536	.000E+00	3.700E-01	8.320E-02	.000E+00
3072	.000E+00	3.700E-01	8.320E-02	.000E+00
6144	.000E+00	3.700E-01	8.320E-02	.000E+00
8760	.000E+00	3.700E-01	8.320E-02	.000E+00

TABLE 2. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	2.860E-02	5.250E-03	4.150E-03	.000E+00
2	1.680E-01	2.220E-02	9.910E-03	.000E+00
4	2.800E-01	2.030E-01	4.160E-02	.000E+00
8	4.050E-02	4.230E-01	8.890E-02	.000E+00
16	5.430E-03	4.520E-01	9.550E-02	.000E+00
24	.000E+00	4.570E-01	9.650E-02	.000E+00
48	.000E+00	4.570E-01	9.650E-02	.000E+00
96	.000E+00	4.570E-01	9.650E-02	.000E+00
192	.000E+00	4.570E-01	9.650E-02	.000E+00
384	.000E+00	4.570E-01	9.650E-02	.000E+00
768	.000E+00	4.570E-01	9.650E-02	.000E+00
1536	.000E+00	4.570E-01	9.650E-02	.000E+00
3072	.000E+00	4.570E-01	9.650E-02	.000E+00
6144	.000E+00	4.570E-01	9.650E-02	.000E+00
8760	.000E+00	4.570E-01	9.650E-02	.000E+00

FISSION PRODUCT GROUP IS 6

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	1.920E-03	3.440E-04	2.730E-04	.000E+00
2	9.740E-04	1.330E-03	6.660E-04	.000E+00
4	4.450E-04	1.750E-03	7.750E-04	.000E+00
8	5.820E-05	2.080E-03	8.360E-04	.000E+00
16	7.790E-06	2.120E-03	8.450E-04	.000E+00
24	.000E+00	2.130E-03	8.470E-04	.000E+00
48	.000E+00	2.130E-03	8.470E-04	.000E+00
96	.000E+00	2.130E-03	8.470E-04	.000E+00
192	.000E+00	2.130E-03	8.470E-04	.000E+00
384	.000E+00	2.130E-03	8.470E-04	.000E+00
768	.000E+00	2.130E-03	8.470E-04	.000E+00
1536	.000E+00	2.130E-03	8.470E-04	.000E+00
3072	.000E+00	2.130E-03	8.470E-04	.000E+00
6144	.000E+00	2.130E-03	8.470E-04	.000E+00
8760	.000E+00	2.130E-03	8.470E-04	.000E+00

TABLE 2. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	2.980E-04	5.370E-05	4.090E-05	.000E+00
2	2.230E-02	5.700E-04	1.040E-04	.000E+00
4	3.930E-02	2.400E-02	4.760E-03	.000E+00
8	5.310E-03	5.330E-02	1.030E-02	.000E+00
16	7.120E-04	5.700E-02	1.110E-02	.000E+00
24	.000E+00	5.760E-02	1.120E-02	.000E+00
48	.000E+00	5.760E-02	1.120E-02	.000E+00
96	.000E+00	5.760E-02	1.120E-02	.000E+00
192	.000E+00	5.760E-02	1.120E-02	.000E+00
384	.000E+00	5.760E-02	1.120E-02	.000E+00
768	.000E+00	5.760E-02	1.120E-02	.000E+00
1536	.000E+00	5.760E-02	1.120E-02	.000E+00
3072	.000E+00	5.760E-02	1.120E-02	.000E+00
6144	.000E+00	5.760E-02	1.120E-02	.000E+00
8760	.000E+00	5.760E-02	1.120E-02	.000E+00

TABLE 3. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY
OF FISSION PRODUCTS FOR CASE 2 OF THE SURRY AB-EPSILON
SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 2

FISSION PRODUCT GROUP IS 1

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
----	-----	-----	-----	-----
1	1.000E+00	.000E+00	.000E+00	.000E+00
2	1.000E+00	.000E+00	.000E+00	.000E+00
4	1.000E+00	.000E+00	.000E+00	.000E+00
8	1.000E+00	.000E+00	.000E+00	.000E+00
16	1.000E+00	.000E+00	.000E+00	.000E+00
24	1.000E+00	.000E+00	.000E+00	.000E+00
48	1.000E+00	.000E+00	.000E+00	.000E+00
96	1.000E+00	.000E+00	.000E+00	.000E+00
192	1.000E+00	.000E+00	.000E+00	.000E+00
384	1.000E+00	.000E+00	.000E+00	.000E+00
768	1.000E+00	.000E+00	.000E+00	.000E+00
1536	1.000E+00	.000E+00	.000E+00	.000E+00
3072	1.000E+00	.000E+00	.000E+00	.000E+00
6144	1.000E+00	.000E+00	.000E+00	.000E+00
8760	1.000E+00	.000E+00	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
----	-----	-----	-----	-----
1	6.740E-01	1.580E-01	1.580E-01	.000E+00
2	2.230E-01	4.800E-01	2.890E-01	.000E+00
4	1.020E-01	5.560E-01	3.350E-01	.000E+00
8	.000E+00	6.190E-01	3.730E-01	.000E+00
16	.000E+00	6.190E-01	3.730E-01	.000E+00
24	.000E+00	6.190E-01	3.730E-01	.000E+00
48	.000E+00	6.190E-01	3.730E-01	.000E+00
96	.000E+00	6.190E-01	3.730E-01	.000E+00
192	.000E+00	6.190E-01	3.730E-01	.000E+00
384	.000E+00	6.190E-01	3.730E-01	.000E+00
768	.000E+00	6.190E-01	3.730E-01	.000E+00
1536	.000E+00	6.190E-01	3.730E-01	.000E+00
3072	.000E+00	6.190E-01	3.730E-01	.000E+00
6144	.000E+00	6.190E-01	3.730E-01	.000E+00
8760	.000E+00	6.190E-01	3.730E-01	.000E+00

TABLE 3. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	6.640E-01	1.570E-01	1.590E-01	.000E+00
2	2.210E-01	4.750E-01	2.880E-01	.000E+00
4	1.280E-01	5.330E-01	3.230E-01	.000E+00
8	.000E+00	6.130E-01	3.720E-01	.000E+00
16	.000E+00	6.130E-01	3.720E-01	.000E+00
24	.000E+00	6.130E-01	3.720E-01	.000E+00
48	.000E+00	6.130E-01	3.720E-01	.000E+00
96	.000E+00	6.130E-01	3.720E-01	.000E+00
192	.000E+00	6.130E-01	3.720E-01	.000E+00
384	.000E+00	6.130E-01	3.720E-01	.000E+00
768	.000E+00	6.130E-01	3.720E-01	.000E+00
1536	.000E+00	6.130E-01	3.720E-01	.000E+00
3072	.000E+00	6.130E-01	3.720E-01	.000E+00
6144	.000E+00	6.130E-01	3.720E-01	.000E+00
8760	.000E+00	6.130E-01	3.720E-01	.000E+00

FISSION PRODUCT GROUP IS 4

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	6.290E-02	8.520E-03	5.350E-03	.000E+00
2	5.050E-02	4.220E-02	1.930E-02	.000E+00
4	2.310E-02	6.100E-02	2.790E-02	.000E+00
8	.000E+00	7.680E-02	3.520E-02	.000E+00
16	.000E+00	7.680E-02	3.520E-02	.000E+00
24	.000E+00	7.680E-02	3.520E-02	.000E+00
48	.000E+00	7.680E-02	3.520E-02	.000E+00
96	.000E+00	7.680E-02	3.520E-02	.000E+00
192	.000E+00	7.680E-02	3.520E-02	.000E+00
384	.000E+00	7.680E-02	3.520E-02	.000E+00
768	.000E+00	7.680E-02	3.520E-02	.000E+00
1536	.000E+00	7.680E-02	3.520E-02	.000E+00
3072	.000E+00	7.680E-02	3.520E-02	.000E+00
6144	.000E+00	7.680E-02	3.520E-02	.000E+00
8760	.000E+00	7.680E-02	3.520E-02	.000E+00

TABLE 3. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	2.860E-02	5.250E-03	4.150E-03	.000E+00
2	4.030E-02	1.940E-02	9.890E-03	.000E+00
4	1.840E-02	3.390E-02	1.730E-02	.000E+00
8	.000E+00	4.610E-02	2.350E-02	.000E+00
16	.000E+00	4.610E-02	2.350E-02	.000E+00
24	.000E+00	4.610E-02	2.350E-02	.000E+00
48	.000E+00	4.610E-02	2.350E-02	.000E+00
96	.000E+00	4.610E-02	2.350E-02	.000E+00
192	.000E+00	4.610E-02	2.350E-02	.000E+00
384	.000E+00	4.610E-02	2.350E-02	.000E+00
768	.000E+00	4.610E-02	2.350E-02	.000E+00
1536	.000E+00	4.610E-02	2.350E-02	.000E+00
3072	.000E+00	4.610E-02	2.350E-02	.000E+00
6144	.000E+00	4.610E-02	2.350E-02	.000E+00
8760	.000E+00	4.610E-02	2.350E-02	.000E+00

FISSION PRODUCT GROUP IS 6

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	1.920E-03	3.440E-04	2.730E-04	.000E+00
2	9.440E-04	1.310E-03	6.660E-04	.000E+00
4	4.310E-04	1.650E-03	8.390E-04	.000E+00
8	.000E+00	1.940E-03	9.840E-04	.000E+00
16	.000E+00	1.940E-03	9.840E-04	.000E+00
24	.000E+00	1.940E-03	9.840E-04	.000E+00
48	.000E+00	1.940E-03	9.840E-04	.000E+00
96	.000E+00	1.940E-03	9.840E-04	.000E+00
192	.000E+00	1.940E-03	9.840E-04	.000E+00
384	.000E+00	1.940E-03	9.840E-04	.000E+00
768	.000E+00	1.940E-03	9.840E-04	.000E+00
1536	.000E+00	1.940E-03	9.840E-04	.000E+00
3072	.000E+00	1.940E-03	9.840E-04	.000E+00
6144	.000E+00	1.940E-03	9.840E-04	.000E+00
8760	.000E+00	1.940E-03	9.840E-04	.000E+00

TABLE 3. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	2.980E-04	5.370E-05	4.090E-05	.000E+00
2	4.020E-03	2.130E-04	1.020E-04	.000E+00
4	1.840E-03	1.690E-03	8.090E-04	.000E+00
8	.000E+00	2.930E-03	1.400E-03	.000E+00
16	.000E+00	2.930E-03	1.400E-03	.000E+00
24	.000E+00	2.930E-03	1.400E-03	.000E+00
48	.000E+00	2.930E-03	1.400E-03	.000E+00
96	.000E+00	2.930E-03	1.400E-03	.000E+00
192	.000E+00	2.930E-03	1.400E-03	.000E+00
384	.000E+00	2.930E-03	1.400E-03	.000E+00
768	.000E+00	2.930E-03	1.400E-03	.000E+00
1536	.000E+00	2.930E-03	1.400E-03	.000E+00
3072	.000E+00	2.930E-03	1.400E-03	.000E+00
6144	.000E+00	2.930E-03	1.400E-03	.000E+00
8760	.000E+00	2.930E-03	1.400E-03	.000E+00

TABLE 4. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF FISSION PRODUCTS FOR CASE 3 OF THE SURRY AB-EPSILON SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 3

FISSION PRODUCT GROUP IS 1

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	1.000E+00	.000E+00	.000E+00	.000E+00
2	1.000E+00	.000E+00	.000E+00	.000E+00
4	1.000E+00	.000E+00	.000E+00	.000E+00
8	1.000E+00	.000E+00	.000E+00	.000E+00
16	1.000E+00	.000E+00	.000E+00	.000E+00
24	1.000E+00	.000E+00	.000E+00	.000E+00
48	1.000E+00	.000E+00	.000E+00	.000E+00
96	1.000E+00	.000E+00	.000E+00	.000E+00
192	1.000E+00	.000E+00	.000E+00	.000E+00
384	1.000E+00	.000E+00	.000E+00	.000E+00
768	1.000E+00	.000E+00	.000E+00	.000E+00
1536	1.000E+00	.000E+00	.000E+00	.000E+00
3072	1.000E+00	.000E+00	.000E+00	.000E+00
6144	1.000E+00	.000E+00	.000E+00	.000E+00
8760	1.000E+00	.000E+00	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	9.900E-01
2	.000E+00	.000E+00	.000E+00	9.920E-01
4	.000E+00	.000E+00	.000E+00	9.922E-01
8	.000E+00	.000E+00	.000E+00	9.930E-01
16	.000E+00	.000E+00	.000E+00	9.927E-01
24	.000E+00	.000E+00	.000E+00	9.930E-01
48	.000E+00	.000E+00	.000E+00	9.930E-01
96	.000E+00	.000E+00	.000E+00	9.930E-01
192	.000E+00	.000E+00	.000E+00	9.930E-01
384	.000E+00	.000E+00	.000E+00	9.930E-01
768	.000E+00	.000E+00	.000E+00	9.930E-01
1536	.000E+00	.000E+00	.000E+00	9.930E-01
3072	.000E+00	.000E+00	.000E+00	9.930E-01
6144	.000E+00	.000E+00	.000E+00	9.930E-01
8760	.000E+00	.000E+00	.000E+00	9.930E-01

TABLE 4. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	9.800E-01
2	.000E+00	.000E+00	.000E+00	9.840E-01
4	.000E+00	.000E+00	.000E+00	9.841E-01
8	.000E+00	.000E+00	.000E+00	9.848E-01
16	.000E+00	.000E+00	.000E+00	9.847E-01
24	.000E+00	.000E+00	.000E+00	9.850E-01
48	.000E+00	.000E+00	.000E+00	9.850E-01
96	.000E+00	.000E+00	.000E+00	9.850E-01
192	.000E+00	.000E+00	.000E+00	9.850E-01
384	.000E+00	.000E+00	.000E+00	9.850E-01
768	.000E+00	.000E+00	.000E+00	9.850E-01
1536	.000E+00	.000E+00	.000E+00	9.850E-01
3072	.000E+00	.000E+00	.000E+00	9.850E-01
6144	.000E+00	.000E+00	.000E+00	9.850E-01
8760	.000E+00	.000E+00	.000E+00	9.850E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	7.677E-02
2	.000E+00	.000E+00	.000E+00	1.449E-01
4	.000E+00	.000E+00	.000E+00	3.515E-01
8	.000E+00	.000E+00	.000E+00	4.493E-01
16	.000E+00	.000E+00	.000E+00	4.531E-01
24	.000E+00	.000E+00	.000E+00	4.532E-01
48	.000E+00	.000E+00	.000E+00	4.532E-01
96	.000E+00	.000E+00	.000E+00	4.532E-01
192	.000E+00	.000E+00	.000E+00	4.532E-01
384	.000E+00	.000E+00	.000E+00	4.532E-01
768	.000E+00	.000E+00	.000E+00	4.532E-01
1536	.000E+00	.000E+00	.000E+00	4.532E-01
3072	.000E+00	.000E+00	.000E+00	4.532E-01
6144	.000E+00	.000E+00	.000E+00	4.532E-01
8760	.000E+00	.000E+00	.000E+00	4.532E-01

TABLE 4. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	3.800E-02
2	.000E+00	.000E+00	.000E+00	2.001E-01
4	.000E+00	.000E+00	.000E+00	5.246E-01
8	.000E+00	.000E+00	.000E+00	5.524E-01
16	.000E+00	.000E+00	.000E+00	5.529E-01
24	.000E+00	.000E+00	.000E+00	5.535E-01
48	.000E+00	.000E+00	.000E+00	5.535E-01
96	.000E+00	.000E+00	.000E+00	5.535E-01
192	.000E+00	.000E+00	.000E+00	5.535E-01
384	.000E+00	.000E+00	.000E+00	5.535E-01
768	.000E+00	.000E+00	.000E+00	5.535E-01
1536	.000E+00	.000E+00	.000E+00	5.535E-01
3072	.000E+00	.000E+00	.000E+00	5.535E-01
6144	.000E+00	.000E+00	.000E+00	5.535E-01
8760	.000E+00	.000E+00	.000E+00	5.535E-01

FISSION PRODUCT GROUP IS 6

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	2.537E-03
2	.000E+00	.000E+00	.000E+00	2.970E-03
4	.000E+00	.000E+00	.000E+00	2.970E-03
8	.000E+00	.000E+00	.000E+00	2.974E-03
16	.000E+00	.000E+00	.000E+00	2.973E-03
24	.000E+00	.000E+00	.000E+00	2.977E-03
48	.000E+00	.000E+00	.000E+00	2.977E-03
96	.000E+00	.000E+00	.000E+00	2.977E-03
192	.000E+00	.000E+00	.000E+00	2.977E-03
384	.000E+00	.000E+00	.000E+00	2.977E-03
768	.000E+00	.000E+00	.000E+00	2.977E-03
1536	.000E+00	.000E+00	.000E+00	2.977E-03
3072	.000E+00	.000E+00	.000E+00	2.977E-03
6144	.000E+00	.000E+00	.000E+00	2.977E-03
8760	.000E+00	.000E+00	.000E+00	2.977E-03

TABLE 4. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	3.926E-04
2	.000E+00	.000E+00	.000E+00	2.297E-02
4	.000E+00	.000E+00	.000E+00	6.806E-02
8	.000E+00	.000E+00	.000E+00	6.891E-02
16	.000E+00	.000E+00	.000E+00	6.881E-02
24	.000E+00	.000E+00	.000E+00	6.880E-02
48	.000E+00	.000E+00	.000E+00	6.880E-02
96	.000E+00	.000E+00	.000E+00	6.880E-02
192	.000E+00	.000E+00	.000E+00	6.880E-02
384	.000E+00	.000E+00	.000E+00	6.880E-02
768	.000E+00	.000E+00	.000E+00	6.880E-02
1536	.000E+00	.000E+00	.000E+00	6.880E-02
3072	.000E+00	.000E+00	.000E+00	6.880E-02
6144	.000E+00	.000E+00	.000E+00	6.880E-02
8760	.000E+00	.000E+00	.000E+00	6.880E-02

TABLE 5. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY
OF FISSION PRODUCTS FOR CASE 4 OF THE SURRY AB-EPSILON
SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 4

FISSION PRODUCT GROUP IS 1

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	1.000E+00	.000E+00	.000E+00	.000E+00
2	1.000E+00	.000E+00	.000E+00	.000E+00
4	1.000E+00	.000E+00	.000E+00	.000E+00
8	1.000E+00	.000E+00	.000E+00	.000E+00
16	1.000E+00	.000E+00	.000E+00	.000E+00
24	1.000E+00	.000E+00	.000E+00	.000E+00
48	1.000E+00	.000E+00	.000E+00	.000E+00
96	1.000E+00	.000E+00	.000E+00	.000E+00
192	1.000E+00	.000E+00	.000E+00	.000E+00
384	1.000E+00	.000E+00	.000E+00	.000E+00
768	1.000E+00	.000E+00	.000E+00	.000E+00
1536	1.000E+00	.000E+00	.000E+00	.000E+00
3072	1.000E+00	.000E+00	.000E+00	.000E+00
6144	1.000E+00	.000E+00	.000E+00	.000E+00
8760	1.000E+00	.000E+00	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	9.900E-01
2	.000E+00	.000E+00	.000E+00	9.920E-01
4	.000E+00	.000E+00	.000E+00	9.930E-01
8	.000E+00	.000E+00	.000E+00	9.920E-01
16	.000E+00	.000E+00	.000E+00	9.920E-01
24	.000E+00	.000E+00	.000E+00	9.920E-01
48	.000E+00	.000E+00	.000E+00	9.920E-01
96	.000E+00	.000E+00	.000E+00	9.920E-01
192	.000E+00	.000E+00	.000E+00	9.920E-01
384	.000E+00	.000E+00	.000E+00	9.920E-01
768	.000E+00	.000E+00	.000E+00	9.920E-01
1536	.000E+00	.000E+00	.000E+00	9.920E-01
3072	.000E+00	.000E+00	.000E+00	9.920E-01
6144	.000E+00	.000E+00	.000E+00	9.920E-01
8760	.000E+00	.000E+00	.000E+00	9.920E-01

TABLE 5. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	9.800E-01
2	.000E+00	.000E+00	.000E+00	9.840E-01
4	.000E+00	.000E+00	.000E+00	9.840E-01
8	.000E+00	.000E+00	.000E+00	9.850E-01
16	.000E+00	.000E+00	.000E+00	9.850E-01
24	.000E+00	.000E+00	.000E+00	9.850E-01
48	.000E+00	.000E+00	.000E+00	9.850E-01
96	.000E+00	.000E+00	.000E+00	9.850E-01
192	.000E+00	.000E+00	.000E+00	9.850E-01
384	.000E+00	.000E+00	.000E+00	9.850E-01
768	.000E+00	.000E+00	.000E+00	9.850E-01
1536	.000E+00	.000E+00	.000E+00	9.850E-01
3072	.000E+00	.000E+00	.000E+00	9.850E-01
6144	.000E+00	.000E+00	.000E+00	9.850E-01
8760	.000E+00	.000E+00	.000E+00	9.850E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	7.677E-02
2	.000E+00	.000E+00	.000E+00	1.120E-01
4	.000E+00	.000E+00	.000E+00	1.120E-01
8	.000E+00	.000E+00	.000E+00	1.120E-01
16	.000E+00	.000E+00	.000E+00	1.120E-01
24	.000E+00	.000E+00	.000E+00	1.120E-01
48	.000E+00	.000E+00	.000E+00	1.120E-01
96	.000E+00	.000E+00	.000E+00	1.120E-01
192	.000E+00	.000E+00	.000E+00	1.120E-01
384	.000E+00	.000E+00	.000E+00	1.120E-01
768	.000E+00	.000E+00	.000E+00	1.120E-01
1536	.000E+00	.000E+00	.000E+00	1.120E-01
3072	.000E+00	.000E+00	.000E+00	1.120E-01
6144	.000E+00	.000E+00	.000E+00	1.120E-01
8760	.000E+00	.000E+00	.000E+00	1.120E-01

TABLE 5. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	3.800E-02
2	.000E+00	.000E+00	.000E+00	6.959E-02
4	.000E+00	.000E+00	.000E+00	6.960E-02
8	.000E+00	.000E+00	.000E+00	6.960E-02
16	.000E+00	.000E+00	.000E+00	6.960E-02
24	.000E+00	.000E+00	.000E+00	6.960E-02
48	.000E+00	.000E+00	.000E+00	6.960E-02
96	.000E+00	.000E+00	.000E+00	6.960E-02
192	.000E+00	.000E+00	.000E+00	6.960E-02
384	.000E+00	.000E+00	.000E+00	6.960E-02
768	.000E+00	.000E+00	.000E+00	6.960E-02
1536	.000E+00	.000E+00	.000E+00	6.960E-02
3072	.000E+00	.000E+00	.000E+00	6.960E-02
6144	.000E+00	.000E+00	.000E+00	6.960E-02
8760	.000E+00	.000E+00	.000E+00	6.960E-02

FISSION PRODUCT GROUP IS 6

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	2.537E-03
2	.000E+00	.000E+00	.000E+00	2.920E-03
4	.000E+00	.000E+00	.000E+00	2.920E-03
8	.000E+00	.000E+00	.000E+00	2.924E-03
16	.000E+00	.000E+00	.000E+00	2.924E-03
24	.000E+00	.000E+00	.000E+00	2.924E-03
48	.000E+00	.000E+00	.000E+00	2.924E-03
96	.000E+00	.000E+00	.000E+00	2.924E-03
192	.000E+00	.000E+00	.000E+00	2.924E-03
384	.000E+00	.000E+00	.000E+00	2.924E-03
768	.000E+00	.000E+00	.000E+00	2.924E-03
1536	.000E+00	.000E+00	.000E+00	2.924E-03
3072	.000E+00	.000E+00	.000E+00	2.924E-03
6144	.000E+00	.000E+00	.000E+00	2.924E-03
8760	.000E+00	.000E+00	.000E+00	2.924E-03

TABLE 5. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	AIRBORNE	FLOOR	WALLS	SUMP
-----	-----	-----	-----	-----
1	.000E+00	.000E+00	.000E+00	3.926E-04
2	.000E+00	.000E+00	.000E+00	4.335E-03
4	.000E+00	.000E+00	.000E+00	4.339E-03
8	.000E+00	.000E+00	.000E+00	4.330E-03
16	.000E+00	.000E+00	.000E+00	4.330E-03
24	.000E+00	.000E+00	.000E+00	4.330E-03
48	.000E+00	.000E+00	.000E+00	4.330E-03
96	.000E+00	.000E+00	.000E+00	4.330E-03
192	.000E+00	.000E+00	.000E+00	4.330E-03
384	.000E+00	.000E+00	.000E+00	4.330E-03
768	.000E+00	.000E+00	.000E+00	4.330E-03
1536	.000E+00	.000E+00	.000E+00	4.330E-03
3072	.000E+00	.000E+00	.000E+00	4.330E-03
6144	.000E+00	.000E+00	.000E+00	4.330E-03
8760	.000E+00	.000E+00	.000E+00	4.330E-03

TABLE 6. TIME-DEPENDENT INVENTORY OF KEY RADIONUCLIDES FOR THE SURRY PLANT

		Radioactivity, Curies												
Radionuclide	Grp	1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D				
		16 D	32 D	64 D	128 D	256 D	1 yr							
U237	7	4 732E+07	4 712E+07	4 873E+07	4 593E+07	4 439E+07	4 288E+07	3 871E+07	3 152E+07	2 091E+07				
	9	192E+08	1 778E+08	8 683E+04	2 261E+02	1 310E+02	1 291E+02							
U239	7	2 402E+08	4 104E+07	1 197E+08	1 019E+03	7 379E 04	5 347E 10	000E+00	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
NP238	7	1 413E+07	1 394E+07	1 357E+07	1 285E+07	1 152E+07	1 033E+07	7 445E+08	3 868E+08	1 044E+08				
	7	803E+04	4 045E+02	1 238E+00	1 224E+00	1 222E+00	1 220E+00							
NP239	7	1 395E+09	1 380E+09	1 346E+09	1 282E+09	1 182E+09	1 054E+09	7 850E+08	4 358E+08	1 343E+08				
	1	275E+07	1 155E+05	5 071E+02	4 978E+02	4 978E+02	4 978E+02							
NP240	7	8 539E+05	4 503E+05	1 253E+05	9 887E+03	5 797E+01	3 489E-01	7 435E-08	3 414E-21	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
PU238	7	7 404E+04	7 405E+04	7 409E+04	7 413E+04	7 423E+04	7 432E+04	7 455E+04	7 483E+04	7 515E+04				
	7	545E+04	7 593E+04	7 674E+04	7 808E+04	7 973E+04	8 054E+04							
PU239	7	1 895E+04	1 895E+04	1 898E+04	1 898E+04	1 901E+04	1 903E+04	1 911E+04	1 920E+04	1 929E+04				
	1	932E+04	1 932E+04	1 932E+04	1 932E+04	1 932E+04	1 932E+04							
PU240	7	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04				
	2	415E+04	2 415E+04	2 415E+04	2 415E+04	2 415E+04	2 418E+04							
PU241	7	5 522E+08	5 522E+08	5 522E+08	5 522E+08	5 522E+08	5 522E+08	5 519E+08	5 518E+08	5 515E+08				
	5	510E+08	5 500E+08	5 475E+08	5 430E+08	5 339E+08	5 284E+08							
PU243	7	1 035E+07	9 002E+08	8 805E+08	3 890E+08	1 270E+08	4 147E+05	1 445E+04	1 752E+01	2 785E-05				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
SE 79M	4	2 027E+04	2 002E+02	1 935E-02	1 817E-10	000E+00	000E+00	000E+00	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
SE 81	4	5 025E+05	8 387E+04	9 865E+03	5 041E+02	1 513E+00	4 550E-03	1 238E-10	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
SE 81M	4	5 478E+04	2 851E+04	8 208E+03	3 405E+02	1 024E+00	3 080E 03	8 383E-11	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
BR 82	2	2 570E+05	2 520E+05	2 423E+05	2 240E+05	1 914E+05	1 838E+05	1 021E+05	3 980E+04	8 045E+03				
	1	394E+02	7 415E-02	2 099E-08	1 880E-21	000E+00	000E+00							
SE 83	4	5 875E+05	8 935E+04	2 217E+03	1 384E+00	5 180E-07	1 953E-13	000E+00	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
BR 83	2	7 331E+08	5 550E+08	3 118E+08	9 789E+05	9 598E+04	9 432E+03	8 947E+00	8 052E-08	8 520E-18				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
KR 83M	1	8 921E+08	8 109E+08	5 963E+08	2 556E+08	3 316E+05	3 647E+04	3 774E+01	3 434E-05	2 782E-17				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
BR 84	2	4 857E+08	1 314E+08	9 803E+04	5 138E+02	1 468E 02	4 198E-07	9 804E-21	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
KR 85	1	4 870E+05	4 872E+05	4 872E+05	4 872E+05	4 872E+05	4 872E+05	4 872E+05	4 872E+05	4 872E+05				
	4	860E+05	4 847E+05	4 820E+05	4 588E+05	4 486E+05	4 381E+05							
KR 85M	1	1 714E+07	1 468E+07	1 078E+07	5 803E+08	1 683E+08	4 882E+05	1 192E+04	7 100E+00	2 520E-08				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
RB 86	3	9 150E+04	9 137E+04	9 110E+04	8 053E+04	8 941E+04	8 830E+04	8 509E+04	7 903E+04	8 810E+04				
	5	080E+04	2 782E+04	8 504E+03	7 889E+02	8 789E+00	1 172E-01							
KR 87	1	2 238E+07	1 297E+07	4 358E+08	4 926E+05	8 293E+03	8 033E+01	1 674E-04	7 261E-18	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
KR 88	1	4 215E+07	3 303E+07	2 026E+07	7 831E+08	1 082E+08	1 535E+05	4 374E+02	3 557E-03	2 352E-13				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
RB 88	3	4 854E+07	3 882E+07	2 263E+07	8 526E+08	1 209E+08	1 714E+05	4 887E+02	3 972E-03	2 628E-13				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
RB 89	3	5 882E+08	3 883E+05	1 547E+03	2 732E-02	8 517E-12	2 855E-21	000E+00	000E+00	000E+00				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
SR 89	5	7 348E+07	7 345E+07	7 335E+07	7 319E+07	7 283E+07	7 253E+07	7 153E+07	8 980E+07	8 588E+07				
	5	902E+07	4 738E+07	3 054E+07	1 289E+07	2 189E+08	4 887E+05							
SR 90	5	3 832E+08	3 832E+08	3 832E+08	3 831E+08	3 831E+08	3 831E+08	3 831E+08	3 830E+08	3 829E+08				
	3	827E+08	3 823E+08	3 818E+08	3 801E+08	3 571E+08	3 548E+08							
Y 90	7	3 808E+08	3 807E+08	3 803E+08	3 786E+08	3 782E+08	3 769E+08	3 738E+08	3 695E+08	3 852E+08				
	3	831E+08	3 824E+08	3 818E+08	3 802E+08	3 572E+08	3 547E+08							
SR 91	5	8 388E+07	7 798E+07	8 738E+07	5 032E+07	2 807E+07	1 566E+07	2 718E+06	8 188E+04	7 438E+01				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							
Y 91	7	9 304E+07	9 301E+07	9 298E+07	9 291E+07	9 270E+07	9 244E+07	9 144E+07	8 933E+07	8 517E+07				
	7	750E+07	8 410E+07	4 387E+07	2 058E+07	4 511E+08	1 237E+08							
Y 91M	7	5 109E+07	4 859E+07	4 283E+07	3 198E+07	1 784E+07	9 948E+08	1 727E+08	5 203E+04	4 724E+01				
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00							

TABLE 6. (Continued)

			Radioactivity, Curies									
Radionuclide Grp			1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D	
			16 D	32 D	64 D	128 D	256 D	1 yr				
SR 92	5	7	503E+07	5 809E+07	3 484E+07	1 252E+07	1 818E+06	2 091E+05	4 512E+02	2 101E-03	4 558E-14	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
Y 92	7	9	514E+07	8 993E+07	7 527E+07	4 547E+07	1 274E+07	3 081E+06	3 273E+04	2 818E+00	1 927E-08	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SR 93	5	4	278E+05	1 871E+03	2 549E-02	5 935E-12	000E+00	000E+00	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
Y 93	7	1	053E+08	9 829E+07	8 567E+07	6 510E+07	3 760E+07	2 172E+07	4 183E+06	1 552E+05	2 129E+02	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
Y 94	7	1	348E+07	1 527E+08	1 961E+04	3 236E+00	8 804E-08	2 397E-15	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
Y 95	7	2	350E+08	4 477E+04	1 824E+01	2 138E-06	3 703E-20	000E+00	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
ZR 95	7	1	211E+08	1 211E+08	1 209E+08	1 207E+08	1 203E+08	1 199E+08	1 185E+08	1 160E+08	1 111E+08	
			019E+08	8 588E+07	6 056E+07	3 028E+07	7 588E+06	2 316E+06				
NB 95	7	1	178E+08	1 178E+08	1 178E+08	1 178E+08	1 178E+08	1 178E+08	1 179E+08	1 179E+08	1 175E+08	
			1 159E+08	1 097E+08	9 187E+07	5 510E+07	1 582E+07	5 028E+06				
NB 95M	7	8	873E+05	8 870E+05	8 888E+05	8 882E+05	8 847E+05	8 834E+05	8 580E+05	8 480E+05	8 175E+05	
			7 543E+05	6 354E+05	4 493E+05	2 248E+05	5 812E+04	1 719E+04				
NB 96	7	2	031E+05	1 971E+05	1 858E+05	1 850E+05	1 301E+05	1 028E+05	5 031E+04	1 210E+04	7 004E+02	
			2 344E+00	2 828E-05	3 298E-15	000E+00	000E+00	000E+00				
ZR 97	7	1	160E+08	1 113E+08	1 026E+08	8 702E+07	8 269E+07	4 518E+07	1 688E+07	2 356E+06	4 594E+04	
			1 747E+01	2 525E-06	5 277E-20	000E+00	000E+00	000E+00				
NB 97	7	1	200E+08	1 169E+08	1 091E+08	9 329E+07	6 733E+07	4 850E+07	1 696E+07	2 368E+06	4 818E+04	
			1 882E+01	2 721E-06	5 885E-20	000E+00	000E+00	000E+00				
NB 97M	7	1	099E+08	1 055E+08	9 717E+07	8 242E+07	5 938E+07	4 277E+07	1 598E+07	2 232E+06	4 351E+04	
			1 655E+01	2 392E-06	4 997E-20	000E+00	000E+00	000E+00				
NB 98M	7	5	128E+05	2 287E+05	4 548E+04	1 799E+03	2 821E+00	4 422E-03	1 892E-11	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
MO 99	6	1	291E+08	1 278E+08	1 251E+08	1 200E+08	1 103E+08	1 014E+08	7 880E+07	4 780E+07	1 737E+07	
			2 313E+06	4 098E+04	1 288E+01	1 270E-08	1 237E-20	000E+00				
TC 99M	6	1	142E+08	1 140E+08	1 133E+08	1 110E+08	1 044E+08	9 898E+07	7 587E+07	4 585E+07	1 873E+07	
			2 228E+06	3 948E+04	1 240E+01	1 224E-08	1 192E-20	000E+00				
MO 101	6	7	076E+08	4 118E+05	1 393E+03	1 592E-02	2 083E-12	2 725E-22	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
TC 101	6	2	632E+07	2 563E+08	1 483E+04	2 796E-01	5 419E-11	8 264E-21	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
MO 102	6	2	708E+06	6 391E+04	3 559E+01	1 103E-05	1 059E-18	000E+00	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
TC 102	6	2	731E+06	6 442E+04	3 587E+01	1 111E-05	1 088E-18	000E+00	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RU 103	6	1	054E+08	1 054E+08	1 052E+08	1 049E+08	1 043E+08	1 037E+08	1 019E+08	9 833E+07	9 162E+07	
			7 955E+07	5 999E+07	3 411E+07	1 103E+07	1 152E+06	1 878E+05				
RH 103M	6	9	500E+07	9 497E+07	9 486E+07	9 457E+07	9 401E+07	9 347E+07	9 182E+07	8 865E+07	8 260E+07	
			7 173E+07	5 408E+07	3 075E+07	9 939E+06	1 039E+06	1 511E+05				
TC 104	6	9	588E+06	9 757E+05	1 011E+04	1 084E+00	1 246E-08	1 433E-18	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
TC 105	6	4	184E+05	2 312E+03	7 052E-02	8 587E-11	000E+00	000E+00	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RU 105	6	6	158E+07	5 269E+07	3 855E+07	2 064E+07	5 920E+06	1 897E+06	4 001E+04	2 223E+01	8 864E-08	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RH 105	6	8	380E+07	6 348E+07	6 279E+07	6 021E+07	5 315E+07	4 591E+07	2 883E+07	1 128E+07	1 714E+06	
			3 978E+04	2 141E+01	6 204E-06	5 206E-19	000E+00	000E+00				
RH 105M	6	1	729E+07	1 480E+07	1 083E+07	5 796E+06	1 682E+06	4 786E+05	1 123E+04	6 242E+00	1 928E-08	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RU 106	6	2	490E+07	2 490E+07	2 490E+07	2 489E+07	2 488E+07	2 488E+07	2 482E+07	2 472E+07	2 453E+07	
			2 417E+07	2 345E+07	2 208E+07	1 958E+07	1 538E+07	1 252E+07				
RH 106	6	2	490E+07	2 490E+07	2 490E+07	2 489E+07	2 488E+07	2 488E+07	2 482E+07	2 472E+07	2 453E+07	
			2 417E+07	2 345E+07	2 208E+07	1 958E+07	1 538E+07	1 252E+07				
RH 106M	6	1	472E+06	1 074E+06	5 720E+05	1 822E+05	1 304E+04	1 049E+03	5 457E-01	1 476E-07	1 079E-20	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RH 107	6	7	138E+06	1 050E+06	2 272E+04	1 085E+01	2 338E-06	5 125E-13	000E+00	000E+00	000E+00	
			000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				

TABLE 6. (Continued)

Radionuclide Grp		Radioactivity, Curies										
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D		
		16 D	32 D	64 D	128 D	256 D	1 yr					
PD109	8	1 836E+07	1 743E+07	1 573E+07	1 280E+07	8 479E+06	5 817E+06	1 832E+06	1 378E+05	9 828E+02		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
PD111	8	7 383E+05	1 413E+05	3 035E+04	1 890E+04	8 160E+03	2 247E+03	1 092E+02	2 579E 01	1 438E-06		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
PD111M	8	5 598E+04	4 935E+04	3 838E+04	2 317E+04	8 453E+03	3 085E+03	1 499E+02	3 540E 01	1 971E-06		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
PD112	8	2 304E+06	2 226E+06	2 078E+06	1 810E+06	1 373E+06	1 042E+06	4 557E+05	8 703E+04	3 178E+03		
		4 231E+00	7 507E-06	2 363E-17	000E+00	000E+00	000E+00					
SB122	4	9 802E+04	9 897E+04	9 492E+04	9 093E+04	8 348E+04	7 864E+04	5 929E+04	3 549E+04	1 271E+04		
		1 630E+03	2 683E+01	7 263E-03	5 322E-10	1 588E-24	000E+00					
SB124	4	5 759E+04	5 758E+04	5 751E+04	5 740E+04	5 717E+04	5 695E+04	5 631E+04	5 504E+04	5 255E+04		
		4 791E+04	3 988E+04	2 757E+04	1 320E+04	3 022E+03	8 590E+02					
SB125	4	8 721E+05	8 722E+05	8 722E+05	8 722E+05	8 722E+05	8 722E+05	8 724E+05	8 728E+05	8 725E+05		
		6 711E+05	6 855E+05	6 519E+05	6 241E+05	5 717E+05	5 304E+05					
TE125M	4	1 318E+05	1 318E+05	1 319E+05	1 319E+05	1 320E+05	1 321E+05	1 323E+05	1 329E+05	1 339E+05		
		1 358E+05	1 389E+05	1 429E+05	1 447E+05	1 379E+05	1 290E+05					
SB126	4	8 930E+04	8 914E+04	8 881E+04	8 818E+04	8 693E+04	8 568E+04	8 211E+04	5 553E+04	4 441E+04		
		2 840E+04	1 161E+04	1 943E+03	5 898E+01	4 898E+00	4 851E+00					
SB127	4	7 439E+06	7 405E+06	7 321E+06	7 125E+06	6 717E+06	6 327E+06	5 285E+06	3 887E+06	1 794E+06		
		4 249E+05	2 382E+04	7 489E+01	7 408E-04	7 248E-14	2 075E-22					
TE127	4	7 282E+06	7 281E+06	7 269E+06	7 218E+06	7 028E+06	6 771E+06	5 889E+06	4 381E+06	2 561E+06		
		1 211E+06	7 507E+05	5 940E+05	3 954E+05	1 752E+05	8 748E+04					
TE127M	4	8 725E+05	8 725E+05	8 725E+05	8 728E+05	8 728E+05	8 730E+05	8 728E+05	8 895E+05	8 567E+05		
		8 208E+05	7 432E+05	6 065E+05	4 038E+05	1 789E+05	8 928E+04					
SB128	4	9 279E+05	8 594E+05	7 367E+05	5 418E+05	2 928E+05	1 582E+05	2 497E+04	6 222E+02	3 864E-01		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
SB128M	4	8 911E+06	3 428E+06	8 388E+05	4 993E+04	1 778E+02	8 314E 01	2 839E-08	5 739E-23	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
I128	2	9 989E+04	1 891E+04	6 770E+02	8 732E-01	1 437E 06	2 385E-12	000E+00	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
SB129	4	1 947E+07	1 658E+07	1 203E+07	8 332E+06	1 754E+06	4 858E+05	1 032E+04	4 663E+00	9 511E-07		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
TE129	4	2 135E+07	1 969E+07	1 579E+07	9 810E+06	4 218E+06	2 698E+06	2 090E+06	1 994E+06	1 838E+06		
		1 557E+06	1 119E+06	5 783E+05	1 544E+05	1 101E+04	1 158E+03					
TE129M	4	3 309E+06	3 309E+06	3 307E+06	3 299E+06	3 280E+06	3 258E+06	3 192E+06	3 084E+06	2 820E+06		
		2 391E+06	1 719E+06	8 884E+05	2 372E+05	1 692E+04	1 777E+03					
SB130	4	2 583E+06	9 134E+05	1 142E+05	1 784E+03	4 358E-01	1 063E-04	1 547E-15	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
SB130M	4	9 355E+04	1 278E+02	2 358E-04	8 030E-18	000E+00	000E+00	000E+00	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
I130	2	1 747E+06	1 852E+06	1 478E+06	1 180E+06	7 534E+05	4 811E+05	1 252E+05	8 489E+03	3 899E+01		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
SB131	4	9 934E+06	1 829E+06	4 378E+04	3 182E+01	1 651E-05	8 617E-12	000E+00	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
TE131	4	3 032E+07	1 024E+07	2 552E+06	1 922E+06	1 597E+06	1 327E+06	7 823E+05	2 514E+05	2 738E+04		
		3 240E+02	4 543E-02	8 933E-10	000E+00	000E+00	000E+00					
TE131M	4	1 002E+07	9 799E+06	9 359E+06	8 533E+06	7 091E+06	5 898E+06	3 385E+06	1 117E+06	1 215E+05		
		1 439E+03	2 018E-01	3 968E-09	000E+00	000E+00	000E+00					
I131	2	7 105E+07	7 091E+07	7 049E+07	6 960E+07	6 785E+07	6 810E+07	6 103E+07	5 168E+07	3 873E+07		
		1 844E+07	4 843E+06	2 943E+05	1 182E+03	1 907E-02	1 549E-06					
XE131M	1	7 928E+05	7 928E+05	7 928E+05	7 924E+05	7 917E+05	7 911E+05	7 858E+05	7 681E+05	7 089E+05		
		5 517E+05	2 778E+05	5 291E+04	1 408E+03	8 283E-01	1 427E-03					
TE132	4	1 004E+08	9 951E+07	9 778E+07	9 435E+07	8 789E+07	8 189E+07	8 618E+07	4 324E+07	1 847E+07		
		3 368E+06	1 119E+05	1 243E+02	1 518E 04	2 263E-18	000E+00					
I132	2	1 023E+08	1 017E+08	1 003E+08	9 708E+07	9 058E+07	8 437E+07	6 825E+07	4 458E+07	1 903E+07		
		3 489E+06	1 153E+05	1 280E+02	1 564E-04	2 332E-18	000E+00					
TE133	4	7 358E+06	2 143E+06	4 538E+05	2 251E+04	5 550E+01	1 368E 01	2 048E-09	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
TE133M	4	2 571E+07	1 214E+07	2 704E+06	1 342E+05	3 307E+02	8 153E-01	1 221E-08	000E+00	000E+00		
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00					
I133	2	1 435E+08	1 394E+08	1 309E+08	1 147E+08	8 781E+07	6 728E+07	3 022E+07	6 108E+06	2 491E+05		
		4 150E+02	1 150E-03	8 821E-15	000E+00	000E+00	000E+00					

TABLE 6. (Continued)

Radionuclide Grp		Radioactivity, Curies									
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D	
		16 D	32 D	64 D	128 D	256 D	1 yr				
XE133	1	1 480E+08	1 480E+08	1 459E+08	1 454E+08	1 435E+08	1 408E+08	1 293E+08	1 032E+08	6 190E+07	
	2	184E+07	2 818E+06	3 811E+04	8 085E+00	3 850E-07	1 981E-13				
XE133M	1	4 540E+08	4 534E+08	4 518E+08	4 468E+08	4 309E+08	4 100E+08	3 342E+08	1 982E+08	5 810E+05	
	4	654E+04	2 941E+02	1 173E-02	1 868E-11	000E+00	000E+00				
TE134	4	4 532E+07	1 878E+07	2 291E+06	4 282E+04	1 496E+01	5 224E-03	2 227E-13	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
I134	2	1 131E+08	6 599E+07	1 805E+07	9 734E+05	1 981E+03	3 828E+00	2 094E-08	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CS134	3	5 769E+08	5 769E+08	5 768E+08	5 765E+08	5 784E+06	5 781E+06	5 758E+06	5 747E+06	5 726E+06	
	5	685E+08	5 601E+08	5 438E+08	5 126E+08	4 557E+06	4 120E+06				
CS134M	3	2 000E+08	1 575E+08	9 763E+05	3 754E+05	5 548E+04	8 198E+03	2 644E+01	2 752E-04	2 983E-14	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
I135	2	1 229E+08	1 108E+08	8 988E+07	5 898E+07	2 549E+07	1 102E+07	8 898E+05	5 801E+03	2 488E-01	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
XE135	1	3 770E+07	4 358E+07	5 156E+07	5 714E+07	4 859E+07	3 397E+07	7 798E+06	2 481E+05	1 724E+02	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
XE135M	1	2 011E+07	1 775E+07	1 437E+07	9 445E+06	4 083E+06	1 785E+06	1 425E+05	9 295E+02	3 953E-02	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CS135M	3	5 785E+05	2 640E+05	5 496E+04	2 382E+03	4 472E+00	8 389E-03	5 556E-11	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CS136	3	2 423E+08	2 417E+08	2 408E+08	2 386E+08	2 344E+08	2 303E+08	2 184E+08	1 965E+08	1 590E+08	
	1	042E+08	4 487E+05	8 220E+04	2 781E+03	3 190E+00	9 851E-03				
BA136M	5	3 993E+05	3 984E+05	3 986E+05	3 930E+05	3 863E+05	3 794E+05	3 800E+05	3 239E+05	2 620E+05	
		1 718E+05	7 363E+04	1 354E+04	4 584E+02	5 258E-01	1 624E-03				
CS137	3	4 885E+08	4 885E+08	4 885E+08	4 885E+08	4 885E+08	4 885E+08	4 885E+08	4 884E+08	4 881E+08	
	4	879E+08	4 875E+08	4 865E+08	4 844E+08	4 805E+08	4 771E+08				
BA137M	5	4 622E+08	4 621E+08	4 621E+08	4 621E+08	4 620E+08	4 620E+08	4 619E+08	4 619E+08	4 618E+08	
	4	618E+08	4 611E+08	4 601E+08	4 583E+08	4 546E+08	4 515E+08				
XE138	1	6 472E+08	3 438E+05	9 715E+02	7 740E-03	4 916E-13	3 121E-23	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CS138	3	5 832E+07	1 715E+07	1 315E+06	7 510E+03	2 445E-01	7 982E-06	2 746E-19	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CS139	3	1 613E+08	1 933E+04	2 775E+00	5 720E-08	2 430E-23	000E+00	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
BA139	5	8 957E+07	5 429E+07	1 986E+07	2 657E+06	4 755E+04	8 512E+02	4 879E-03	1 803E-13	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
BA140	5	1 285E+08	1 282E+08	1 258E+08	1 245E+08	1 223E+08	1 201E+08	1 137E+08	1 021E+08	8 217E+07	
	5	326E+07	2 237E+07	3 950E+06	1 231E+05	1 195E+02	3 210E-01				
LA140	7	1 295E+08	1 295E+08	1 294E+08	1 291E+08	1 283E+08	1 274E+08	1 238E+08	1 143E+08	9 394E+07	
	8	126E+07	2 575E+07	4 546E+06	1 418E+05	1 375E+02	3 693E-01				
BA141	5	1 248E+07	1 278E+06	1 348E+04	1 493E+00	1 836E-08	2 257E-18	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
LA141	7	1 080E+08	9 134E+07	6 427E+07	3 174E+07	7 745E+06	1 889E+06	2 743E+04	5 782E+00	2 568E-07	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CE141	7	1 217E+08	1 216E+08	1 216E+08	1 213E+08	1 205E+08	1 197E+08	1 172E+08	1 123E+08	1 031E+08	
	8	695E+07	6 182E+07	3 128E+07	7 986E+06	5 213E+05	5 078E+04				
BA142	5	2 334E+08	4 786E+04	2 014E+01	3 584E-06	1 116E-19	000E+00	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
LA142	7	8 341E+07	5 344E+07	2 179E+07	3 621E+06	1 000E+05	2 783E+03	5 824E-02	2 587E-11	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
PR142	7	3 725E+08	3 593E+06	3 343E+06	2 891E+06	2 184E+06	1 619E+06	6 787E+05	1 192E+05	3 880E+03	
	3	503E+00	3 177E-08	2 613E-18	000E+00	000E+00	000E+00				
PR142M	7	4 766E+04	2 761E+03	9 287E+00	1 043E-04	1 323E-14	000E+00	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
LA143	7	5 805E+08	2 977E+05	7 830E+02	5 410E-03	2 583E-13	1 233E-23	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CE143	7	1 108E+08	1 083E+08	1 039E+08	9 548E+07	8 072E+07	6 824E+07	4 121E+07	1 504E+07	2 002E+06	
	3	549E+04	1 115E+01	1 100E-06	1 071E-20	000E+00	000E+00				
PR143	7	1 111E+08	1 111E+08	1 111E+08	1 110E+08	1 108E+08	1 100E+08	1 072E+08	9 927E+07	8 207E+07	
	5	488E+07	2 415E+07	4 708E+06	1 788E+05	2 583E+02	9 719E-01				
CE144	7	6 997E+07	6 997E+07	6 995E+07	6 992E+07	6 986E+07	6 979E+07	6 966E+07	6 929E+07	6 881E+07	
	6	729E+07	6 472E+07	5 988E+07	5 122E+07	3 749E+07	2 872E+07				

TABLE 6. (Continued)

Radionuclide Grp		Radioactivity, Curies											
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D			
		16 D	32 D	64 D	128 D	256 D	1 yr						
PR144	7	7 005E+07	8 997E+07	8 989E+07	8 992E+07	8 987E+07	8 979E+07	8 966E+07	8 929E+07	8 863E+07			
		8 729E+07	8 472E+07	5 988E+07	5 122E+07	3 749E+07	2 872E+07						
PR144M	7	8 399E+05	8 395E+05	8 395E+05	8 391E+05	8 385E+05	8 376E+05	8 357E+05	8 318E+05	8 235E+05			
		8 075E+05	7 766E+05	7 185E+05	6 148E+05	4 498E+05	3 447E+05						
PR145	7	8 851E+07	8 101E+07	4 838E+07	3 045E+07	1 204E+07	4 766E+06	2 951E+05	1 132E+03	1 868E-02			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
CE146	7	3 254E+08	1 739E+05	4 973E+02	4 083E-03	2 712E-13	1 809E-23	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
PR146	7	2 175E+07	4 481E+08	1 514E+05	1 571E+02	1 880E-04	1 797E-10	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
PR147	7	1 858E+08	5 181E+04	5 059E+01	4 824E-05	4 387E-17	000E+00	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
ND147	7	4 759E+07	4 747E+07	4 722E+07	4 874E+07	4 577E+07	4 482E+07	4 211E+07	3 715E+07	2 891E+07			
		1 751E+07	8 423E+08	8 648E+05	1 586E+04	5 141E+00	5 490E-03						
PM147	7	8 038E+08	8 038E+08	8 041E+08	8 045E+08	8 056E+08	8 083E+08	8 088E+08	8 135E+08	8 206E+08			
		8 291E+08	8 322E+08	8 196E+08	7 834E+08	7 142E+08	6 597E+08						
PM148	7	1 638E+07	1 829E+07	1 811E+07	1 577E+07	1 511E+07	1 448E+07	1 274E+07	9 858E+06	5 912E+06			
		2 151E+08	3 209E+05	3 789E+04	1 155E+04	1 346E+03	2 151E+02						
PM148M	7	1 754E+08	1 753E+08	1 750E+08	1 745E+08	1 736E+08	1 726E+08	1 698E+08	1 641E+08	1 535E+08			
		1 342E+08	1 028E+08	5 996E+05	2 048E+05	2 389E+04	3 818E+03						
ND149	7	1 839E+07	1 232E+07	5 529E+06	1 113E+06	4 514E+04	1 830E+03	1 220E-01	5 420E-10	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
PM149	7	3 088E+07	3 087E+07	3 010E+07	2 871E+07	2 589E+07	2 332E+07	1 705E+07	9 109E+06	2 801E+06			
		2 120E+05	1 408E+03	8 214E-02	1 210E-10	000E+00	000E+00						
PM150	7	3 159E+05	2 439E+05	1 454E+05	5 168E+04	8 528E+03	8 246E+02	1 859E+00	8 735E-06	1 109E-18			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
ND151	7	4 748E+05	1 880E+04	2 028E+01	3 024E-05	8 728E-17	000E+00	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
PM151	7	1 331E+07	1 300E+07	1 238E+07	1 123E+07	8 232E+06	7 597E+06	4 227E+06	1 309E+06	1 257E+05			
		1 156E+03	8 801E-02	7 040E-10	000E+00	000E+00	000E+00						
SM151	7	1 918E+04	1 920E+04	1 922E+04	1 928E+04	1 933E+04	1 939E+04	1 951E+04	1 981E+04	1 988E+04			
		1 988E+04	1 985E+04	1 984E+04	1 981E+04	1 958E+04	1 951E+04						
ND152	7	2 527E+05	8 794E+03	4 907E+00	2 582E-06	8 978E-19	000E+00	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
PM152	7	3 928E+05	1 057E+04	7 827E+00	3 981E-08	1 084E-18	000E+00	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
SM153	7	2 367E+07	2 332E+07	2 284E+07	2 134E+07	1 895E+07	1 883E+07	1 178E+07	5 779E+06	1 390E+06			
		8 039E+04	2 888E+02	3 007E-03	3 786E-13	000E+00	000E+00						
EU154	7	3 778E+05	3 778E+05	3 778E+05	3 778E+05	3 778E+05	3 778E+05	3 773E+05	3 773E+05	3 769E+05			
		3 782E+05	3 750E+05	3 722E+05	3 670E+05	3 588E+05	3 483E+05						
SM155	7	3 915E+05	8 012E+04	1 419E+03	7 886E-01	2 448E-07	7 585E-14	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
EU155	7	2 521E+05	2 521E+05	2 520E+05	2 520E+05	2 520E+05	2 520E+05	2 520E+05	2 517E+05	2 513E+05			
		2 506E+05	2 490E+05	2 480E+05	2 401E+05	2 286E+05	2 192E+05						
SM156	7	1 435E+08	1 333E+08	1 151E+08	8 588E+05	4 749E+05	2 633E+05	4 488E+04	1 302E+03	1 097E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
EU156	7	8 355E+08	8 343E+08	8 314E+08	8 280E+08	8 144E+08	8 028E+08	7 874E+08	7 008E+08	5 835E+08			
		4 051E+08	1 951E+08	4 528E+05	2 439E+04	7 074E+01	4 829E-01						
EU157	7	1 392E+08	1 331E+08	1 214E+08	1 012E+08	7 027E+05	4 879E+05	1 833E+05	1 829E+04	2 297E+02			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
SM158	7	2 101E+05	8 183E+04	1 232E+04	2 804E+02	1 454E-01	7 543E-05	1 052E-14	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
EU158	7	4 284E+05	2 488E+05	8 381E+04	2 803E+03	3 233E+00	2 942E-03	1 440E-12	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						
EU159	7	3 514E+04	3 532E+03	3 585E+01	3 835E-03	3 780E-11	3 930E-19	000E+00	000E+00	000E+00			
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00						

calculations being performed at Sandia should help to determine whether or not fuel burnup has a significant effect on dose.

III. BWR ANALYSES

The Peach Bottom reactor has been used in this study to examine radionuclide distributions in boiling water reactors. Based upon the assessment performed for the Surry plant, it was decided to use a sequence analogous to the PWR AB sequence as a starting point for describing alternative bounding radionuclide distributions. The AE sequence has been analyzed both with the Source Term Code Package to support the preparation of NUREG-0956 and with the separate component codes for BMI-2104 (Ref. 5). The more recent analysis with the Source Term Code Package is most applicable because it incorporates some coding improvements and also because containment failure is more delayed than in the earlier analysis. Some of the characteristics of the AE sequence that made it most appropriate as a basis for analysis are:

1. Early core uncover and release of fission products.
2. Little retention in the reactor coolant system.
3. Direct release to the drywell during the in-vessel melting period.
4. Large ex-vessel release of fission products.
5. Drywell spray assumed not to operate.

As in the PWR analyses, three variations were made from the base case to permit the consideration of arrested scenarios in which the emergency core cooling system functions after severe core damage has occurred but prior to vessel failure and of cases in which the drywell sprays operate.

Case 1. The base case is essentially the same as the Source Term Code Package analysis except that the leakage predicted to occur after containment failure was removed from the results by depositing the airborne species in proportion to their prior distribution.

Case 2. An arrested sequence was developed by removing the contribution from the core-concrete attack period.

Case 3. A scenario in which the drywell sprays operate was simulated by removing all airborne radionuclides rapidly to the suppression pool. No activity was assumed to remain on drywell surfaces.

Case 4. An arrested sequence with drywell sprays operating was simulated by removing the contribution from core-concrete attack in Case 3.

In the BWR analyses, the following key parameters were used:

	Wetwell	Drywell
Gas Volume	$4.503 \times 10^9 \text{ cm}^3$	$3.370 \times 10^9 \text{ cm}^3$
Sedimentation Area	$1.524 \times 10^6 \text{ cm}^2$	$1.020 \times 10^7 \text{ cm}^2$
Wall Area	$6.260 \times 10^7 \text{ cm}^2$	$1.585 \times 10^7 \text{ cm}^2$

The elemental distributions for the four cases are presented in Tables 7 to 10. An ORIGEN 2 calculation was performed for a BWR irradiation scheme involving four cycles. An end of life inventory for the core was determined corresponding to burnups in the four regions of 7,000, 14,000, 21,000 and 27,000 MWD/MTU. The activity for each of the key radionuclides is indicated in Table 11 as a function of time. The locational distribution of the radionuclides as a function of time is provided in the accompanying microfiche for each of the four cases.

IV. SUMMARY AND CONCLUSIONS

Using the results of analyses performed with the Source Term Code Package, locational distributions of radionuclides have been developed as a function of time which can be used to assess the radiation environment to which equipment can be exposed in a severe accident. A number of limitations of the analysis should be recognized.

TABLE 7. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF ELEMENTAL GROUPS OF FISSION PRODUCTS FOR CASE 1 OF THE PEACH BOTTOM AE SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 1

FISSION PRODUCT GROUP IS 1

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.193E-02	.000E+00	.000E+00	9.381E-01	.000E+00	.000E+00
2	3.195E-01	.000E+00	.000E+00	8.805E-01	.000E+00	.000E+00
4	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
16	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
24	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
48	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
96	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
192	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
384	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
768	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
1536	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
3072	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
6144	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8760	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	1.873E-02	1.423E-01	8.168E-03	1.707E-02	1.813E-04	5.900E-01
2	1.131E-02	1.461E-01	1.056E-02	8.388E-03	1.858E-04	6.008E-01
4	1.507E-05	1.540E-01	1.134E-02	6.773E-05	1.890E-04	6.237E-01
8	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
16	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
24	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
48	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
96	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
192	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
384	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
768	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
1536	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
3072	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
6144	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01
8760	.000E+00	1.493E-01	1.087E-02	.000E+00	1.891E-04	6.190E-01

TABLE 7. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	1.858E-02	1.438E-01	1.214E-02	1.703E-02	1.977E-04	5.890E-01
2	1.122E-02	1.475E-01	1.452E-02	8.364E-03	2.022E-04	5.996E-01
4	1.500E-05	1.548E-01	1.526E-02	6.742E-05	2.054E-04	6.218E-01
8	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
16	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
24	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
48	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
96	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
192	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
384	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
768	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
1536	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
3072	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
6144	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01
8760	.000E+00	1.504E-01	1.482E-02	.000E+00	2.054E-04	6.175E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	3.347E-03	1.774E-02	2.974E-04	2.394E-03	9.996E-06	8.348E-02
2	2.016E-03	1.840E-02	7.224E-04	1.176E-03	1.063E-05	8.510E-02
4	7.323E-03	9.716E-02	7.809E-03	1.971E-04	1.123E-05	1.835E-01
8	9.964E-05	4.759E-02	2.859E-03	7.036E-05	1.373E-05	1.987E-01
16	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
24	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
48	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
96	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
192	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
384	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
768	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
1536	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
3072	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
6144	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01
8760	6.394E-05	2.739E-02	8.425E-04	4.109E-05	1.530E-05	1.841E-01

TABLE 7. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	8.781E-05	6.390E-04	7.211E-06	9.253E-05	2.776E-07	3.168E-03
2	5.301E-05	6.569E-04	1.847E-05	4.546E-03	3.022E-07	3.224E-03
4	7.461E-03	8.595E-02	7.957E-03	2.131E-04	4.484E-07	1.057E-01
8	4.415E-07	1.852E-02	1.215E-03	3.174E-07	7.775E-07	8.175E-02
16	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
24	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
48	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
96	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
192	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
384	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
768	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
1536	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
3072	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
6144	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02
8760	2.732E-07	6.865E-03	4.984E-05	3.174E-07	7.775E-07	8.175E-02

FISSION PRODUCT GROUP IS 6

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	7.980E-07	9.529E-08	9.870E-10	1.574E-08	3.623E-11	5.233E-07
2	9.118E-09	9.837E-08	2.944E-09	7.732E-09	4.041E-11	5.258E-07
4	1.576E-09	1.669E-07	8.576E-09	1.327E-10	4.350E-11	6.285E-07
8	2.149E-09	1.311E-07	5.012E-09	1.651E-09	4.939E-11	6.232E-07
16	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
24	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
48	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
96	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
192	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
384	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
768	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
1536	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
3072	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
6144	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07
8760	2.243E-09	1.276E-07	4.801E-09	1.442E-09	1.027E-10	8.109E-07

TABLE 7. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.953E-10	3.640E-09	3.985E-11	6.844E-10	1.290E-12	2.236E-08
2	4.121E-10	3.779E-09	1.286E-10	3.362E-10	1.472E-12	2.278E-08
4	1.835E-04	5.355E-03	4.588E-04	7.626E-06	6.908E-09	6.194E-03
8	5.480E-09	1.023E-03	2.356E-05	3.875E-09	1.207E-08	2.562E-03
16	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
24	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
48	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
96	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
192	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
384	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
768	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
1536	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
3072	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
6144	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03
8760	3.619E-09	8.122E-04	2.505E-06	2.328E-09	1.216E-08	2.562E-03

TABLE 8. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF ELEMENTAL GROUPS OF FISSION PRODUCTS FOR CASE 2 OF THE PEACH BOTTOM AE SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 2

FISSION PRODUCT GROUP IS 1

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.193E-02	.000E+00	.000E+00	9.381E-01	.000E+00	.000E+00
2	3.195E-01	.000E+00	.000E+00	6.805E-01	.000E+00	.000E+00
4	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
16	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
24	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
48	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
96	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
192	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
384	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
768	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
1536	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
3072	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
6144	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8760	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	1.873E-02	1.423E-01	8.168E-03	1.707E-02	1.813E-04	5.900E-01
2	1.131E-02	1.461E-01	1.056E-02	8.388E-03	1.858E-04	6.008E-01
4	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
8	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
16	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
24	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
48	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
96	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
192	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
384	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
768	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
1536	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
3072	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
6144	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01
8760	.000E+00	1.513E-01	1.131E-02	6.777E-03	1.866E-04	6.078E-01

TABLE 8. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	1.858E-02	1.438E-01	1.214E-02	1.703E-02	1.977E-04	5.890E-01
2	1.122E-02	1.475E-01	1.452E-02	8.364E-03	2.022E-04	5.996E-01
4	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
8	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
16	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
24	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
48	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
96	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
192	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
384	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
768	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
1536	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
3072	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
6144	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01
8760	.000E+00	1.513E-01	1.939E-02	5.115E-04	2.030E-04	6.479E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	3.347E-03	1.774E-02	2.974E-04	2.394E-03	9.996E-06	8.348E-02
2	2.016E-03	1.840E-02	7.224E-04	1.176E-03	1.063E-05	8.510E-02
4	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
8	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
16	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
24	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
48	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
96	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
192	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
384	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
768	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
1536	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
3072	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
6144	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02
8760	.000E+00	1.934E-02	8.568E-04	9.506E-04	1.075E-05	8.630E-02

TABLE 8. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	8.781E-05	6.390E-04	7.211E-06	9.253E-05	2.776E-07	3.168E-03
2	5.301E-05	6.569E-04	1.847E-05	4.546E-05	3.022E-07	3.224E-03
4	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
8	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
16	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
24	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
48	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
96	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
192	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
384	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
768	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
1536	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
3072	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
6144	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03
8760	.000E+00	4.214E-04	2.126E-05	2.270E-05	1.896E-07	2.013E-03

FISSION PRODUCT GROUP IS 6

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	7.980E-07	9.529E-08	9.870E-10	1.574E-08	3.823E-11	5.233E-07
2	9.118E-09	9.837E-08	2.944E-09	7.732E-09	4.041E-11	5.258E-07
4	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
8	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
16	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
24	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
48	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
96	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
192	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
384	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
768	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
1536	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
3072	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
6144	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07
8760	.000E+00	1.026E-07	3.550E-09	6.247E-09	4.116E-11	5.408E-07

TABLE 8. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.953E-10	3.640E-09	3.985E-11	6.844E-10	1.290E-12	2.236E-08
2	4.121E-10	3.779E-09	1.286E-10	3.362E-10	1.472E-12	2.278E-08
4	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
8	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
16	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
24	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
48	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
96	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
192	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
384	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
768	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
1536	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
3072	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
6144	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08
8760	.000E+00	1.816E-09	7.132E-11	1.242E-10	6.882E-13	1.054E-08

TABLE 9. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF ELEMENTAL GROUPS OF FISSION PRODUCTS FOR CASE 3 OF THE PEACH BOTTOM AE SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 3

FISSION PRODUCT GROUP IS 1

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.193E-02	.000E+00	.000E+00	9.381E-01	.000E+00	.000E+00
2	3.195E-01	.000E+00	.000E+00	6.805E-01	.000E+00	.000E+00
4	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
16	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
24	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
48	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
96	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
192	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
384	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
768	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
1536	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
3072	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
6144	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8760	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.707E-02	1.813E-04	7.592E-01
2	.000E+00	.000E+00	.000E+00	8.388E-03	1.858E-04	7.688E-01
4	.000E+00	.000E+00	.000E+00	6.773E-05	1.890E-04	7.891E-01
8	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
16	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
24	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
48	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
96	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
192	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
384	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
768	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
1536	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
3072	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
6144	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01
8760	.000E+00	.000E+00	.000E+00	.000E+00	1.891E-04	7.792E-01

TABLE 9. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.703E-02	1.977E-04	7.635E-01
2	.000E+00	.000E+00	.000E+00	8.364E-03	2.022E-04	7.728E-01
4	.000E+00	.000E+00	.000E+00	6.742E-05	2.054E-04	7.919E-01
8	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
16	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
24	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
48	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
96	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
192	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
384	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
768	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
1536	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
3072	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
6144	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01
8760	.000E+00	.000E+00	.000E+00	.000E+00	2.054E-04	7.827E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	2.394E-03	9.996E-06	1.049E-01
2	.000E+00	.000E+00	.000E+00	1.176E-03	1.063E-05	1.062E-01
4	.000E+00	.000E+00	.000E+00	1.971E-04	1.123E-05	2.958E-01
8	.000E+00	.000E+00	.000E+00	7.036E-05	1.373E-05	2.492E-01
16	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
24	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
48	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
96	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
192	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
384	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
768	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
1536	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
3072	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
6144	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01
8760	.000E+00	.000E+00	.000E+00	4.109E-05	1.530E-05	2.124E-01

TABLE 9. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	9.253E-05	2.776E-07	3.902E-03
2	.000E+00	.000E+00	.000E+00	4.546E-03	3.022E-07	3.952E-03
4	.000E+00	.000E+00	.000E+00	2.131E-04	4.484E-07	2.071E-01
8	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	1.015E-01
16	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
24	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
48	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
96	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
192	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
384	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
768	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
1536	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
3072	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
6144	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02
8760	.000E+00	.000E+00	.000E+00	3.174E-07	7.775E-07	8.867E-02

FISSION PRODUCT GROUP IS 6

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.574E-08	3.623E-11	1.418E-06
2	.000E+00	.000E+00	.000E+00	7.732E-09	4.041E-11	6.362E-07
4	.000E+00	.000E+00	.000E+00	1.327E-10	4.350E-11	8.056E-07
8	.000E+00	.000E+00	.000E+00	1.651E-09	4.939E-11	7.615E-07
16	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
24	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
48	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
96	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
192	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
384	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
768	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
1536	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
3072	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
6144	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07
8760	.000E+00	.000E+00	.000E+00	1.442E-09	1.027E-10	9.455E-07

TABLE 9. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	6.844E-10	1.290E-12	2.674E-08
2	.000E+00	.000E+00	.000E+00	3.362E-10	1.472E-12	2.710E-08
4	.000E+00	.000E+00	.000E+00	7.626E-06	6.908E-09	1.219E-02
8	.000E+00	.000E+00	.000E+00	3.875E-09	1.207E-08	3.609E-03
16	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
24	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
48	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
96	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
192	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
384	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
768	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
1536	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
3072	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
6144	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03
8760	.000E+00	.000E+00	.000E+00	2.328E-09	1.216E-08	3.377E-03

TABLE 10. TIME-DEPENDENT LOCATIONAL DISTRIBUTION OF CORE INVENTORY OF ELEMENTAL GROUPS OF FISSION PRODUCTS FOR CASE 4 OF THE PEACH BOTTOM AE SCENARIO

FRACTIONAL DISTRIBUTIONS FOR CASE 4

FISSION PRODUCT GROUP IS 1

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	6.193E-02	.000E+00	.000E+00	9.381E-01	.000E+00	.000E+00
2	3.195E-01	.000E+00	.000E+00	6.805E-01	.000E+00	.000E+00
4	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
16	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
24	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
48	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
96	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
192	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
384	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
768	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
1536	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
3072	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
6144	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00
8760	5.719E-01	.000E+00	.000E+00	4.281E-01	.000E+00	.000E+00

FISSION PRODUCT GROUP IS 2

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.707E-02	1.813E-04	7.592E-01
2	.000E+00	.000E+00	.000E+00	8.388E-03	1.858E-04	7.688E-01
4	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
8	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
16	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
24	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
48	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
96	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
192	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
384	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
768	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
1536	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
3072	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
6144	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01
8760	.000E+00	.000E+00	.000E+00	6.777E-03	1.866E-04	7.704E-01

TABLE 10. (Continued)

FISSION PRODUCT GROUP IS 3

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.703E-02	1.977E-04	7.635E-01
2	.000E+00	.000E+00	.000E+00	8.364E-03	2.022E-04	7.728E-01
4	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
8	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
16	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
24	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
48	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
96	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
192	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
384	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
768	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
1536	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
3072	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
6144	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01
8760	.000E+00	.000E+00	.000E+00	5.115E-04	2.030E-04	8.186E-01

FISSION PRODUCT GROUP IS 4

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	2.394E-03	9.996E-06	1.049E-01
2	.000E+00	.000E+00	.000E+00	1.176E-03	1.063E-05	1.062E-01
4	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
8	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
16	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
24	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
48	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
96	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
192	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
384	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
768	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
1536	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
3072	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
6144	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01
8760	.000E+00	.000E+00	.000E+00	9.506E-04	1.075E-05	1.065E-01

TABLE 10. (Continued)

FISSION PRODUCT GROUP IS 5

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	9.253E-05	2.776E-07	3.902E-03
2	.000E+00	.000E+00	.000E+00	4.546E-05	3.022E-07	3.952E-03
4	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
8	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
16	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
24	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
48	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
96	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
192	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
384	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
768	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
1536	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
3072	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
6144	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03
8760	.000E+00	.000E+00	.000E+00	2.270E-05	1.896E-07	2.456E-03

FISSION PRODUCT GROUP IS 6

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	1.574E-08	3.623E-11	1.418E-06
2	.000E+00	.000E+00	.000E+00	7.732E-09	4.041E-11	6.362E-07
4	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
8	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
16	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
24	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
48	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
96	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
192	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
384	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
768	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
1536	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
3072	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
6144	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07
8760	.000E+00	.000E+00	.000E+00	6.247E-09	4.116E-11	6.470E-07

TABLE 10. (Continued)

FISSION PRODUCT GROUP IS 7

TIME (HR)	DATA FOR THE DRYWELL			DATA FOR THE WETWELL		
	AIRBORNE	FLOOR	WALLS	AIRBORNE	WALLS	SPOOL
1	.000E+00	.000E+00	.000E+00	6.844E-10	1.290E-12	2.674E-08
2	.000E+00	.000E+00	.000E+00	3.362E-10	1.472E-12	2.710E-08
4	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
8	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
16	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
24	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
48	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
96	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
192	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
384	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
768	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
1536	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
3072	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
6144	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08
8760	.000E+00	.000E+00	.000E+00	1.242E-10	6.882E-13	1.243E-08

TABLE 11. TIME-DEPENDENT INVENTORY OF KEY RADIONUCLIDES FOR THE PEACH BOTTOM PLANT

Radionuclide Grp		Radioactivity, Curies									
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D	
		16 D	32 D	64 D	128 D	256 D	1 yr				
U237	7	5 584E+07	5 581E+07	5 513E+07	5 420E+07	5 238E+07	5 080E+07	4 587E+07	3 719E+07	2 486E+07	
		1 085E+07	2 098E+06	7 867E+04	3 280E+02	2 129E+02	2 099E+02				
U239	7	3 455E+08	5 901E+07	1 721E+08	1 466E+03	1 082E-03	7 891E-10	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
NP238	7	1 472E+07	1 452E+07	1 413E+07	1 338E+07	1 199E+07	1 075E+07	7 752E+06	4 027E+06	1 087E+06	
		7 918E+04	4 227E+02	2 880E+00	2 845E+00	2 641E+00	2 838E+00				
NP239	7	2 008E+09	1 985E+09	1 938E+09	1 845E+09	1 873E+09	1 517E+09	1 130E+09	8 272E+08	1 933E+08	
		1 835E+07	1 861E+05	8 832E+02	8 497E+02	8 497E+02	8 497E+02				
NP240	7	8 973E+05	4 732E+05	1 318E+05	1 018E+04	8 093E+01	3 648E-01	7 813E-08	3 589E-21	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
PU238	7	9 853E+04	9 853E+04	9 855E+04	9 881E+04	9 873E+04	9 882E+04	9 908E+04	9 942E+04	9 980E+04	
		1 003E+05	1 011E+05	1 024E+05	1 048E+05	1 074E+05	1 087E+05				
PU239	7	3 513E+04	3 513E+04	3 514E+04	3 517E+04	3 521E+04	3 525E+04	3 538E+04	3 549E+04	3 561E+04	
		3 585E+04	3 585E+04	3 585E+04	3 585E+04	3 585E+04	3 585E+04				
PU240	7	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	
		4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04	4 079E+04				
PU241	7	8 978E+08	8 978E+08	8 978E+08	8 978E+08	8 978E+08	8 975E+08	8 974E+08	8 974E+08	8 987E+08	
		8 958E+08	8 942E+08	8 902E+08	8 825E+08	8 679E+08	8 553E+08				
PU243	7	1 102E+07	9 579E+08	7 240E+08	4 138E+08	1 352E+08	4 414E+05	1 538E+04	1 862E+01	2 907E-05	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SE 79M	4	2 775E+04	2 740E+02	2 849E-02	2 487E-10	000E+00	000E+00	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SE 81	4	8 955E+05	1 185E+05	1 358E+04	7 091E+02	2 128E+00	8 403E-03	1 743E-10	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SE 81M	4	7 708E+04	3 729E+04	8 733E+03	4 790E+02	1 441E+00	4 335E-03	1 180E-10	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
BR 82	2	3 001E+05	2 942E+05	2 829E+05	2 815E+05	2 235E+05	1 910E+05	1 193E+05	4 847E+04	7 057E+03	
		1 827E+02	8 858E-02	2 450E-08	1 981E-21	000E+00	000E+00				
SE 83	4	7 844E+05	1 235E+05	3 084E+03	1 884E+00	7 133E-07	2 700E-13	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
BR 83	2	1 015E+07	7 876E+08	4 311E+08	1 352E+08	1 328E+05	1 305E+04	1 238E+01	1 114E-05	9 021E-18	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
KR 83M	1	1 234E+07	1 122E+07	8 250E+08	3 538E+08	4 588E+05	5 048E+04	5 221E+01	4 751E-05	3 848E-17	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
BR 84	2	8 742E+08	1 823E+08	1 333E+05	7 128E+02	2 037E-02	5 823E-07	1 380E-20	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
KR 85	1	7 187E+05	7 187E+05	7 188E+05	7 188E+05	7 188E+05	7 188E+05	7 187E+05	7 183E+05	7 178E+05	
		7 189E+05	7 148E+05	7 109E+05	7 028E+05	8 870E+05	8 739E+05				
KR 85M	1	2 389E+07	2 048E+07	1 502E+07	8 089E+08	2 348E+08	8 808E+05	1 881E+04	9 897E+00	3 513E-08	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RB 86	3	1 069E+05	1 067E+05	1 084E+05	1 057E+05	1 044E+05	1 031E+05	9 938E+04	9 223E+04	7 949E+04	
		5 908E+04	3 280E+04	9 928E+03	9 206E+02	7 925E+00	1 389E-01				
KR 87	1	3 121E+07	1 810E+07	8 084E+08	8 878E+05	8 781E+03	1 121E+02	2 338E-04	1 014E-15	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
KR 88	1	5 890E+07	4 813E+07	2 832E+07	1 068E+07	1 512E+08	2 144E+05	8 113E+02	4 970E-03	3 288E-13	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RB 88	3	8 502E+07	5 145E+07	3 182E+07	1 191E+07	1 888E+08	2 394E+05	8 828E+02	5 550E-03	3 871E-13	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
RB 89	3	7 955E+08	5 158E+05	2 187E+03	3 825E-02	1 193E-11	3 719E-21	000E+00	000E+00	000E+00	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SR 89	5	1 001E+08	1 001E+08	9 997E+07	9 974E+07	9 929E+07	9 883E+07	9 749E+07	9 483E+07	8 977E+07	
		8 044E+07	8 458E+07	4 181E+07	1 729E+07	2 984E+08	8 861E+05				
SR 90	5	5 857E+08	5 857E+08	5 857E+08	5 857E+08	5 857E+08	5 857E+08	5 857E+08	5 857E+08	5 855E+08	
		5 852E+08	5 848E+08	5 836E+08	5 811E+08	5 584E+08	5 525E+08				
Y 90	7	5 851E+08	5 849E+08	5 845E+08	5 837E+08	5 822E+08	5 809E+08	5 774E+08	5 727E+08	5 680E+08	
		5 857E+08	5 848E+08	5 838E+08	5 813E+08	5 587E+08	5 527E+08				
SR 91	5	1 189E+08	1 087E+08	9 393E+07	7 015E+07	3 913E+07	2 183E+07	3 789E+06	1 142E+05	1 037E+02	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
Y 91	7	1 259E+08	1 259E+08	1 259E+08	1 258E+08	1 255E+08	1 251E+08	1 238E+08	1 209E+08	1 153E+08	
		1 049E+08	8 877E+07	5 839E+07	2 783E+07	8 108E+08	1 674E+08				
Y 91M	7	7 124E+07	8 774E+07	5 944E+07	4 457E+07	2 487E+07	1 387E+07	2 408E+06	7 255E+04	8 588E+01	
		000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				

TABLE 11. (Continued)

		Radioactivity, Curies									
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D	
Radionuclide	Grp	16 D	32 D	64 D	128 D	256 D	1 yr				
SR 92	5	1.043E+08 .000E+00	8.078E+07 .000E+00	4.841E+07 .000E+00	1.740E+07 .000E+00	2.249E+06 .000E+00	2.908E+05 .000E+00	8.273E+02 .000E+00	2.921E-03 .000E+00	8.334E-14 .000E+00	
Y 92	7	1.322E+08 .000E+00	1.250E+08 .000E+00	1.048E+08 .000E+00	8.320E+07 .000E+00	1.771E+07 .000E+00	4.281E+06 .000E+00	4.549E+04 .000E+00	3.917E+00 .000E+00	2.678E-08 .000E+00	
SR 93	5	5.934E+05 .000E+00	2.318E+03 .000E+00	3.538E-02 .000E+00	8.238E-12 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
Y 93	7	1.481E+08 .000E+00	1.384E+08 .000E+00	1.189E+08 .000E+00	9.038E+07 .000E+00	5.218E+07 .000E+00	3.014E+07 .000E+00	5.804E+06 .000E+00	2.154E+05 .000E+00	2.980E+02 .000E+00	
Y 94	7	1.871E+07 .000E+00	2.121E+06 .000E+00	2.724E+04 .000E+00	4.495E+00 .000E+00	1.223E-07 .000E+00	3.329E-15 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
Y 95	7	3.249E+08 .000E+00	8.188E+04 .000E+00	2.245E+01 .000E+00	2.954E-08 .000E+00	5.117E-20 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
ZR 95	7	1.830E+08 1.372E+08	1.830E+08 1.153E+08	1.829E+08 8.158E+07	1.825E+08 4.078E+07	1.820E+08 1.019E+07	1.814E+08 3.119E+06	1.598E+08 1.584E+08	1.582E+08 1.585E+08	1.498E+08 1.583E+08	
NB 95	7	1.583E+08 1.544E+08	1.583E+08 1.485E+08	1.583E+08 1.228E+08	1.583E+08 7.400E+07	1.584E+08 2.128E+07	1.584E+08 8.771E+06	1.584E+08 1.167E+08	1.584E+08 1.180E+08	1.583E+08 1.142E+08	
NB 95M	7	1.174E+08 1.018E+08	1.174E+08 8.557E+05	1.173E+08 8.049E+05	1.172E+08 3.024E+05	1.170E+08 7.557E+04	1.167E+08 2.314E+04	1.167E+08 1.160E+08	1.167E+08 1.142E+08	1.167E+08 1.102E+08	
NB 98	7	2.173E+05 2.507E+00	2.110E+05 2.810E-05	1.988E+05 3.527E-15	1.788E+05 .000E+00	1.392E+05 .000E+00	1.098E+05 .000E+00	5.385E+04 .000E+00	1.295E+04 .000E+00	7.492E+02 .000E+00	
ZR 97	7	1.598E+08 2.404E+01	1.532E+08 3.475E-06	1.411E+08 7.282E-20	1.198E+08 .000E+00	8.829E+07 .000E+00	8.215E+07 .000E+00	2.322E+07 .000E+00	3.243E+06 .000E+00	8.324E+04 .000E+00	
NB 97	7	1.851E+08 2.591E+01	1.809E+08 3.745E-06	1.502E+08 7.824E-20	1.284E+08 .000E+00	9.288E+07 .000E+00	8.875E+07 .000E+00	2.334E+07 .000E+00	3.259E+06 .000E+00	8.355E+04 .000E+00	
NB 97M	7	1.512E+08 2.277E+01	1.451E+08 3.292E-06	1.337E+08 8.878E-20	1.135E+08 .000E+00	8.174E+07 .000E+00	5.887E+07 .000E+00	2.200E+07 .000E+00	3.071E+06 .000E+00	5.990E+04 .000E+00	
NB 98M	7	7.077E+05 .000E+00	3.158E+05 .000E+00	8.278E+04 .000E+00	2.482E+03 .000E+00	3.884E+00 .000E+00	8.089E-03 .000E+00	2.323E-11 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
MO 99	8	1.795E+08 3.214E+06	1.778E+08 5.895E+04	1.739E+08 1.789E+01	1.867E+08 1.785E-06	1.533E+08 1.719E-20	1.409E+08 .000E+00	1.095E+08 .000E+00	8.818E+07 .000E+00	2.414E+07 .000E+00	
TC 99M	8	1.588E+08 3.088E+06	1.584E+08 5.487E+04	1.575E+08 1.724E+01	1.543E+08 1.701E-06	1.452E+08 1.858E-20	1.348E+08 .000E+00	1.055E+08 .000E+00	8.372E+07 .000E+00	2.328E+07 .000E+00	
MO101	8	9.872E+06 .000E+00	5.828E+05 .000E+00	1.902E+03 .000E+00	2.178E-02 .000E+00	2.847E-12 .000E+00	3.724E-22 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
TC101	8	3.597E+07 .000E+00	3.504E+06 .000E+00	2.027E+04 .000E+00	3.820E-01 .000E+00	7.404E-11 .000E+00	1.129E-20 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
MO102	8	3.888E+06 .000E+00	8.897E+04 .000E+00	4.843E+01 .000E+00	1.500E-05 .000E+00	1.442E-18 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
TC102	8	3.718E+06 .000E+00	8.768E+04 .000E+00	4.880E+01 .000E+00	1.513E-05 .000E+00	1.453E-18 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
RU103	8	1.418E+08 1.070E+08	1.417E+08 8.085E+07	1.414E+08 4.585E+07	1.410E+08 1.483E+07	1.402E+08 1.549E+06	1.394E+08 2.253E+05	1.389E+08 2.253E+05	1.322E+08 2.253E+05	1.232E+08 2.253E+05	
RH103M	8	1.278E+08 9.842E+07	1.277E+08 7.271E+07	1.275E+08 4.133E+07	1.272E+08 1.338E+07	1.264E+08 1.397E+06	1.257E+08 2.032E+05	1.234E+08 1.749E+07	1.192E+08 1.749E+07	1.111E+08 1.749E+07	
TC104	8	1.288E+07 .000E+00	1.309E+06 .000E+00	1.355E+04 .000E+00	1.453E+00 .000E+00	1.872E-08 .000E+00	1.922E-18 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
TC105	8	5.594E+05 .000E+00	3.091E+03 .000E+00	9.431E-02 .000E+00	8.783E-11 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	
RU105	8	8.233E+07 .000E+00	7.043E+07 .000E+00	5.155E+07 .000E+00	2.780E+07 .000E+00	7.913E+06 .000E+00	2.289E+06 .000E+00	5.349E+04 .000E+00	2.972E+01 .000E+00	9.178E-06 .000E+00	
RH105	8	8.725E+07 5.439E+04	8.703E+07 2.927E+01	8.800E+07 8.481E-06	8.240E+07 7.121E-19	7.270E+07 .000E+00	8.280E+07 .000E+00	3.943E+07 .000E+00	1.539E+07 .000E+00	2.344E+06 .000E+00	
RH105M	8	2.312E+07 .000E+00	1.978E+07 .000E+00	1.447E+07 .000E+00	7.751E+06 .000E+00	2.222E+06 .000E+00	8.371E+05 .000E+00	1.502E+04 .000E+00	8.345E+00 .000E+00	2.577E-06 .000E+00	
RU106	8	3.479E+07 3.378E+07	3.478E+07 3.275E+07	3.478E+07 3.084E+07	3.477E+07 2.733E+07	3.475E+07 2.149E+07	3.472E+07 1.749E+07	3.485E+07 1.749E+07	3.452E+07 1.749E+07	3.427E+07 1.749E+07	
RH106	8	3.479E+07 3.378E+07	3.478E+07 3.275E+07	3.478E+07 3.084E+07	3.477E+07 2.733E+07	3.475E+07 2.149E+07	3.472E+07 1.749E+07	3.485E+07 1.749E+07	3.452E+07 1.749E+07	3.427E+07 1.749E+07	
RH106M	8	1.489E+06 .000E+00	1.072E+06 .000E+00	5.708E+05 .000E+00	1.818E+05 .000E+00	1.302E+04 .000E+00	1.047E+03 .000E+00	5.443E-01 .000E+00	1.472E-07 .000E+00	1.077E-20 .000E+00	
RH107	8	9.418E+06 .000E+00	1.385E+06 .000E+00	2.998E+04 .000E+00	1.405E+01 .000E+00	3.081E-06 .000E+00	8.782E-13 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	.000E+00 .000E+00	

TABLE 11. (Continued)

Radionuclide Grp		Radioactivity, Curies											
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D			
		16 D	32 D	64 D	128 D	256 D	1 yr						
PD109	8	2 371E+07 000E+00	2 252E+07 000E+00	2 032E+07 000E+00	1 853E+07 000E+00	1 095E+07 000E+00	7 254E+06 000E+00	2 108E+06 000E+00	1 780E+05 000E+00	1 270E+03 000E+00			
PD111	8	9 481E+05 000E+00	1 817E+05 000E+00	3 949E+04 000E+00	2 201E+04 000E+00	8 025E+03 000E+00	2 928E+03 000E+00	1 422E+02 000E+00	3 358E-01 000E+00	1 868E-06 000E+00			
PD111M	8	7 293E+04 000E+00	8 430E+04 000E+00	4 997E+04 000E+00	3 019E+04 000E+00	1 010E+04 000E+00	4 019E+03 000E+00	1 952E+02 000E+00	4 804E-01 000E+00	2 564E-06 000E+00			
PD112	8	2 890E+06 5 309E+00	2 792E+06 9 419E-08	2 808E+06 2 965E-17	2 271E+06 000E+00	1 723E+06 000E+00	1 308E+06 000E+00	5 716E+05 000E+00	1 092E+05 000E+00	3 985E+03 000E+00			
SB122	4	1 009E+05 1 878E+03	9 988E+04 2 782E+01	9 775E+04 7 478E-03	9 387E+04 5 482E-10	8 598E+04 000E+00	7 892E+04 000E+00	6 108E+04 000E+00	3 653E+04 000E+00	1 309E+04 000E+00			
SB124	4	8 135E+04 5 105E+04	8 131E+04 4 248E+04	8 124E+04 2 937E+04	8 114E+04 1 405E+04	8 090E+04 3 219E+03	8 087E+04 9 153E+02	5 997E+04 9 393E+05	5 861E+04 9 394E+05	5 597E+04 9 389E+05			
SB125	4	9 389E+05 9 364E+05	9 389E+05 9 288E+05	9 389E+05 9 098E+05	9 391E+05 8 708E+05	9 391E+05 7 977E+05	9 391E+05 7 401E+05	9 393E+05 7 401E+05	9 394E+05 7 401E+05	9 389E+05 7 401E+05			
TE125M	4	1 888E+05 1 933E+05	1 888E+05 1 970E+05	1 887E+05 2 018E+05	1 887E+05 2 030E+05	1 889E+05 1 928E+05	1 890E+05 1 801E+05	1 893E+05 1 899E+05	1 899E+05 1 911E+05	1 911E+05 1 911E+05			
SB126	4	8 372E+04 3 431E+04	8 353E+04 1 403E+04	8 314E+04 2 349E+03	8 237E+04 7 283E+01	8 084E+04 7 328E+00	7 938E+04 7 270E+00	7 505E+04 7 270E+00	8 710E+04 7 270E+00	5 368E+04 7 270E+00			
SB127	4	9 852E+06 5 825E+05	9 807E+06 3 154E+04	9 895E+06 9 928E+01	9 435E+06 9 819E-04	8 895E+06 9 808E-14	8 378E+06 2 750E-22	6 997E+06 8 947E+06	4 881E+06 5 783E+06	2 375E+06 3 375E+06			
TE127	4	9 831E+06 1 588E+06	9 828E+06 9 801E+05	9 809E+06 7 751E+05	9 541E+06 5 159E+05	9 289E+06 2 286E+05	8 947E+06 1 141E+05	7 782E+06 1 141E+05	5 783E+06 1 141E+05	3 375E+06 1 141E+05			
TE127M	4	1 138E+06 1 071E+06	1 138E+06 9 897E+05	1 138E+06 7 912E+05	1 138E+06 5 287E+05	1 139E+06 2 334E+05	1 139E+06 1 185E+05	1 138E+06 1 185E+05	1 134E+06 1 185E+05	1 118E+06 1 185E+05			
SB128	4	1 259E+06 000E+00	1 188E+06 000E+00	9 998E+05 000E+00	7 350E+05 000E+00	3 972E+05 000E+00	2 148E+05 000E+00	3 389E+04 000E+00	8 444E+02 000E+00	5 242E-01 000E+00			
SB128M	4	9 271E+06 000E+00	4 800E+06 000E+00	1 125E+06 000E+00	8 898E+04 000E+00	2 382E+02 000E+00	8 472E-01 000E+00	3 808E-08 000E+00	7 898E-23 000E+00	000E+00 000E+00			
I128	2	1 118E+05 000E+00	2 111E+04 000E+00	7 562E+02 000E+00	9 713E-01 000E+00	1 599E-08 000E+00	2 831E-12 000E+00	000E+00 000E+00	000E+00 000E+00	000E+00 000E+00			
SB129	4	2 833E+07 000E+00	2 243E+07 000E+00	1 827E+07 000E+00	8 582E+06 000E+00	2 371E+06 000E+00	8 588E+05 000E+00	1 398E+04 000E+00	8 304E+00 000E+00	1 288E-06 000E+00			
TE129	4	2 888E+07 2 090E+06	2 861E+07 1 503E+06	2 134E+07 7 788E+05	1 298E+07 2 074E+05	5 884E+06 1 479E+04	3 829E+06 1 553E+03	2 807E+06 1 553E+03	2 878E+06 1 553E+03	2 485E+06 1 553E+03			
TE129M	4	4 445E+06 3 212E+06	4 444E+06 2 309E+06	4 441E+06 1 193E+06	4 431E+06 3 188E+05	4 405E+06 2 272E+04	4 377E+06 2 388E+03	4 288E+06 2 388E+03	4 114E+06 2 388E+03	3 788E+06 2 388E+03			
SB130	4	3 531E+06 000E+00	1 249E+06 000E+00	1 580E+05 000E+00	2 439E+03 000E+00	5 954E-01 000E+00	1 454E-04 000E+00	2 115E-15 000E+00	000E+00 000E+00	000E+00 000E+00			
SB130M	4	1 267E+05 000E+00	1 735E+02 000E+00	3 201E-04 000E+00	1 090E-15 000E+00	000E+00 000E+00	000E+00 000E+00	000E+00 000E+00	000E+00 000E+00	000E+00 000E+00			
I130	2	1 955E+06 000E+00	1 849E+06 000E+00	1 853E+06 000E+00	1 321E+06 000E+00	8 434E+05 000E+00	5 384E+05 000E+00	1 402E+05 000E+00	9 499E+03 000E+00	4 384E+01 000E+00			
SB131	4	1 357E+07 000E+00	2 225E+06 000E+00	5 979E+04 000E+00	4 319E+01 000E+00	2 255E-05 000E+00	1 177E-11 000E+00	000E+00 000E+00	000E+00 000E+00	000E+00 000E+00			
TE131	4	4 144E+07 4 440E+02	1 400E+07 8 224E-02	3 495E+06 1 224E-09	2 833E+06 000E+00	2 187E+06 000E+00	1 818E+06 000E+00	1 044E+06 000E+00	3 445E+05 000E+00	3 749E+04 000E+00			
TE131M	4	1 373E+07 1 972E+03	1 343E+07 2 785E-01	1 282E+07 5 438E-09	1 189E+07 000E+00	9 717E+06 000E+00	8 078E+06 000E+00	4 839E+06 000E+00	1 530E+06 000E+00	1 885E+05 000E+00			
I131	2	9 878E+07 2 512E+07	9 858E+07 8 324E+06	9 599E+07 4 009E+05	9 481E+07 1 610E+03	9 241E+07 2 599E-02	9 008E+07 2 111E-06	8 312E+07 1 042E+06	7 040E+07 1 017E+06	5 005E+07 9 421E+05			
XE131M	1	1 042E+06 7 368E+05	1 042E+06 3 726E+05	1 043E+06 7 117E+04	1 043E+06 1 898E+03	1 043E+06 1 118E+00	1 042E+06 1 921E-03	1 038E+06 1 921E-03	1 017E+06 1 921E-03	9 421E+05 1 921E-03			
TE132	4	1 374E+08 4 807E+06	1 362E+08 1 531E+05	1 338E+08 8 91E+02	1 291E+08 2 064E-04	1 203E+08 3 077E-16	1 120E+08 000E+00	9 058E+07 000E+00	5 918E+07 000E+00	2 527E+07 000E+00			
I132	2	1 399E+08 4 748E+06	1 391E+08 1 578E+05	1 372E+08 1 747E+02	1 328E+08 2 126E-04	1 239E+08 3 171E-16	1 154E+08 000E+00	9 339E+07 000E+00	8 097E+07 000E+00	2 803E+07 000E+00			
CS132	3	1 218E+04 2 205E+03	1 212E+04 3 977E+02	1 201E+04 1 294E+01	1 180E+04 1 385E-02	1 139E+04 1 528E-08	1 099E+04 1 271E-13	9 873E+03 1 271E-13	7 989E+03 1 271E-13	5 194E+03 1 271E-13			
TE133	4	1 014E+07 000E+00	2 971E+06 000E+00	8 294E+05 000E+00	3 124E+04 000E+00	7 704E+01 000E+00	1 800E-01 000E+00	2 843E-09 000E+00	000E+00 000E+00	000E+00 000E+00			
TE133M	4	3 588E+07 000E+00	1 884E+07 000E+00	3 753E+06 000E+00	1 863E+05 000E+00	4 598E+02 000E+00	1 133E+00 000E+00	1 898E-08 000E+00	000E+00 000E+00	000E+00 000E+00			

TABLE 11. (Continued)

		Radioactivity, Curies								
Radionuclide	Grp	1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D
		16 D	32 D	64 D	128 D	256 D	1 yr			
I 133	2	1.972E+08	1.918E+08	1.798E+08	1.578E+08	1.207E+08	9.244E+07	4.154E+07	8.391E+06	3.424E+05
XE 133	1	5.698E+02	1.578E-03	1.211E-14	.000E+00	.000E+00	.000E+00			
		1.978E+08	1.878E+08	1.975E+08	1.989E+08	1.944E+08	1.908E+08	1.753E+08	1.400E+08	8.400E+07
XE 133M	1	2.938E+07	3.550E+06	5.174E+04	1.099E+01	4.953E-07	2.882E-13			
		8.235E+08	8.228E+08	8.203E+08	8.134E+08	5.918E+08	5.830E+08	4.590E+08	2.895E+08	7.980E+05
TE 134	4	6.393E+04	4.038E+02	1.811E-02	2.568E-11	.000E+00	.000E+00			
		8.238E+07	2.307E+07	3.153E+06	5.892E+04	2.058E+01	7.190E-03	3.064E-13	.000E+00	.000E+00
I 134	2	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.558E+08	9.077E+07	2.483E+07	1.339E+06	2.728E+03	4.997E+00	2.883E-08	.000E+00	.000E+00
CS 134	3	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		7.529E+08	7.528E+08	7.528E+08	7.527E+08	7.527E+08	7.526E+08	7.519E+08	7.505E+08	7.478E+08
CS 134M	3	7.421E+08	7.311E+08	7.100E+08	8.894E+08	5.950E+08	5.381E+08			
		2.322E+08	1.829E+08	1.134E+08	4.358E+05	8.439E+04	9.515E+03	3.070E+01	3.198E-04	3.464E-14
I 135	2	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.688E+08	1.520E+08	1.233E+08	8.103E+07	3.502E+07	1.515E+07	1.223E+06	7.973E+03	3.391E-01
XE 135	1	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		6.398E+07	7.114E+07	8.053E+07	8.585E+07	7.084E+07	4.879E+07	1.105E+07	3.489E+05	2.427E+02
XE 135M	1	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		2.783E+07	2.438E+07	1.974E+07	1.298E+07	5.810E+06	2.425E+06	1.959E+05	1.277E+03	5.432E-02
CS 135M	3	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		5.503E+05	2.511E+05	5.227E+04	2.285E+03	4.257E+00	8.005E-03	5.303E-11	.000E+00	.000E+00
CS 138	3	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		3.308E+08	3.300E+08	3.284E+08	3.255E+08	3.198E+08	3.143E+08	2.981E+08	2.881E+08	2.170E+08
BA 138M	5	1.421E+08	8.098E+05	1.122E+05	3.798E+03	4.334E+00	1.339E-02			
		5.448E+05	5.437E+05	5.413E+05	5.384E+05	5.272E+05	5.179E+05	4.913E+05	4.418E+05	3.577E+05
CS 137	3	2.342E+05	1.004E+05	1.849E+04	8.258E+02	7.182E-01	2.207E-03			
		7.598E+08	7.598E+08	7.598E+08	7.598E+08	7.597E+08	7.597E+08	7.597E+08	7.596E+08	7.593E+08
BA 137M	5	7.590E+08	7.582E+08	7.567E+08	7.537E+08	7.475E+08	7.424E+08			
		7.189E+08	7.187E+08	7.187E+08	7.187E+08	7.187E+08	7.187E+08	7.188E+08	7.185E+08	7.185E+08
XE 138	1	7.180E+08	7.172E+08	7.158E+08	7.129E+08	7.072E+08	7.022E+08			
		8.915E+08	4.738E+05	1.337E+03	1.088E-02	8.787E-13	4.297E-23	.000E+00	.000E+00	.000E+00
CS 138	3	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		8.033E+07	2.383E+07	1.812E+06	1.035E+04	3.388E-01	1.098E-05	3.782E-19	.000E+00	.000E+00
CS 139	3	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		2.221E+08	2.881E+04	3.820E+00	7.875E-08	3.348E-23	.000E+00	.000E+00	.000E+00	.000E+00
BA 139	5	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.233E+08	7.472E+07	2.733E+07	3.857E+06	8.548E+04	1.171E+03	8.715E-03	2.207E-13	.000E+00
BA 140	5	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.744E+08	1.740E+08	1.732E+08	1.718E+08	1.688E+08	1.655E+08	1.588E+08	1.407E+08	1.133E+08
LA 140	7	7.341E+07	3.084E+07	5.444E+06	1.897E+05	1.847E+02	4.421E-01			
		1.801E+08	1.800E+08	1.798E+08	1.793E+08	1.782E+08	1.767E+08	1.713E+08	1.579E+08	1.298E+08
BA 141	5	8.445E+07	3.550E+07	8.285E+06	1.953E+05	1.898E+02	5.087E-01			
		1.720E+07	1.785E+08	1.858E+04	2.060E+00	2.533E-08	3.115E-18	.000E+00	.000E+00	.000E+00
LA 141	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.491E+08	1.281E+08	8.870E+07	4.381E+07	1.089E+07	2.808E+06	3.788E+04	7.979E+00	3.545E-07
CE 141	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.860E+08	1.880E+08	1.859E+08	1.855E+08	1.848E+08	1.834E+08	1.599E+08	1.533E+08	1.408E+08
BA 142	5	1.187E+08	8.437E+07	4.284E+07	1.090E+07	7.114E+05	8.927E+04			
		3.219E+08	8.803E+04	2.777E+01	4.918E-08	1.540E-19	.000E+00	.000E+00	.000E+00	.000E+00
LA 142	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.151E+08	7.373E+07	3.008E+07	4.998E+06	1.380E+05	3.812E+03	8.038E-02	3.589E-11	.000E+00
PR 142	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		4.203E+08	4.054E+08	3.770E+08	3.282E+08	2.441E+08	1.827E+08	7.655E+05	1.345E+05	4.150E+03
PR 142M	7	3.953E+00	3.584E-08	2.948E-18	.000E+00	.000E+00	.000E+00			
		5.490E+04	3.181E+03	1.087E+01	1.201E-04	1.524E-14	.000E+00	.000E+00	.000E+00	.000E+00
LA 143	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		8.023E+08	4.113E+05	1.082E+03	7.474E-03	3.588E-13	1.705E-23	.000E+00	.000E+00	.000E+00
CE 143	7	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00			
		1.528E+08	1.497E+08	1.435E+08	1.319E+08	1.115E+08	9.429E+07	5.895E+07	2.078E+07	2.788E+08
PR 143	7	4.904E+04	1.540E+01	1.520E-06	1.480E-20	.000E+00	.000E+00			
		1.514E+08	1.514E+08	1.514E+08	1.513E+08	1.508E+08	1.500E+08	1.482E+08	1.354E+08	1.120E+08
		7.483E+07	3.294E+07	8.422E+06	2.440E+05	3.518E+02	1.324E+00			

TABLE 11. (Continued)

Radionuclide Grp		Radioactivity, Curies									
		1 hr	2 hr	4 hr	8 hr	16 hr	1 D	2 D	4 D	8 D	
		16 D	32 D	64 D	128 D	256 D	1 yr				
CE144	7 9	821E+07	9 820E+07	9 818E+07	9 814E+07	9 807E+07	9 599E+07	9 578E+07	9 530E+07	9 436E+07	
PR144	7 9	254E+07	8 899E+07	8 232E+07	7 042E+07	5 154E+07	3 949E+07				
	9 828E+07	8 822E+07	9 809E+07	9 815E+07	9 807E+07	9 599E+07	9 577E+07	9 530E+07	9 436E+07		
	9 254E+07	8 899E+07	8 232E+07	7 042E+07	5 154E+07	3 949E+07					
PR144M	7 1	155E+08	1 154E+08	1 154E+08	1 154E+08	1 153E+08	1 152E+08	1 149E+08	1 143E+08	1 133E+08	
	1 110E+08	1 088E+08	9 879E+05	8 451E+05	6 188E+05	4 740E+05					
	9 438E+07	8 403E+07	8 885E+07	4 191E+07	1 659E+07	8 583E+08	4 085E+05	1 559E+03	2 295E 02		
PR145	7 9	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 4	470E+08	2 390E+05	8 829E+02	5 579E-03	3 723E 13	2 484E-23	000E+00	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
CE148	7 2	988E+07	8 155E+08	2 079E+05	2 171E+02	2 322E-04	2 483E 10	000E+00	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 2	275E+08	7 110E+04	8 943E+01	8 821E-05	6 022E-17	000E+00	000E+00	000E+00	000E+00	
PR147	7 2	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 8	550E+07	8 532E+07	8 500E+07	8 431E+07	8 300E+07	8 188E+07	5 792E+07	5 111E+07	3 978E+07	
	2 410E+07	8 840E+08	1 190E+08	2 158E+04	7 078E+00	7 548E-03					
PM147	7 1	318E+07	1 317E+07	1 317E+07	1 318E+07	1 318E+07	1 320E+07	1 323E+07	1 329E+07	1 338E+07	
	1 348E+07	1 351E+07	1 328E+07	1 270E+07	1 157E+07	1 089E+07					
	7 2	041E+07	2 030E+07	2 009E+07	1 988E+07	1 884E+07	1 805E+07	1 588E+07	1 230E+07	7 387E+08	
PM148	7 2	701E+08	4 182E+05	5 835E+04	1 815E+04	2 118E+03	3 382E+02				
	7 2	758E+08	2 758E+08	2 752E+08	2 744E+08	2 730E+08	2 714E+08	2 689E+08	2 581E+08	2 413E+08	
	2 110E+08	1 813E+08	9 427E+05	3 220E+05	3 757E+04	8 003E+03					
PM148M	7 2	498E+07	1 872E+07	7 504E+08	1 511E+08	8 128E+04	2 484E+03	1 658E-01	7 357E-10	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 4	003E+07	3 977E+07	3 904E+07	3 725E+07	3 380E+07	3 027E+07	2 212E+07	1 182E+07	3 375E+08	
PM149	2	751E+05	1 827E+03	8 064E-02	1 571E-10	000E+00	000E+00				
	7 2	930E+05	2 282E+05	1 349E+05	4 791E+04	6 051E+03	7 844E+02	1 540E+00	8 247E-08	1 029E-18	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
PM150	7 8	403E+05	2 238E+04	2 729E+01	4 089E-05	9 052E-17	000E+00	000E+00	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 1	788E+07	1 755E+07	1 872E+07	1 518E+07	1 247E+07	1 028E+07	5 708E+08	1 788E+08	1 897E+05	
PM151	1	582E+03	1 324E-01	9 507E-10	000E+00	000E+00	000E+00				
	7 3	450E+04	3 452E+04	3 455E+04	3 480E+04	3 470E+04	3 478E+04	3 495E+04	3 509E+04	3 514E+04	
	3 514E+04	3 513E+04	3 510E+04	3 505E+04	3 497E+04	3 488E+04					
SM151	7 3	408E+05	9 155E+03	8 815E+00	3 453E-08	9 407E-19	000E+00	000E+00	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 5	292E+05	1 425E+04	1 028E+01	5 388E-08	1 482E-18	000E+00	000E+00	000E+00	000E+00	
PM152	7 5	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 2	837E+07	2 795E+07	2 713E+07	2 557E+07	2 270E+07	2 018E+07	1 412E+07	8 924E+08	1 885E+08	
	9 832E+04	3 222E+02	3 804E-03	4 514E-13	000E+00	000E+00					
SM153	7 5	287E+05	5 287E+05	5 287E+05	5 287E+05	5 287E+05	5 287E+05	5 285E+05	5 281E+05	5 258E+05	
	5 248E+05	5 230E+05	5 194E+05	5 121E+05	4 978E+05	4 880E+05					
	7 5	175E+05	7 949E+04	1 878E+03	1 044E+00	3 238E-07	1 003E-13	000E+00	000E+00	000E+00	
EU154	7 5	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 3	703E+05	3 703E+05	3 703E+05	3 703E+05	3 703E+05	3 702E+05	3 701E+05	3 697E+05	3 692E+05	
	3 880E+05	3 859E+05	3 814E+05	3 527E+05	3 358E+05	3 220E+05					
SM155	7 1	900E+08	1 785E+08	1 523E+08	1 134E+08	8 287E+05	3 486E+05	5 938E+04	1 724E+03	1 453E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 8	997E+08	8 983E+08	8 958E+08	8 897E+08	8 777E+08	8 851E+08	8 271E+08	7 551E+08	6 291E+08	
EU156	4	387E+08	2 104E+08	4 882E+05	2 829E+04	7 830E+01	5 208E-01				
	7 1	807E+08	1 538E+08	1 402E+08	1 188E+08	8 110E+05	5 832E+05	1 885E+05	2 112E+04	2 851E+02	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
SM157	7 2	751E+05	1 089E+05	1 813E+04	3 873E+02	1 904E-01	9 875E-05	1 377E-14	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 5	611E+05	3 255E+05	8 358E+04	3 870E+03	4 233E+00	3 852E-03	1 885E-12	000E+00	000E+00	
EU158	7 5	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				
	7 4	581E+04	4 803E+03	4 849E+01	4 739E-03	4 927E-11	5 123E-19	000E+00	000E+00	000E+00	
	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00	000E+00				

1. A number of areas of significant uncertainty in source term analysis have been identified in NUREG-0956. The analyses that have been performed for equipment qualification source terms have not accounted for these sources of uncertainty explicitly. However, many of the source term uncertainties are of more concern for the estimation of release from containment than for the estimation of doses to equipment. By the process used to select the cases in this study, bounding assumptions were made which are adequate to encompass most of the NUREG-0956 sources of uncertainty.
2. The PWR analysis treated the containment as a single volume and the BWR analysis treated the containment as two volumes. In the real system some local increases and decreases in deposition would occur in the various subcompartments of the containment. Although we believe from past experience that the limited nodalization of the containment should be adequate to represent the general characteristics of deposition reasonably, additional consideration of the effect of compartmentalization is needed.
3. The extent of niobium release is subject to large uncertainty. In the VANESA analysis virtually all of the niobium is released during core-concrete attack. Battelle staff believe that the chemistry of niobium is not being treated properly in VANESA and the release should be substantially lower. The release of niobium in the current analysis represents a significantly smaller release than the VANESA prediction because niobium is grouped with other elements which have smaller releases. The release fraction for the group was used to characterize niobium.

Despite the above limitations, the source terms developed for equipment qualification are felt to be representative of the increased data base and improved methods developed subsequent to the Three Mile Island Unit 2 accident.

REFERENCES

1. Silberberg, M., et al, "Reassessment of the Technical Bases for Estimating Source Terms: Final Report", U.S. Nuclear Regulatory Commission (USNRC) NUREG-0956, July, 1986.
2. USNRC, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment: Including Staff Responses to Public Comments", NUREG-0588, Revision 1, July, 1981.
3. DiNunno, J. J., et al, "Calculation of Distance Factors for Power and Test Reactor Sites", U.S. Atomic Energy Commission, TID-14844, March, 1962.
4. Gieseke, J. A., et al, "Source Term Code Package: A User's Guide (Mod 1)", Battelle Columbus Laboratories, NUREG/CR-4587, BMI-2138, July, 1986.
5. Gieseke, J. A., et al, "Radionuclide Release Under Specific LWR Accident Conditions", BMI-2104 (draft), Volume V, July, 1984.

APPENDIX A
Thermal Hydraulics

Columbus Division
505 King Avenue
Columbus, Ohio 43201-2693
Telephone (614) 424-6424
Telex 24-5454

September 15, 1987

Mr. William S. Farmer
U.S. Nuclear Regulatory Commission
5660 Nicholson Lane
Rockville, MD 20852

Dear Bill:

I have attached a table of thermal-hydraulic conditions associated with the four PWR and four BWR severe accident variations that were examined for the radiation dose to equipment task. You should recognize that the specific thermal-hydraulic conditions are sensitive to the assumptions made about the accident scenario. The values we have selected have some basis in the original STCP calculation but after the first few hours are driven by assumptions that were not part of the sequence analyzed. We have in no sense attempted to define bounding thermal-hydraulic conditions for a range of scenarios. Some underlying assumptions in developing the table are:

1. The containment is assumed not to fail. In Case 1 for the PWR, the pressure rise is assumed to be limited by the lack of water in the cavity and the relatively low generation rate of non-condensibles for the Surry concrete. Eventually (over a period of days or longer) the heat removal rate through the shell of the containment would match the decay heat rate and an equilibrium could be established. The level at which this could occur might be at a higher pressure and temperature than shown in the table (indeed as high as the failure pressure of the containment and with superheated conditions) which is based on the initial time period of the STCP analysis. Failure by concrete meltthrough was assumed not to occur.
2. In Case 2 it is assumed that sufficient water is pumped through the RCS to prevent net steam production.
3. In Cases 3 and 4, decay heat is removed by the spray system and the spray heat exchangers.
4. In the BWR cases it is assumed that venting through the suppression pool is activated to prevent overpressure failure and that the containment pressure is held at the vent pressure of 75 psia (a capability that may not currently exist). In the first case

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activation of the vent is somewhat delayed, consistent with the radionuclide transport assumptions of the analysis.

5. In cases where the drywell sprays operate, it is assumed that the drywell temperature is the same as the suppression pool temperature and that the residual heat removal system is not operational.

Please be sure that the limitations of the estimates in the attached table are indicated in any application of these conditions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard S. Denning".

Richard S. Denning
Sr. Research Leader

RSD:jw

Table 1. Thermal-Hydraulic Conditions

PWR Cases	Time (hr)	Pressure (psia)	Temperature (°F)
Case 1	1-8760	40	230
Case 2	1	40	230
	2-8760	30	212
Case 3	1-8760	15	150
Case 4	1-8760	15	150

BWR Cases	Time (hr)	Pressure (psia)	Drywell Temperature (°F)	Wetwell Temperature (°F)
Case 1	1-2	110	300	300
	4	75	800	300
	8-8760	75	1500	300
Case 2	1	110	300	300
	2-8760	75	300	300
Case 3	1	75	120	300
	2	75	130	300
	4	75	170	300
	8	75	200	300
	16-8760	75	300	300
Case 4	1	75	120	300
	2	75	130	300
	4	75	170	300
	8	75	200	300
	16-8760	75	300	300