

OFFSITE DOSE CALCULATION MANUAL

APPENDIX 1

COMPUTER-BASED CALCULATIONAL

PROGRAM EQUATIONS

AND DOSE FACTORS

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## A. LIQUID RELEASE INDIVIDUAL DOSE CALCULATIONS

The equations used by the computer-based calculational program to calculate dose contribution due to liquid effluents as presented in section II.B of the ODCM are presented in this section. The following equations, which are the computational models used for calculating radiation doses, are for three principal exposure pathways in the aquatic environment: (1) potable water, (2) aquatic foods, and (3) shoreline deposits.

The symbols used in an equation are defined in the glossary at the end of this section.

### A.1 COMPUTATIONAL MODEL FOR RADIATION DOSES FROM POTABLE WATER

$$R_{apj} = 1100 \frac{U_{ap}}{M_F} \sum_i Q_i D_{alpj} \exp(-\lambda_i t_p) \quad (A-1)$$

### A.2 COMPUTATIONAL MODEL FOR RADIATION DOSES FROM AQUATIC FOODS

$$R_{apj} = 1100 \frac{U_{ap}}{M_F} \sum_i Q_i B_i p D_{alpj} \exp(-\lambda_i t_p) \quad (A-2)$$

### A.3 COMPUTATIONAL MODEL FOR RADIATION DOSES FROM SHORELINE DEPOSITS

$$R_{apj} = 110,000 \frac{U_{ap}}{M_F} \sum_i Q_i T_i D_{salpj} \exp(-\lambda_i t_p) \quad (A-3)$$

\* [1 - exp(- $\lambda_i t_b$ )]

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## B. GASEOUS RELEASE INDIVIDUAL DOSE CALCULATIONS

The equations used by the computer-based calculational program to calculate the dose contributions presented in sections III.A.2 and III.C of the ODCM are presented in this section. Precomputed dose factors are used for all pathways and are listed in Table 2.

The symbols used in the equation are defined below the equation or in the glossary at the end of this section.

### B.1 COMPUTATIONAL MODEL FOR GASEOUS EFFLUENT RELEASE CALCULATIONS

The equations for the computational model used to calculate dose contribution from gaseous effluent releases are presented below.

#### B.1.1 PLUME PATHWAY

$$\text{DOSE} = X/Q \approx \sum_{\text{Iso} = 3}^{17} DF_{k,1,n} \times Q_{\text{Iso}} \times 3.6 \times 10^{-6} \quad (\text{B-1})$$

#### B.1.2 GROUND PATHWAY

$$\text{DOSE} = D/Q \approx \sum_{\text{Iso} = 18}^{35} DF_{k,1,n} \times Q_{\text{Iso}} \times 3.6 \times 10^{-6} \quad (\text{B-2})$$

#### B.1.3 VEGETATION, MEAT, COW MILK, AND GOAT MILK PATHWAYS

$$\text{DOSE} = \left[ X/Q \sum_{\text{Iso} = 1}^2 DF_{k,1,n} \times Q_{\text{Iso}} + D/Q \sum_{\text{Iso} = 18}^{35} DF_{k,1,n} \times Q_{\text{Iso}} \right] \times 3.6 \times 10^{-6} \quad (\text{B-3})$$

#### B.1.4 INHALATION PATHWAY

$$\text{DOSE} = \left[ X/Q \sum_{\text{Iso} = 1}^2 DF_{k,1,n} \times Q_{\text{Iso}} + X/Q_{\text{dep}} \sum_{\text{Iso} = 18}^{35} DF_{k,1,n} \times Q_{\text{Iso}} \right] \times 3.6 \times 10^{-6} \quad (\text{B-4})$$

where the units for  $DF_{k,1,n}$  for airborne pathways are  $(\text{mrem-m}^3)/(\text{Ci-sec})$  and the units for  $DF_{k,1,n}$  for deposition pathways are  $(\text{mrem-m}^2)/\text{Ci}$  and where the constant  $3.6 \times 10^{-6}$  converts  $(\text{mrem-uCi})/(\text{Ci-sec})$  to rem/hr.

The short-lived noble gas isotopes are decayed during travel time to the receptor for the plume pathway only.

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### GLOSSARY

$B_{Ip}$	= equilibrium bioaccumulation factor for nuclide I in pathway p, expressed as the ratio of the concentration in biota, in pCi/kg, to the radionuclide concentration in water, in pCi/liter (liters/kg) (See Ref. 1)
$D_{alpj}$	= dose factor specific to a given age group a, radionuclide I, pathway p, and organ j which can be used to calculate radiation dose from an intake of a radionuclide, in mrem/pCi - values of $D_{alpj}$ are provided in Tables 1-A, 1-B, 1-C, 1-D, and 1-E
$D_{salpj}$	= dose factor to a given age group a, radionuclide I, pathway p, and organ j, which can be used to calculate radiation dose from exposure to a given concentration of a radionuclide in sediment, in mrem-m <sup>2</sup> /pCi-hr - values for $D_{salpj}$ are provided in Table 1-E
$DF_{k,1,n}$	= dose factor for organ type k, age group 1, pathway number n; dose factors for individual and population doses are based on results of a computer program that is based on and is similar to the NRC program GASPAR; results from this program provide input data in the form of a lookup table - values of $DF_{k,1,n}$ are provided in Table 2
F	= flow rate of liquid effluent (ft <sup>3</sup> /sec)
M <sub>P</sub>	= dilution factor at point of exposure, at point of withdrawal of drinking water, or at point of harvest of aquatic food (dimensionless) (See Ref. 2)
Q <sub>I</sub>	= release of nuclide I for time period of the liquid release (Ci)
Q <sub>Iso</sub>	= release rate of Isotope (uCi/sec)
R <sub>apj</sub>	= total dose for calculation time period to organ j of individuals of age group a from all nuclides I in pathway p (mrem)
T <sub>I</sub>	= radioactive half-life of nuclide I (days)
U <sub>ap</sub>	= usage factor specifying exposure time or intake rate for an individual of age group a associated with pathway p (hr/yr, liters/yr, or kg/yr) (See Ref. 1)
W	= shoreline width factor (dimensionless) = 0.2 (See Ref. 1)

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$X/Q$ ,  $X/Q_{\text{depl}}$ , or  $D/Q$  = normal atmospheric relative concentration ( $X/Q$ ), depleted  $X/Q$ , or deposition  $D/Q$ ) at receptor distance. Values for annual average  $X/Q$ , depleted  $X/Q$  and  $D/Q$  are given in ODCM sections III.A.2 and III.C.

$\text{Iso}$  = Isotope number (1 through 35) (3 through 17 are noble gases)

$k$  = organ type (1 through 8, where total body = 1, GI tract = 2, bone = 3, liver = 4, kidney = 5, thyroid = 6, lung = 7, skin = 8)

$i$  = age group (1 through 4, where adult = 1, teen = 2, child = 3, infant = 4)

$n$  = pathway number (1 through 7)

$t_b$  = time period during which sediment or soil is exposed to contaminated water (hr) = 131,000 (See Ref. 1)

$t_p$  = average transit time required for nuclides to reach point of exposure, for internal dose,  $t_p$  is elapsed time between release of nuclides and ingestion of food or water (hr) (See Ref. 1)

$\lambda_1$  = radioactive decay constant of nuclide 1 ( $\text{hr}^{-1}$ )

1100 = factor to convert from Ci/yr per  $\text{ft}^3/\text{sec}$  to pCi/liter

110,000 = factor to convert from Ci/yr per  $\text{ft}^3/\text{sec}$  to pCi/liter and to account for proportionality constant used in sediment radioactivity model

TABLE 1-A

ADULT INGESTION INDIVIDUAL DOSE FACTORS ( $D_{a1pJ}$ )  
FOR LIQUID EFFLUENTS

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UNITS FOR ALL INGESTION PATHWAYS ARE:  
mrem/pCi

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LIQUID DOSE FACTORS

DATA FROM TABLE E-11 OF REG. GUIDE 1.109

INGESTION DOSE FACTORS FOR ADULT:

	BONE	LIVER	T. BODY	THYROID	KIDNEY	LUNG	GI-LLI
H3	0.000E-01	1.050E-07	1.050E-07	1.050E-07	1.050E-07	1.050E-07	1.050E-07
C14	2.840E-06	5.680E-07	5.680E-07	5.680E-07	5.680E-07	5.680E-07	5.680E-07
NA24	1.700E-06						
P32	1.930E-04	1.200E-05	7.460E-06	0.000E-01	0.000E-01	0.000E-01	2.170E-05
CR51	0.000E-01	0.000E-01	2.660E-09	1.590E-09	5.860E-10	3.530E-09	6.690E-07
MN54	0.000E-01	4.570E-05	5.720E-07	0.000E-01	1.360E-06	0.000E-01	1.400E-05
MN56	0.000E-01	1.150E-07	2.040E-08	0.000E-01	1.460E-07	0.000E-01	3.670E-06
FE55	2.750E-06	1.900E-06	4.430E-07	0.000E-01	0.000E-01	1.060E-06	1.090E-06
FE59	4.340E-06	1.020E-05	3.910E-06	0.000E-01	0.000E-01	2.850E-06	3.400E-05
CO58	0.000E-01	7.450E-07	1.670E-06	0.000E-01	0.000E-01	0.000E-01	1.510E-05
CO60	0.000E-01	2.140E-06	4.720E-06	0.000E-01	0.000E-01	0.000E-01	4.020E-05
NI63	1.300E-04	9.010E-05	4.350E-06	0.000E-01	0.000E-01	0.000E-01	1.880E-06
NI65	5.280E-07	6.860E-08	3.130E-08	0.000E-01	0.000E-01	0.000E-01	1.740E-06
CU64	0.000E-01	8.330E-08	3.910E-08	0.000E-01	2.100E-07	0.000E-01	7.100E-06
ZN65	4.840E-06	1.540E-05	6.960E-06	0.000E-01	1.030E-05	0.000E-01	9.700E-06
ZN69	1.030E-08	1.970E-08	1.370E-09	0.000E-01	1.280E-08	0.000E-01	2.960E-09
BR83	0.000E-01	0.000E-01	4.020E-08	0.000E-01	0.000E-01	0.000E-01	5.790E-08
BR84	0.000E-01	0.000E-01	5.210E-08	0.000E-01	0.000E-01	0.000E-01	4.090E-13
RR85	0.000E-01	0.000E-01	2.140E-09	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RB86	0.000E-01	2.110E-05	9.830E-06	0.000E-01	0.000E-01	0.000E-01	4.160E-06
RB88	0.000E-01	6.050E-08	3.210E-08	0.000E-01	0.000E-01	0.000E-01	8.360E-19
RR89	0.000E-01	4.010E-08	2.820E-08	0.000E-01	0.000E-01	0.000E-01	2.330E-21
SR89	3.080E-04	0.000E-01	8.840E-06	0.000E-01	0.000E-01	0.000E-01	4.940E-05
SR90	7.590E-03	0.000E-01	1.860E-03	0.000E-01	0.000E-01	0.000E-01	2.190E-04
SR91	5.670E-06	0.000E-01	2.290E-07	0.000E-01	0.000E-01	0.000E-01	2.700E-05
SR92	2.150E-06	0.000E-01	9.300E-08	0.000E-01	0.000E-01	0.000E-01	4.260E-05
Y90	9.620E-09	0.000E-01	2.580E-10	0.000E-01	0.000E-01	0.000E-01	1.020E-04
Y91*	9.090E-11	0.000E-01	3.520E-12	0.000E-01	0.000E-01	0.000E-01	2.670E-10
Y91	1.410E-07	0.000E-01	3.770E-09	0.000E-01	0.000E-01	0.000E-01	7.670E-05
Y92	8.450E-10	0.000E-01	2.470E-11	0.000E-01	0.000E-01	0.000E-01	1.480E-05
Y93	2.680E-09	0.000E-01	7.400E-11	0.000E-01	0.000E-01	0.000E-01	8.500E-05
ZR95	3.040E-08	9.750E-09	6.600E-09	0.000E-01	1.530E-08	0.000F-01	3.090E-05
ZR97	1.680E-09	3.390E-10	1.550E-10	0.000E-01	5.120E-10	0.000F-01	1.050E-04
NB95	6.220E-09	3.460E-09	1.860E-09	0.000E-01	3.420E-09	0.000E-01	2.100E-05
MD99	0.000E-01	4.310E-06	8.200E-07	0.000E-01	9.760E-15	0.000E-01	9.990E-06
TC99M	2.470E-10	6.980E-10	8.890E-09	0.000E-01	1.060E-08	3.420E-10	4.130E-07
TC101	2.540E-10	3.660E-10	3.590E-09	0.000E-01	6.590E-09	1.870E-10	1.100E-21
RU103	1.850E-07	0.000E-01	7.970E-08	0.000E-01	7.060E-07	0.000E-01	2.160E-05
RU105	1.540E-08	0.000E-01	6.080E-09	0.000E-01	1.990E-07	0.000E-01	9.420E-06
RU106	2.750E-06	0.000E-01	3.480E-07	0.000E-01	5.310E-06	0.000E-01	1.780E-04
AG110M	1.600E-07	1.480E-07	8.790E-08	0.000E-01	2.910E-07	0.000E-01	6.040E-05
TE125M	2.680E-06	9.170E-07	3.590E-07	R.060E-07	1.090E-05	0.000E-01	1.070E-05
TE127M	6.770E-06	2.420E-06	8.250E-07	1.730E-06	2.750E-05	0.000E-01	2.270E-05
TE127	1.100E-07	3.950E-08	2.380E-08	8.150E-08	4.480E-07	0.000E-01	8.680E-06
TE129M	1.150E-05	4.290E-06	1.820E-06	3.950E-06	4.800E-05	0.000E-01	5.790E-05
TE129	3.140E-08	1.180E-08	7.650E-09	2.410E-08	1.320E-07	0.000E-01	2.370E-08
TE131M	1.730E-06	8.460E-07	7.050E-07	1.340E-06	8.570E-06	0.000E-01	8.400E-05
TE131	1.970E-08	8.230E-09	6.220E-09	1.620E-08	8.630E-08	0.000E-01	2.790E-09
TE132	2.520E-06	1.630E-06	1.530E-06	1.800E-06	1.570E-05	0.000E-01	7.710E-05

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I130	7.560E-07	2.230E-06	8.800E-07	1.890E-04	3.480E-06	0.000E-01	1.920E-06
I131	4.160E-06	5.950E-06	3.410E-06	1.950E-03	1.020E-05	0.000E-01	1.570E-06
I132	2.630E-07	5.430E-07	1.900E-07	1.900E-05	8.650E-07	0.000E-01	1.020E-07
I133	1.420E-06	2.470E-06	7.530E-07	3.630E-04	4.310E-06	0.000E-01	2.220E-06
I134	1.060E-07	2.880E-07	1.030E-07	4.990E-06	4.580E-07	0.000E-01	2.510E-10
I135	4.430E-07	1.160E-06	4.280E-07	7.650E-05	1.860E-06	0.000E-01	1.310E-06
CS134	6.220E-05	1.480E-04	1.210E-04	0.000E-01	4.790E-05	1.590E-05	2.590E-06
CS136	6.510E-06	2.570E-05	1.850E-05	0.000E-01	1.430E-05	1.960E-06	2.920E-06
CS137	7.970E-05	1.090E-04	7.140E-05	0.000E-01	3.700E-05	1.230E-05	2.110E-06
CS138	5.520E-08	1.090E-07	5.400E-08	0.000E-01	8.010E-08	7.910E-09	4.650E-13
RA139	9.700E-08	6.910E-11	2.840E-09	0.000E-01	6.460E-11	3.920E-11	1.720E-07
RA140	2.030E-05	2.550E-08	1.330E-06	0.000E-01	8.670E-09	1.460E-08	4.180E-05
BA141	4.710E-08	3.560E-11	1.590E-09	0.000E-01	3.310E-11	2.020E-11	2.220E-17
BA142	2.130E-08	2.190E-11	1.340E-09	0.000E-01	1.850E-11	1.240E-11	3.000E-26
LA140	2.500E-09	1.260E-09	3.330E-10	0.000E-01	0.000E-01	0.000E-01	9.250E-05
LA142	1.280E-10	5.820E-11	1.450E-11	0.000E-01	0.000E-01	0.000E-01	4.250E-07
CE141	9.360E-09	6.330E-09	7.180E-10	0.000E-01	2.940E-09	0.000E-01	2.420E-05
CE143	1.650E-09	1.220E-06	1.350E-10	0.000E-01	5.370E-10	0.000E-01	4.560E-05
CE144	4.880E-07	2.040E-07	2.620E-08	0.000E-01	1.210E-07	0.000E-01	1.650E-04
PR143	9.200E-09	3.690E-09	4.560E-10	0.000E-01	2.130E-09	0.000E-01	4.030E-05
PR144	3.010E-11	1.250E-11	1.530E-12	0.000E-01	7.050E-12	0.000E-01	4.330E-18
ND147	6.290E-09	7.270E-09	4.350E-10	0.000E-01	4.250E-09	0.000E-01	3.490E-05
WT87	1.030E-07	8.610E-08	3.010E-08	0.000E-01	0.000E-01	0.000E-01	2.820E-05
NP239	1.190E-09	1.170E-10	6.450E-11	0.000E-01	3.650E-10	0.000E-01	2.400E-05
NONE	0.000E-01						
NONE	0.000E-01						

TABLE 1-B

TEEN INGESTION INDIVIDUAL DOSE FACTORS ( $D_{aipj}$ )  
FOR LIQUID EFFLUENTS

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UNITS FOR ALL INGESTION PATHWAYS ARE:  
mirem/pCi

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## LIQUID DOSE FACTORS

DATA FROM TABLE E-12 OF REG. GUIDE 1.109

INGESTION DOSE FACTORS FOR TEEN:

	BONE	LIVER	T. BODY	THYROID	KIDNEY	LUNG	GT-LI
H3	0.000E-01	1.060E-07	1.060E-07	1.060E-07	1.060E-07	1.060E-07	1.060E-07
C14	4.060E-06	8.120E-07	8.120E-07	8.120E-07	8.120E-07	8.120E-07	8.120E-07
NA24	2.300E-06						
P32	2.760E-04	1.710E-05	1.070E-05	0.000E-01	0.000E-01	0.000E-01	2.320E-05
CR51	0.000E-01	0.000E-01	3.600E-09	2.000E-09	7.890E-10	5.140E-09	6.050E-07
MN54	0.000E-01	5.900E-06	1.170E-06	0.000E-01	1.760E-06	0.000E-01	1.210E-05
MN56	0.000E-01	1.580E-07	2.810E-08	0.000E-01	2.000E-07	0.000E-01	1.040E-05
FE55	3.780E-06	2.680E-06	6.250E-07	0.000E-01	0.000E-01	1.700E-06	1.160E-06
FE57	5.670E-06	1.370E-05	5.290E-06	0.000E-01	0.000E-01	4.320E-06	3.240E-05
CO58	0.000E-01	9.720E-07	2.240E-06	0.000E-01	0.000E-01	0.000E-01	1.340E-05
CO60	0.000E-01	2.810E-06	6.330E-06	0.000E-01	0.000E-01	0.000E-01	3.660E-05
NI63	1.770E-04	1.250E-05	6.000E-06	0.000E-01	0.000E-01	0.000E-01	1.990E-06
NI65	7.490E-07	9.570E-08	4.360E-08	0.000E-01	0.000E-01	0.000E-01	5.190E-06
CU64	0.000E-01	1.150E-07	5.410E-08	0.000E-01	2.910E-07	0.000E-01	8.920E-06
ZN65	5.760E-06	2.000E-05	9.330E-06	0.000E-01	1.280E-05	0.000E-01	8.470E-06
ZN69	1.470E-08	2.800E-08	1.960E-09	0.000E-01	1.830E-08	0.000E-01	5.160E-08
PR83	0.000E-01	0.000E-01	5.740E-08	0.000E-01	0.000E-01	0.000E-01	0.000E-01
BR84	0.000E-01	0.000E-01	7.220E-08	0.000E-01	0.000E-01	0.000E-01	0.000E-01
BR85	0.000E-01	0.000E-01	3.050E-09	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RR86	0.000E-01	2.980E-05	1.400E-05	0.000E-01	0.000E-01	0.000E-01	4.410E-06
RB88	0.000E-01	8.520E-08	4.540E-08	0.000E-01	0.000E-01	0.000E-01	7.300E-15
RB89	0.000E-01	5.500E-08	3.890E-08	0.000E-01	0.000E-01	0.000E-01	8.430E-17
SR89	4.400E-04	0.000E-01	1.260E-05	0.000E-01	0.000E-01	0.000E-01	5.240E-05
SR90	8.300E-03	0.000E-01	2.050E-03	0.000E-01	0.000E-01	0.000E-01	2.330E-04
SR91	8.070E-06	0.000E-01	3.210E-07	0.000E-01	0.000E-01	0.000E-01	3.660E-05
SR92	3.050E-06	0.000E-01	1.300E-07	0.000E-01	0.000E-01	0.000E-01	7.770E-05
Y90	1.370E-08	0.000E-01	3.690E-10	0.000E-01	0.000E-01	0.000E-01	1.130E-04
Y91	1.290E-10	0.000E-01	4.930E-12	0.000E-01	0.000E-01	0.000E-01	6.090E-09
Y92	2.010E-07	0.000E-01	5.390E-09	0.000E-01	0.000E-01	0.000E-01	8.240E-05
Y93	1.210E-09	0.000E-01	3.500E-11	0.000E-01	0.000E-01	0.000E-01	3.320E-05
ZR95	4.120E-08	1.300E-08	8.940E-09	0.000E-01	1.910E-08	0.000E-01	3.000E-05
ZR97	2.370E-09	4.690E-10	2.160E-10	0.000E-01	7.110E-10	0.000E-01	1.270E-04
NB95	8.220E-09	4.560E-09	2.510E-09	0.000E-01	4.420E-09	0.000E-01	1.950E-05
MO99	0.000E-01	6.030E-06	1.150E-06	0.000E-01	1.380E-05	0.000E-01	1.080E-05
TC99M	3.320E-10	9.260E-10	1.200E-08	0.000E-01	1.380E-08	5.140E-10	6.080E-07
TC101	3.600E-10	5.120E-10	5.030E-09	0.000E-01	9.260E-09	3.120E-10	8.750E-17
RU103	2.550E-07	0.000E-01	1.090E-07	0.000E-01	8.990E-07	0.000E-01	2.130E-05
RU105	2.180E-08	0.000E-01	8.460E-09	0.000E-01	2.750E-07	0.000E-01	1.760E-05
RU106	3.920E-06	0.000E-01	4.940E-07	0.000E-01	7.560E-06	0.000E-01	1.880E-04
AG110M	2.050E-07	1.940E-07	1.180E-07	0.000E-01	3.700E-07	0.000E-01	5.450E-05
TE125M	3.830E-06	1.380E-06	5.120E-07	1.070E-06	0.000E-01	0.000E-01	1.130E-05
TE127M	9.670E-06	3.430E-06	1.150E-06	2.300E-06	3.920E-05	0.000E-01	2.410E-05
TE127	1.580E-07	5.600E-08	3.400E-08	1.090E-07	6.400E-07	0.000E-01	1.220E-05
TE129M	1.630E-05	6.050E-06	2.580E-06	5.260E-06	6.820E-05	0.000E-01	6.120E-05
TE129	4.480E-08	1.670E-08	1.090E-08	3.200E-08	1.880E-07	0.000E-01	2.450E-07
TE131M	2.440E-06	1.170E-06	9.760E-07	1.760E-06	1.220E-05	0.000E-01	9.390E-05
TE131	2.790E-08	1.150E-08	8.720E-09	2.150E-08	1.220E-07	0.000E-01	2.290E-09
TE132	3.490E-06	2.210E-06	2.080E-06	2.330E-06	2.120E-05	0.000E-01	7.000E-05

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I130	1.030E-06	2.980E-06	1.190E-06	2.430E-04	4.590E-06	0.000E-01	2.290E-06
I131	5.850E-06	8.190E-06	4.400E-06	2.390E-03	1.410E-05	0.000E-01	1.620E-06
I132	2.790E-07	7.300E-07	2.620E-07	2.460E-05	1.150E-06	0.000E-01	3.180E-07
I133	2.010E-06	3.410E-06	1.040E-06	4.760E-04	5.980E-06	0.000E-01	2.580E-06
I134	1.460E-07	3.870E-07	1.390E-07	6.450E-06	6.100E-07	0.000E-01	5.100E-09
I135	6.100E-07	1.570E-06	5.820E-07	1.010E-04	2.480E-06	0.000E-01	1.740E-06
CS134	8.370E-05	1.970E-04	9.140E-05	0.000E-01	6.260E-05	2.390E-05	2.450E-06
CS136	8.590E-06	3.380E-05	2.270E-05	0.000E-01	1.840E-05	2.900E-06	2.720E-06
CS137	1.120E-04	1.490E-04	5.190E-05	0.000E-01	5.070E-05	1.970E-05	2.120E-06
CS138	7.760E-08	1.490E-07	7.450E-08	0.000E-01	1.100E-07	1.280E-08	6.760E-11
RA139	1.390E-07	9.780E-11	4.050E-09	0.000E-01	9.220E-11	6.740E-11	1.240E-06
BA140	2.840E-05	3.480E-08	1.830E-06	0.000E-01	1.180E-08	2.340E-08	4.380E-05
BA141	6.710E-08	5.010E-11	2.240E-09	0.000E-01	4.650E-11	3.430E-11	1.430E-13
BA142	2.990E-08	2.990E-11	1.840E-09	0.000E-01	2.530E-11	1.990E-11	9.180E-20
LA140	3.480E-09	1.710E-09	4.550E-10	0.000E-01	0.000E-01	0.000E-01	9.820E-05
LA142	1.790E-10	7.950E-11	1.980E-11	0.000E-01	0.000E-01	0.000E-01	2.420E-06
CEI41	1.330E-08	8.880E-09	1.020E-09	0.000E-01	4.180E-09	0.000E-01	2.540E-05
CE143	2.350E-09	1.710E-06	1.910E-10	0.000E-01	7.670E-10	0.000E-01	5.140E-05
CE144	6.960E-07	2.880E-07	3.740E-08	0.000E-01	1.720E-07	0.000E-01	1.750E-04
PR143	1.310E-08	5.230E-09	6.520E-10	0.000E-01	3.040E-09	0.000E-01	4.310E-05
PRI44	4.300E-11	1.760E-11	2.180E-12	0.000E-01	1.010E-11	0.000E-01	4.740E-14
ND147	9.380E-09	1.020E-08	6.110E-10	0.000E-01	5.990E-09	0.000E-01	3.680E-05
W187	1.460E-07	1.190E-07	4.170E-08	0.000E-01	0.000E-01	0.000E-01	3.220E-05
NP239	1.760E-09	1.660E-10	9.220E-11	0.000E-01	5.210E-10	0.000E-01	2.670E-05
NONE	0.000E-01						
NONE	0.000E-01						

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TABLE 1-C

CHILD INGESTION INDIVIDUAL DOSE FACTORS ( $D_{aipj}$ )  
FOR LIQUID EFFLUENTS

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UNITS FOR ALL INGESTION PATHWAYS ARE:  
mrem/pCi

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LIQUID DOSE FACTORS

DATA FROM TABLE E-13 OF REG. GUIDE 1.109

INGESTION DOSE FACTORS FOR CHILD:

	BONE	LIVER	T. BODY	THYROID	KIDNEY	LUNG	GI-LLI
H3	0.000E-01	2.030E-07	2.030E-07	2.030E-07	2.030E-07	2.030E-07	2.030E-07
C14	1.210E-05	2.420E-06	2.420E-06	2.420E-06	2.420E-06	2.420E-06	2.420E-06
NA24	5.800E-06						
P32	8.250E-04	3.860E-05	3.180E-05	0.000E-01	0.000E-01	0.000E-01	2.280E-05
CR51	0.000E-01	0.000E-01	8.900E-09	4.940E-09	1.350E-09	9.020E-09	4.720E-07
MN54	0.000E-01	1.070E-05	2.850E-06	0.000E-01	3.000E-06	0.000E-01	8.980E-06
MN50	0.000E-01	3.340E-07	7.540E-08	0.000E-01	4.040E-07	0.000E-01	4.840E-05
FE55	1.150E-05	6.100E-06	1.890E-06	0.000E-01	0.000E-01	3.450E-06	1.130E-06
FE59	1.650E-05	2.670E-05	1.330E-05	0.000E-01	0.000E-01	7.740E-06	2.780E-05
CO58	0.000E-01	1.800E-06	5.510E-06	0.000E-01	0.000E-01	0.000E-01	1.050E-05
CO60	0.000E-01	5.290E-06	1.560E-05	0.000E-01	0.000E-01	0.000E-01	2.930E-05
NI63	5.380E-04	2.880E-05	1.830E-05	0.000E-01	0.000E-01	0.000E-01	1.940E-06
NI65	2.220E-06	2.090E-07	1.220E-07	0.000E-01	0.000E-01	0.000E-01	2.560E-05
CU64	0.000E-01	2.450E-07	1.480E-07	0.000E-01	5.920E-07	0.000E-01	1.150E-05
ZN65	1.370E-05	3.650E-05	2.270E-05	0.000E-01	2.300E-05	0.000E-01	6.410E-06
ZV69	4.380E-08	6.330E-08	5.850E-09	0.000E-01	3.840E-08	0.000E-01	3.990E-06
BR83	0.000E-01	0.000E-01	1.710E-07	0.000E-01	0.000E-01	0.000E-01	0.000E-01
BR84	0.000E-01	0.000E-01	1.980E-07	0.000E-01	0.000E-01	0.000E-01	0.000E-01
BR85	0.000E-01	0.000E-01	9.120E-09	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RB86	0.000E-01	6.700E-05	4.120E-05	0.000E-01	0.000E-01	0.000E-01	4.310E-06
RB88	0.000E-01	1.900E-07	1.320E-07	0.000E-01	0.000E-01	0.000E-01	9.320E-05
RR89	0.000E-01	1.170E-07	1.040E-07	0.000E-01	0.000E-01	0.000E-01	1.020E-05
SR89	1.320E-03	0.000E-01	3.770E-05	0.000E-01	0.000E-01	0.000E-01	5.110E-05
SR90	1.700E-02	0.000E-01	4.310E-03	0.000E-01	0.000E-01	0.000E-01	2.290E-04
SR91	2.400E-05	0.000E-01	9.060E-07	0.000E-01	0.000E-01	0.000E-01	5.300E-05
SR92	9.030E-06	0.000E-01	3.620E-07	0.000E-01	0.000E-01	0.000E-01	1.710E-04
Y90	4.110E-08	0.000E-01	1.100E-09	0.000E-01	0.000E-01	0.000E-01	1.170E-04
Y91M	3.820E-10	0.000E-01	1.390E-11	0.000E-01	0.000E-01	0.000E-01	7.480E-07
Y91	6.020E-07	0.000E-01	1.610E-08	0.000E-01	0.000E-01	0.000E-01	8.020E-05
Y92	3.600E-09	0.000E-01	1.030E-10	0.000E-01	0.000E-01	0.000E-01	1.040E-04
Y93	1.140E-08	0.000E-01	3.130E-10	0.000E-01	0.000E-01	0.000E-01	1.700E-04
ZR95	1.160E-07	2.550E-08	2.270E-08	0.000E-01	3.650E-08	0.000E-01	2.660E-05
ZR97	6.990E-09	1.010E-09	5.960E-10	0.000E-01	1.450E-09	0.000E-01	1.530E-04
NB95	2.250E-08	8.760E-09	6.260E-09	0.000E-01	8.230E-09	0.000E-01	1.620E-05
MD99	0.000E-01	1.330E-05	3.290E-06	0.000E-01	2.840E-05	0.000E-01	1.100E-05
TC99M	9.230E-10	1.810E-09	3.000E-08	0.000E-01	2.630E-08	9.190E-10	1.030E-06
TC101	1.070E-09	1.120E-09	1.420E-08	0.000E-01	1.910E-08	5.920E-10	3.560E-09
RU103	7.310E-07	0.000E-01	2.810E-07	0.000E-01	1.840E-06	0.000E-01	1.890E-05
RU105	6.450E-08	0.000E-01	2.340E-08	0.000E-01	5.670E-07	0.000E-01	4.210E-05
RU106	1.170E-05	0.000E-01	1.450E-06	0.000E-01	1.580E-05	0.000E-01	1.820E-04
AG110M	5.390E-07	3.640E-07	2.910E-07	0.000E-01	6.780E-07	0.000E-01	4.330E-05
TE125M	1.140E-05	3.090E-06	1.520E-06	3.200E-06	0.000E-01	0.000E-01	1.100E-05
TE127M	2.890E-05	7.780E-06	3.430E-06	6.910E-06	8.240E-05	0.000E-01	2.340E-05
TE127	4.710E-07	1.270E-07	1.010E-07	3.260E-07	1.340E-06	0.000E-01	1.840E-05
TE129M	4.870E-05	1.360E-05	7.560E-06	1.570E-05	1.430E-04	0.000E-01	5.940E-05
TE129	1.340E-07	3.740E-08	3.180E-08	9.560E-08	3.920E-07	0.000E-01	8.340E-06
TE131M	7.200E-06	2.490E-06	2.650E-06	5.120E-06	2.410E-05	0.000E-01	1.010E-04
TE131	8.300E-08	2.530E-08	2.470E-08	6.350E-08	2.510E-07	0.000E-01	4.360E-07
TE132	1.010E-05	4.470E-06	5.400E-06	6.510E-06	4.150E-05	0.000E-01	4.500E-05

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I130	2.920E-06	5.900E-06	3.040E-06	6.500E-04	8.820E-06	0.000E-01	2.760E-06
I131	1.720E-05	1.730E-05	9.830E-06	5.720E-03	2.840E-05	0.000E-01	1.540E-06
I132	8.000E-07	1.470E-06	6.760E-07	6.820E-05	2.250E-06	0.000E-01	1.730E-06
I133	5.920E-06	7.320E-06	2.770E-06	1.360E-03	1.220E-05	0.000E-01	2.950E-06
I134	4.190E-07	7.780E-07	3.580E-07	1.790E-05	1.190E-06	0.000E-01	5.160E-07
T135	1.750E-06	3.150E-06	1.490E-06	2.790E-04	4.830E-06	0.000E-01	2.400E-06
CS134	2.340E-04	2.840E-04	8.100E-05	0.000E-01	1.190E-04	4.270E-05	2.070E-06
CS136	2.350E-05	6.460E-05	4.180E-05	0.000E-01	3.440E-05	5.130E-06	2.270E-06
CS137	3.270E-04	3.130E-04	4.620E-05	0.000E-01	1.020E-04	3.670E-05	1.960E-06
CS138	2.280E-07	3.170E-07	2.010E-07	0.000E-01	2.230E-07	2.400E-08	1.460E-07
BA139	4.140E-07	2.210E-10	1.200E-08	0.000E-01	1.930E-10	1.300E-10	2.390E-05
BA140	8.310E-05	7.280E-08	4.850E-06	0.000E-01	2.370E-08	4.340E-08	4.210E-05
BA141	2.000E-07	1.120E-10	6.510E-09	0.000E-01	9.690E-11	6.580E-10	1.140E-07
BA142	8.740E-08	6.290E-11	4.980E-09	0.000E-01	5.090E-11	3.700E-11	1.140E-09
LA140	1.010E-08	3.530E-09	1.190E-09	0.000E-01	0.000E-01	0.000E-01	9.840E-05
LA142	5.240E-10	1.670E-10	5.230E-11	0.000E-01	0.000E-01	0.000E-01	3.310E-05
CE141	3.970E-08	1.980E-08	2.940E-09	0.000E-01	8.680E-09	0.000E-01	2.470E-05
CE143	6.990E-09	3.790E-06	5.490E-10	0.000E-01	1.590E-09	0.000E-01	5.550E-05
CE144	2.080E-06	6.520E-07	1.110E-07	0.000E-01	3.610E-07	0.000E-01	1.700E-04
PR143	3.930E-08	1.180E-08	1.950E-09	0.000E-01	6.390E-09	0.000E-01	4.240E-05
PR144	1.290E-10	3.990E-11	6.490E-12	0.000E-01	2.110E-11	0.000E-01	8.590E-08
ND147	2.790E-08	2.260E-08	1.750E-09	0.000E-01	1.240E-08	0.000E-01	3.580E-05
W187	4.290E-07	2.540E-07	1.140E-07	0.000E-01	0.000E-01	0.000E-01	3.570E-05
NP239	5.250E-09	3.770E-10	2.650E-10	0.000E-01	1.090E-09	0.000E-01	2.790E-05
NONE	0.000E-01						
NONE	0.000E-01						

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TABLE 1-D

INFANT INJECTION INDIVIDUAL DOSE FACTORS ( $D_{aipj}$ )  
FOR LIQUID EFFLUENTS

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UNITS FOR ALL INJECTION PATHWAYS ARE:  
mrem/pCi

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## LIQUID DOSE FACTORS

DATA FROM TABLE E-14 OF REG. GUIDE 1.109

## INGESTION DOSE FACTORS FOR INFANT:

	BONE	LIVER	T. BODY	THYROID	KIDNEY	LUNG	GI-LLI
H3	0.000E-01	3.080E-07	3.080E-07	3.080E-07	3.080E-07	3.080E-07	3.080E-07
C14	2.370E-05	5.060E-06	5.060E-06	5.060E-06	5.060E-06	5.060E-06	5.060E-06
NA24	1.010E-05						
P32	1.700E-03	1.000E-04	6.590E-05	0.000E-01	0.000E-01	0.000E-01	2.300E-05
CR51	0.000E-01	0.000E-01	1.410E-08	9.200E-09	2.010E-09	1.790E-08	4.110E-07
MN54	0.000E-01	1.990E-05	4.510E-06	0.000E-01	4.410E-06	0.000E-01	7.310E-06
MN56	0.000E-01	8.180E-07	1.410E-07	0.000E-01	7.030E-07	0.000E-01	7.430E-05
FE55	1.390E-05	8.980E-06	2.400E-06	0.000E-01	0.000E-01	4.390E-06	1.140E-06
FE59	3.080E-05	5.380E-05	2.120E-05	0.000E-01	0.000E-01	1.590E-05	2.570E-05
CU58	0.000E-01	3.600E-06	8.980E-06	0.000E-01	0.000E-01	0.000E-01	8.970E-06
CO60	0.000E-01	1.080E-05	2.550E-05	0.000E-01	0.000E-01	0.000E-01	2.570E-05
NI63	6.340E-04	3.920E-05	2.200E-05	0.000E-01	0.000E-01	0.000E-01	1.950E-06
NI65	4.700E-06	5.320E-07	2.420E-07	0.000E-01	0.000E-01	0.000E-01	4.050E-05
CU64	0.000E-01	5.090E-07	2.820E-07	0.000E-01	1.030E-06	0.000E-01	1.250E-05
ZN65	1.840E-05	6.310E-05	2.910E-05	0.000E-01	3.060E-05	0.000E-01	5.330E-05
Z469	9.330E-08	1.680E-07	1.250E-08	0.000E-01	6.980E-08	0.000E-01	1.370E-05
RR83	0.000E-01	0.000E-01	3.630E-07	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RR84	0.000E-01	0.000E-01	3.820E-07	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RR85	0.000E-01	0.000E-01	1.940E-08	0.000E-01	0.000E-01	0.000E-01	0.000E-01
RB86	0.000E-01	1.700E-04	8.400E-05	0.000E-01	0.000E-01	0.000E-01	4.350E-06
RB88	0.000E-01	4.980E-07	2.730E-07	0.000E-01	0.000E-01	0.000E-01	4.850E-07
RR89	0.000E-01	2.860E-07	1.970E-07	0.000E-01	0.000E-01	0.000E-01	9.740E-08
SR89	2.510E-03	0.000E-01	7.200E-05	0.000E-01	0.000E-01	0.000E-01	5.160E-05
SR90	1.850E-02	0.000E-01	4.710E-03	0.000E-01	0.000E-01	0.000E-01	2.310E-04
SR91	5.000E-05	0.000E-01	1.810E-06	0.000E-01	0.000E-01	0.000E-01	5.920E-05
SR92	1.920E-05	0.000E-01	7.130E-07	0.000E-01	0.000E-01	0.000E-01	2.070E-04
Y90	8.690E-08	0.000E-01	2.330E-09	0.000E-01	0.000E-01	0.000E-01	1.200E-04
Y91M	8.100E-10	0.000E-01	2.760E-11	0.000E-01	0.000E-01	0.000E-01	2.700E-06
Y91	1.130E-06	0.000E-01	3.010E-08	0.000E-01	0.000E-01	0.000E-01	8.100E-05
Y92	7.650E-09	0.000E-01	2.150E-10	0.000E-01	0.000E-01	0.000E-01	1.460E-04
Y93	2.430E-08	0.000E-01	6.620E-10	0.000E-01	0.000E-01	0.000E-01	1.920E-04
ZR95	2.060E-07	5.020E-08	3.560E-08	0.000E-01	5.410E-08	0.000E-01	2.500E-05
ZR97	1.480E-08	2.540E-09	1.160E-09	0.000E-01	2.560E-09	0.000E-01	1.620E-04
NR95	4.200E-08	1.730E-08	1.000E-08	0.000E-01	1.240E-08	0.000E-01	1.460E-05
MD99	0.000E-01	3.400E-05	6.630E-06	0.000E-01	5.080E-05	0.000E-01	1.120E-05
TC99M	1.920E-09	3.960E-09	5.100E-08	0.000E-01	4.260E-08	2.070E-09	1.150E-06
TC101	2.270E-09	2.860E-09	2.830E-08	0.000E-01	3.400E-08	1.560E-09	4.860E-07
RU103	1.480E-06	0.000E-01	4.950E-07	0.000E-01	3.080E-06	0.000E-01	1.800E-05
RU105	1.360E-07	0.000E-01	4.580E-08	0.000E-01	1.000E-06	0.000E-01	5.410E-05
RUI06	2.410E-05	0.700E-01	3.010E-06	0.000E-01	2.850E-05	0.000E-01	1.830E-04
AG110M	9.960E-07	7.270E-07	4.810E-07	0.000E-01	1.040E-06	0.000E-01	3.770E-05
TE125M	2.330E-05	7.790E-06	3.150E-06	7.840E-06	0.000E-01	0.000E-01	1.110E-05
TE127M	5.850E-05	1.940E-05	7.080E-06	1.690E-05	1.440E-04	0.000E-01	2.360E-05
TE127	1.000E-06	3.350E-07	2.150E-07	8.140E-07	2.440E-06	0.000E-01	2.100E-05
TE129M	1.000E-04	3.430E-05	1.540E-05	3.840E-05	2.500E-04	0.000F-01	5.970E-05
TE129	2.840E-07	9.790E-08	6.630E-08	2.380E-07	7.070E-07	0.000E-01	2.270E-05
TE131M	1.520E-05	6.120E-06	5.050E-06	1.240E-05	4.210E-05	0.000E-01	1.030E-04
TE131	1.760E-07	6.500E-08	4.940E-08	1.570E-07	4.500E-07	0.000E-01	7.110E-06
TE132	2.080E-05	1.030E-05	9.610E-06	1.520E-05	6.440E-05	0.000F-01	3.810E-05

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I130	6.000E-06	1.320E-05	5.300E-06	1.480E-03	1.450E-05	0.000E-01	2.830E-06
I131	3.590E-05	4.230E-05	1.860E-05	1.390E-02	4.940E-05	0.000E-01	1.510E-06
I132	1.660E-06	3.370E-06	1.200E-06	1.580E-04	3.760E-06	0.000E-01	2.730E-06
I133	1.250E-05	1.820E-05	5.330E-06	3.310E-03	2.140E-05	0.000E-01	3.080E-06
I134	8.690E-07	1.780E-06	6.330E-07	4.150E-05	1.990E-06	0.000E-01	1.840E-06
I135	3.640E-06	7.240E-06	2.640E-06	6.490E-04	8.070E-06	0.000E-01	2.620E-06
CS134	3.770E-04	7.030E-04	7.100E-05	0.000E-01	1.810E-04	7.420E-05	1.910E-06
CS136	4.590E-05	1.350E-04	5.040E-05	0.000E-01	5.380E-05	1.100E-05	2.050E-06
CS137	5.220E-04	6.110E-04	4.330E-05	0.000E-01	1.640E-04	6.640E-05	1.910E-06
CS138	4.810E-07	7.820E-07	3.790E-07	0.000E-01	3.900E-07	6.090E-08	1.250E-06
BA139	8.810E-07	5.840E-10	2.550E-08	0.000E-01	3.510E-10	3.540E-10	5.580E-05
BA140	1.710E-04	1.710E-07	8.810E-06	0.000E-01	4.060E-08	1.050E-07	4.200E-05
BA141	4.250E-07	2.910E-10	1.340E-08	0.000E-01	1.750E-10	1.770E-10	5.190E-06
BA142	1.840E-07	1.530E-10	9.060E-09	0.000E-01	8.810E-11	9.260E-11	7.590E-07
LA140	2.110E-08	8.320E-09	2.140E-09	0.000E-01	0.000E-01	0.000E-01	9.770E-05
LA142	1.100E-09	4.040E-10	9.670E-11	0.000E-01	0.000E-01	0.000E-01	6.860E-05
CE141	7.870E-08	4.800E-08	5.650E-09	0.000E-01	1.480E-08	0.000E-01	2.480E-05
CE143	1.480E-08	9.820E-06	1.120E-09	0.000E-01	2.860E-09	0.000E-01	5.730E-05
CE144	2.980E-06	1.220E-06	1.670E-07	0.000E-01	4.930E-07	0.000E-01	1.710E-04
PR143	9.130E-08	3.040E-08	4.030E-09	0.000E-01	1.130E-08	0.000E-01	4.290E-05
PR144	2.740E-10	1.060E-10	1.380E-11	0.000E-01	3.840E-11	0.000E-01	4.930E-06
ND147	5.530E-08	5.680E-08	3.480E-09	0.000E-01	2.190E-08	0.000E-01	3.600E-05
W187	9.030E-07	6.280E-07	2.170E-07	0.000E-01	0.000E-01	0.000E-01	3.690E-05
NP239	1.110E-08	9.930E-10	5.610E-10	0.000E-01	1.980E-09	0.000E-01	2.870E-05
NONE	0.000E-01						
NONE	0.000E-01						

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TABLE 1-E

SHORELINE DEPOSITION DOSE FACTORS ( $D_{sa1pJ}$ )  
FOR LIQUID EFFLUENTS

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UNITS FOR ALL SHORELINE DEPOSITION PATHWAYS ARE:  
mrem-m<sup>2</sup>/pCi-hr

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## DATA FROM TABLE E-6 OF REG. GUIDE 1.109

TEL		$\lambda_i$	T. BODY	SKIN
H3	1	6.410E-06	0.000E-01	0.000E-01
C14	6	1.380E-08	0.000E-01	0.000E-01
NA24	11	4.620E-02	2.500E-08	2.900E-08
P32	15	2.020E-03	0.000E-01	0.000E-01
CR51	24	1.040E-03	2.200E-10	2.600E-10
MN54	25	9.240E-05	5.800E-09	6.800E-09
MN56	25	2.690E-01	1.100E-08	1.300E-08
FE55	26	2.930E-05	0.000E-01	0.000E-01
FE59	26	6.470E-04	8.000E-09	9.400E-09
CO58	27	4.080E-04	7.000E-09	8.200E-09
CD60	27	1.500E-05	1.700E-08	2.000E-08
NI63	28	8.240E-07	0.000E-01	0.000E-01
NT65	28	2.750E-01	3.700E-09	4.300E-09
CU64	29	5.460E-02	1.500E-09	1.700E-09
ZN65	30	1.180E-04	4.000E-09	4.600E-09
ZN69	30	7.300E-01	0.000E-01	0.000E-01
BR83	35	2.900E-01	6.400E-11	9.300E-11
BR84	35	1.310E+00	1.200E-08	1.400E-08
BR85	35	1.450E+01	0.000E-01	0.000E-01
RB86	37	1.550E-03	6.300E-10	7.200E-10
RR88	37	2.340E+00	3.500E-09	4.000E-09
RB89	37	2.740E+00	1.500E-08	1.800E-08
SR89	38	5.710E-04	5.600E-13	6.500E-13
SR90	38	2.770E-06	0.000E-01	0.000E-01
SR91	38	7.300E-02	7.100E-09	8.300E-09
SR92	38	2.560E-01	9.000E-09	1.000E-08
Y90	39	1.080E-02	2.200E-12	2.600E-12
Y91M	39	8.370E-01	3.800E-09	4.400E-09
Y91	39	4.940E-04	2.400E-11	2.700E-11
Y92	39	1.960E-01	1.600E-09	1.900E-09
Y93	39	6.860E-02	5.700E-10	7.800E-10
ZR95	40	4.510E-04	5.000E-09	5.800E-09
ZR97	40	4.100E-02	5.500E-09	6.400E-09
NB95	41	8.220E-04	5.100E-09	6.000E-09
MO99	42	1.050E-02	1.900E-09	2.200E-09
TC99M	43	1.150E-01	9.600E-10	1.100E-09
TC101	43	2.930E+00	2.700E-09	3.000E-09
RU103	44	7.340E-04	3.600E-09	4.200E-09
RU105	44	1.560E-01	4.500E-09	5.100E-09
RU106	44	7.840E-05	1.500E-09	1.800E-09
AG110M	47	1.150E-04	1.800E-08	2.100E-08
TE125M	52	4.980E-04	3.500E-11	4.800E-11
TE127M	52	2.650E-04	1.100E-12	1.300E-12
TE127	52	7.410E-02	1.000E-11	1.100E-11
TE129M	52	8.600E-04	7.700E-10	9.000E-10
TE129	52	5.970E-01	7.100E-10	8.400E-10
TE131M	52	2.310E-02	8.400E-09	9.900E-09
TE131	52	1.660E+00	2.200E-09	2.600E-06
TE132	52	8.860E-03	1.700E-09	2.000E-09

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TABLE 2

INDIVIDUAL DOSE FACTORS ( $DF_{k,1,n}$ )  
FOR GASEOUS EFFLUENTS

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UNITS FOR AIRBORNE PATHWAYS  
(PATHWAY NUMBERS 1 AND 7) ARE:  $m\text{rem}\cdot\text{m}^3/\text{C}_1\text{-sec}$

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UNITS FOR DEPOSITION PATHWAYS  
(PATHWAY NUMBERS 2 - 6) ARE:  
 $m\text{rem}\cdot\text{m}^2/\text{C}_1$

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LEGEND FOR INDIVIDUAL GASEOUS DOSE FACTORS

A. ISOTOPE NUMBERS (Iso)

<u>ISOTOPE</u>	<u>ISOTOPE NUMBER</u>
H-3	1
C-14	2
Kr-83M	3
Kr-85M	4
Kr-85	5
Kr-87	6
Kr-88	7
Kr-89	8
Kr-90	9
Xe-131M	10
Xe-133M	11
Xe-133	12
Xe-135M	13
Xe-135	14
Xe-137	15
Xe-138	16
Cr-51	17
Mn-54	18
Fe-59	19
Co-58	20
Co-60	21
Zn-65	22
Sr-89	23
Sr-90	24
Zr-95	25
Sb-124	26
Cs-134	27
Cs-136	28
Cs-137	29
Ba-140	30
Ce-141	31
Ce-144	32
I-131	33
I-133	34
	35

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## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : H3

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.53E+01	6.53E+01	0.00E-01	6.53E+01	6.53E+01	6.53E+01	0.00E-01
TEEN:	7.75E+01	7.75E+01	0.00E-01	7.75E+01	7.75E+01	7.75E+01	0.00E-01
CHILD:	1.21E+02	1.21E+02	0.00E-01	1.21E+02	1.21E+02	1.21E+02	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	7.98E+00	7.98E+00	0.00E-01	7.98E+00	7.98E+00	7.98E+00	0.00E-01
TEEN:	4.76E+00	4.76E+00	0.00E-01	4.76E+00	4.76E+00	4.76E+00	0.00E-01
CHILD:	5.75E+00	5.75E+00	0.00E-01	5.75E+00	5.75E+00	5.75E+00	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.88E+01	1.88E+01	0.00E-01	1.88E+01	1.88E+01	1.88E+01	0.00E-01
TEEN:	2.45E+01	2.45E+01	0.00E-01	2.45E+01	2.45E+01	2.45E+01	0.00E-01
CHILD:	3.87E+01	3.87E+01	0.00E-01	3.87E+01	3.87E+01	3.87E+01	0.00E-01
INFANT:	5.87E+01	5.87E+01	0.00E-01	5.87E+01	5.87E+01	5.87E+01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.83E+01	3.83E+01	0.00E-01	3.83E+01	3.83E+01	3.83E+01	0.00E-01
TEEN:	4.99E+01	4.99E+01	0.00E-01	4.99E+01	4.99E+01	4.99E+01	0.00E-01
CHILD:	7.89E+01	7.89E+01	0.00E-01	7.89E+01	7.89E+01	7.89E+01	0.00E-01
INFANT:	1.20E+02	1.20E+02	0.00E-01	1.20E+02	1.20E+02	1.20E+02	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.01E+01	4.01E+01	0.00E-01	4.01E+01	4.01E+01	4.01E+01	0.00E-01
TEEN:	4.03E+01	4.03E+01	0.00E-01	4.03E+01	4.03E+01	4.03E+01	0.00E-01
CHILD:	3.57E+01	3.57E+01	0.00E-01	3.57E+01	3.57E+01	3.57E+01	0.00E-01
INFANT:	2.05E+01	2.05E+01	0.00E-01	2.05E+01	2.05E+01	2.05E+01	0.00E-01

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## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : C14

## FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	5.22E+03	5.22E+03	2.61E+04	5.22E+03	5.22E+03	5.22E+03	5.22E+03	0.00E-01
TEEN:	8.79E+03	8.79E+03	4.39E+04	8.79E+03	8.79E+03	8.79E+03	8.79E+03	0.00E-01
CHILD:	2.14E+04	2.14E+04	1.07E+05	2.14E+04	2.14E+04	2.14E+04	2.14E+04	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.64E+03	1.64E+03	8.22E+03	1.64E+03	1.64E+03	1.64E+03	1.64E+03	0.00E-01
TEEN:	1.39E+03	1.39E+03	6.94E+03	1.39E+03	1.39E+03	1.39E+03	1.39E+03	0.00E-01
CHILD:	2.61E+03	2.61E+03	1.31E+04	2.61E+03	2.61E+03	2.61E+03	2.61E+03	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.79E+03	1.79E+03	8.97E+03	1.79E+03	1.79E+03	1.79E+03	1.79E+03	0.00E-01
TEEN:	3.31E+03	3.31E+03	1.65E+04	3.31E+03	3.31E+03	3.31E+03	3.31E+03	0.00E-01
CHILD:	8.13E+03	8.13E+03	4.07E+04	8.13E+03	8.13E+03	8.13E+03	8.13E+03	0.00E-01
INFANT:	1.70E+04	1.70E+04	7.97E+04	1.70E+04	1.70E+04	1.70E+04	1.70E+04	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.79E+03	1.79E+03	8.97E+03	1.79E+03	1.79E+03	1.79E+03	1.79E+03	0.00E-01
TEEN:	3.31E+03	3.31E+03	1.65E+04	3.31E+03	3.31E+03	3.31E+03	3.31E+03	0.00E-01
CHILD:	8.13E+03	8.13E+03	4.07E+04	8.13E+03	8.13E+03	8.13E+03	8.13E+03	0.00E-01
INFANT:	1.70E+04	1.70E+04	7.97E+04	1.70E+04	1.70E+04	1.70E+04	1.70E+04	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.08E+02	1.08E+02	5.76E+02	1.08E+02	1.08E+02	1.08E+02	1.08E+02	0.00E-01
TEEN:	1.54E+02	1.54E+02	8.24E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	0.00E-01
CHILD:	2.13E+02	2.13E+02	1.14E+03	2.13E+02	2.13E+02	2.13E+02	2.13E+02	0.00E-01
INFANT:	1.68E+02	1.68E+02	8.39E+02	1.68E+02	1.68E+02	1.68E+02	1.68E+02	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : AR41

#### **FOR PATHWAY: PLUME**

**FOR PATHWAY: GROUND**

## FOR PATHWAY: VEGETABLE

## FOR PATHWAY: MEAT

FOR PATHWAYS: COW MILK

## FOR PATHWAY: GOAT MILK

## OR PATHWAY: INHALATION

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR83M

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	9.39E-02 4.75E-01
TEEN:	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	9.39E-02 4.75E-01
CHILD:	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	9.39E-02 4.75E-01
INFANT:	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	1.68E-03	9.39E-02 4.75E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR85M

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.66E+01	7.66E+01
TEEN:	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.66E+01	7.66E+01
CHILD:	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.66E+01	7.66E+01
INFANT:	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.66E+01	7.66E+01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR85

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	9.50E-01	4.29E+01
TEEN:	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	9.50E-01	4.29E+01
CHILD:	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	9.50E-01	4.29E+01
INFANT:	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	9.50E-01	4.29E+01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR87

## FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.35E+02	4.60E+02
TEEN:	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.35E+02	4.60E+02
CHILD:	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.35E+02	4.60E+02
INFANT:	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.31E+02	1.35E+02	4.60E+02

## FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR88

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.27E+02	4.50E+02
TEEN:	3.26E+02	3.26E+02	3.26E+02	3.25E+02	3.26E+02	3.26E+02	3.27E+02
CHILD:	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.27E+02	4.50E+02
INFANT:	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.26E+02	3.27E+02	4.50E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR89

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.72E+02	7.46E+02
TEEN:	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.72E+02	7.46E+02
CHILD:	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.72E+02	7.46E+02
INFANT:	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.68E+02	3.72E+02	7.46E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : KR90

FOR PATHWAY: PLUME

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.49E+02	6.33E+02
TEEN:	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.49E+02	6.33E+02
CHILD:	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.49E+02	6.33E+02
INFANT:	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.49E+02	6.33E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

PATHWAY: GOAT MILK

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT		BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE131M

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.38E+00	1.89E+01
TEEN:	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.38E+00	1.89E+01
CHILD:	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.38E+00	1.89E+01
INFANT:	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.03E+00	2.38E+00	1.89E+01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE133M

FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	6.03E+00	3.96E+01
TEEN:	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	6.03E+00	3.96E+01
CHILD:	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	6.03E+00	3.96E+01
INFANT:	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	5.57E+00	6.03E+00	3.96E+01

FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE133

FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.86E+00	1.84E+01
TEEN:	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.86E+00	1.84E+01
CHILD:	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.86E+00	1.84E+01
INFANT:	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.52E+00	6.86E+00	1.84E+01

FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE135M

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.95E+01	1.05E+02
TEEN:	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.95E+01	1.05E+02
CHILD:	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.95E+01	1.05E+02
INFANT:	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.92E+01	6.95E+01	1.05E+02

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE135

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.09E+01	1.06E+02
TEEN:	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.09E+01	1.06E+02
CHILD:	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.09E+01	1.06E+02
INFANT:	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.02E+01	4.09E+01	1.06E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

OCT 19 1984

NDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE137

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.54E+01	4.24E+02
TEEN:	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.54E+01	4.24E+02
CHILD:	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.54E+01	4.24E+02
INFANT:	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	3.54E+01	4.24E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : XE138

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.98E+02	3.58E+02
TEEN:	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.98E+02	3.58E+02
CHILD:	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.98E+02	3.58E+02
INFANT:	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.96E+02	1.98E+02	3.58E+02

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

OCT 19 1984

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CR51

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.69E+05
TEEN:	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.69E+05
CHILD:	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.69E+05
INFANT:	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.43E+05	1.69E+05

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	1.06E+03	2.66E+05	0.00E-01	0.00E-01	2.33E+02	6.31E+02	1.40E+03	0.00E-01
TEEN:	1.55E+03	2.61E+05	0.00E-01	0.00E-01	3.40E+02	8.61E+02	2.21E+03	0.00E-01
CHILD:	3.05E+03	1.62E+05	0.00E-01	0.00E-01	4.63E+02	1.70E+03	3.10E+03	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	1.29E+02	3.23E+04	0.00E-01	0.00E-01	2.83E+01	7.68E+01	1.71E+02	0.00E-01
TEEN:	1.03E+02	1.73E+04	0.00E-01	0.00E-01	2.25E+01	5.71E+01	1.47E+02	0.00E-01
CHILD:	1.60E+02	8.50E+03	0.00E-01	0.00E-01	2.43E+01	8.90E+01	1.62E+02	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	5.20E+02	1.31E+05	0.00E-01	0.00E-01	1.15E+02	3.11E+02	6.91E+02	0.00E-01
TEEN:	9.09E+02	1.53E+05	0.00E-01	0.00E-01	1.99E+02	5.05E+02	1.30E+03	0.00E-01
CHILD:	1.85E+03	9.83E+04	0.00E-01	0.00E-01	2.81E+02	1.03E+03	1.88E+03	0.00E-01
INFANT:	2.94E+03	8.56E+04	0.00E-01	0.00E-01	4.19E+02	1.92E+03	3.73E+03	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	6.24E+01	1.57E+04	0.00E-01	0.00E-01	1.38E+01	3.73E+01	8.29E+01	0.00E-01
TEEN:	1.09E+02	1.83E+04	0.00E-01	0.00E-01	2.39E+01	6.06E+01	1.56E+02	0.00E-01
CHILD:	2.22E+02	1.18E+04	0.00E-01	0.00E-01	3.37E+01	1.23E+02	2.25E+02	0.00E-01
INFANT:	3.52E+02	1.03E+04	0.00E-01	0.00E-01	5.02E+01	2.30E+02	4.47E+02	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.17E+00	1.05E+02	0.00E-01	0.00E-01	7.23E-01	1.89E+00	4.56E+02	0.00E-01
TEEN:	4.29E+00	9.51E+01	0.00E-01	0.00E-01	9.74E-01	2.38E+00	6.64E+02	0.00E-01
CHILD:	4.89E+00	3.44E+01	0.00E-01	0.00E-01	7.71E-01	2.71E+00	5.38E+02	0.00E-01
INFANT:	2.84E+00	1.13E+01	0.00E-01	0.00E-01	4.19E-01	1.82E+00	4.07E+02	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : MN54

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.96E+07
TEEN:	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.96E+07
CHILD:	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.96E+07
INFANT:	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.23E+07	4.96E+07

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.61E+06	2.58E+07	0.00E-01	8.43E+06	2.51E+06	0.00E-01	0.00E-01
TEEN:	2.53E+06	2.61E+07	0.00E-01	1.27E+07	3.80E+06	0.00E-01	0.00E-01
CHILD:	5.03E+06	1.59E+07	0.00E-01	1.89E+07	5.30E+06	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.21E+04	5.16E+05	0.00E-01	1.68E+05	5.01E+04	0.00E-01	0.00E-01
TEEN:	2.55E+04	2.63E+05	0.00E-01	1.28E+05	3.83E+04	0.00E-01	0.00E-01
CHILD:	3.91E+04	1.23E+05	0.00E-01	1.47E+05	4.12E+04	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.94E+04	4.73E+05	0.00E-01	1.54E+05	4.59E+04	0.00E-01	0.00E-01
TEEN:	5.10E+04	5.27E+05	0.00E-01	2.57E+05	7.67E+04	0.00E-01	0.00E-01
CHILD:	1.02E+05	3.23E+05	0.00E-01	3.85E+05	1.08E+05	0.00E-01	0.00E-01
INFANT:	1.62E+05	2.63E+05	0.00E-01	7.15E+05	1.59E+05	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.53E+03	5.67E+04	0.00E-01	1.85E+04	5.51E+03	0.00E-01	0.00E-01
TEEN:	6.12E+03	6.33E+04	0.00E-01	3.09E+04	9.20E+03	0.00E-01	0.00E-01
CHILD:	1.23E+04	3.87E+04	0.00E-01	4.62E+04	1.29E+04	0.00E-01	0.00E-01
INFANT:	1.95E+04	3.15E+04	0.00E-01	8.58E+04	1.90E+04	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.00E+02	2.45E+03	0.00E-01	1.26E+03	3.12E+02	0.00E-01	4.44E+04
TEEN:	2.66E+02	2.12E+03	0.00E-01	1.62E+03	4.03E+02	0.00E-01	6.29E+04
CHILD:	3.01E+02	7.26E+02	0.00E-01	1.36E+03	3.18E+02	0.00E-01	5.00E+04
INFANT:	1.58E+02	2.24E+02	0.00E-01	8.03E+02	1.58E+02	0.00E-01	3.17E+04

OCT 19 1984

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : FE59

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	9.80E+06
TEEN:	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	9.80E+06
CHILD:	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	9.80E+06
INFANT:	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	8.34E+06	9.80E+06

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.80E+06	2.43E+07	3.11E+06	7.30E+06	0.00E-01	0.00E-01	2.04E+06	0.00E-01
TEEN:	4.28E+06	2.62E+07	4.75E+06	1.11E+07	0.00E-01	0.00E-01	3.50E+06	0.00E-01
CHILD:	8.69E+06	1.82E+07	1.08E+07	1.75E+07	0.00E-01	0.00E-01	5.06E+06	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	4.29E+06	3.73E+07	4.76E+06	1.12E+07	0.00E-01	0.00E-01	3.12E+06	0.00E-01
TEEN:	3.43E+06	2.10E+07	3.80E+06	8.87E+06	0.00E-01	0.00E-01	2.80E+06	0.00E-01
CHILD:	5.43E+06	1.14E+07	5.74E+06	1.09E+07	0.00E-01	0.00E-01	3.16E+06	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	4.79E+05	4.17E+06	5.32E+05	1.25E+06	0.00E-01	0.00E-01	3.49E+05	0.00E-01
TEEN:	8.37E+05	5.12E+06	9.28E+05	2.17E+06	0.00E-01	0.00E-01	6.83E+05	0.00E-01
CHILD:	1.74E+06	3.63E+06	2.15E+06	3.48E+06	0.00E-01	0.00E-01	1.01E+06	0.00E-01
INFANT:	2.77E+06	3.35E+06	4.02E+06	7.02E+06	0.00E-01	0.00E-01	2.07E+06	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	6.23E+03	5.42E+04	6.91E+03	1.63E+04	0.00E-01	0.00E-01	4.54E+03	0.00E-01
TEEN:	1.09E+04	6.66E+04	1.21E+04	2.82E+04	0.00E-01	0.00E-01	8.88E+03	0.00E-01
CHILD:	2.26E+04	4.71E+04	2.80E+04	4.53E+04	0.00E-01	0.00E-01	1.31E+04	0.00E-01
INFANT:	3.60E+04	4.36E+04	5.22E+04	9.12E+04	0.00E-01	0.00E-01	2.70E+04	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.35E+02	5.96E+03	3.73E+02	8.80E+02	0.00E-01	0.00E-01	3.22E+04	0.00E-01
TEEN:	4.54E+02	5.66E+03	5.05E+02	1.17E+03	0.00E-01	0.00E-01	4.84E+04	0.00E-01
CHILD:	5.29E+02	2.24E+03	6.56E+02	1.06E+03	0.00E-01	0.00E-01	4.02E+04	0.00E-01
INFANT:	3.00E+02	7.86E+02	4.30E+02	7.46E+02	0.00E-01	0.00E-01	3.22E+04	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CO58

FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.16E+07	1.36E+07						
TEEN:	1.16E+07	1.36E+07						
CHILD:	1.16E+07	1.36E+07						
INFANT:	1.16E+07	1.36E+07						

FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.76E+06	1.59E+07	0.00E-01	7.85E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	2.72E+06	1.63E+07	0.00E-01	1.18E+06	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	5.43E+06	1.04E+07	0.00E-01	1.77E+06	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	7.30E+05	6.60E+06	0.00E-01	3.26E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	5.79E+05	3.46E+06	0.00E-01	2.51E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	8.98E+05	1.71E+06	0.00E-01	2.93E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.89E+05	1.71E+06	0.00E-01	8.42E+04	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	3.27E+05	1.95E+06	0.00E-01	1.42E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	6.63E+05	1.26E+06	0.00E-01	2.17E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	1.08E+06	1.08E+06	0.00E-01	4.33E+05	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.26E+04	2.05E+05	0.00E-01	1.01E+04	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	3.92E+04	2.35E+05	0.00E-01	1.70E+04	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	7.96E+04	1.52E+05	0.00E-01	2.60E+04	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	1.30E+05	1.30E+05	0.00E-01	5.20E+04	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.57E+01	3.37E+03	0.00E-01	5.02E+01	0.00E-01	0.00E-01	2.94E+04	0.00E-01
TEEN:	8.80E+01	3.02E+03	0.00E-01	6.57E+01	0.00E-01	0.00E-01	4.26E+04	0.00E-01
CHILD:	1.00E+02	1.09E+03	0.00E-01	5.62E+01	0.00E-01	0.00E-01	3.51E+04	0.00E-01
INFANT:	5.77E+01	3.53E+02	0.00E-01	3.87E+01	0.00E-01	0.00E-01	2.46E+04	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CO60

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	8.34E+08
TEEN:	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	8.34E+08
CHILD:	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	8.34E+08
INFANT:	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	7.09E+08	8.34E+08

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.02E+07	8.68E+07	0.00E-01	4.62E+06	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.61E+07	9.29E+07	0.00E-01	7.13E+06	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.24E+07	6.08E+07	0.00E-01	1.10E+07	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.11E+06	2.65E+07	0.00E-01	1.41E+06	0.00E-01	0.00E-01	0.00E-01
TEEN:	2.46E+06	1.42E+07	0.00E-01	1.09E+06	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.83E+06	7.19E+06	0.00E-01	1.30E+06	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.78E+05	5.77E+06	0.00E-01	3.07E+05	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.17E+06	6.78E+06	0.00E-01	5.21E+05	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.38E+06	4.48E+06	0.00E-01	8.09E+05	0.00E-01	0.00E-01	0.00E-01
INFANT:	3.90E+06	3.93E+06	0.00E-01	1.65E+06	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	8.13E+04	6.93E+05	0.00E-01	3.69E+04	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.41E+05	8.14E+05	0.00E-01	6.25E+04	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.86E+05	5.37E+05	0.00E-01	9.70E+04	0.00E-01	0.00E-01	0.00E-01
INFANT:	4.68E+05	4.71E+05	0.00E-01	1.98E+05	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.69E+02	9.03E+03	0.00E-01	3.65E+02	0.00E-01	0.00E-01	1.89E+05
TEEN:	6.29E+02	8.22E+03	0.00E-01	4.79E+02	0.00E-01	0.00E-01	2.76E+05
CHILD:	7.18E+02	3.05E+03	0.00E-01	4.16E+02	0.00E-01	0.00E-01	2.24E+05
INFANT:	3.73E+02	1.01E+03	0.00E-01	2.54E+02	0.00E-01	0.00E-01	1.43E+05

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : ZN65

## FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.29E+07	2.63E+07						
TEEN:	2.29E+07	2.63E+07						
CHILD:	2.29E+07	2.63E+07						
INFANT:	2.29E+07	2.63E+07						

## FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.52E+07	2.20E+07	1.10E+07	3.50E+07	2.34E+07	0.00E-01	0.00E-01	0.00E-01
TEEN:	2.48E+07	2.25E+07	1.53E+07	5.32E+07	3.40E+07	0.00E-01	0.00E-01	0.00E-01
CHILD:	4.93E+07	1.39E+07	2.98E+07	7.93E+07	5.00E+07	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.08E+07	1.50E+07	7.50E+06	2.39E+07	1.60E+07	0.00E-01	0.00E-01	0.00E-01
TEEN:	8.54E+06	7.75E+06	5.27E+06	1.83E+07	1.17E+07	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.31E+07	3.70E+06	7.91E+06	2.11E+07	1.33E+07	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.16E+07	5.79E+07	2.89E+07	9.20E+07	6.15E+07	0.00E-01	0.00E-01	0.00E-01
TEEN:	7.19E+07	6.53E+07	4.44E+07	1.54E+08	9.86E+07	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.44E+08	4.07E+07	8.71E+07	2.32E+08	1.46E+08	0.00E-01	0.00E-01	0.00E-01
INFANT:	1.85E+08	3.39E+08	1.17E+08	4.01E+08	1.95E+08	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.99E+06	6.95E+06	3.47E+06	1.10E+07	7.38E+06	0.00E-01	0.00E-01	0.00E-01
TEEN:	8.63E+06	7.83E+06	5.33E+06	1.85E+07	1.18E+07	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.73E+07	4.89E+06	1.05E+07	2.78E+07	1.75E+07	0.00E-01	0.00E-01	0.00E-01
INFANT:	2.22E+07	4.07E+07	1.40E+07	4.81E+07	2.33E+07	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.48E+03	1.69E+03	1.03E+03	3.27E+03	2.19E+03	0.00E-01	2.74E+04	0.00E-01
TEEN:	1.98E+03	1.48E+03	1.22E+03	4.24E+03	2.74E+03	0.00E-01	3.93E+04	0.00E-01
CHILD:	2.23E+03	5.17E+02	1.35E+03	3.59E+03	2.26E+03	0.00E-01	3.16E+04	0.00E-01
INFANT:	9.85E+02	1.63E+03	6.12E+02	1.98E+03	1.03E+03	0.00E-01	2.05E+04	0.00E-01

OCT 19 1984

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : SR89

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	7.68E+02
TEEN:	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	7.68E+02
CHILD:	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	7.68E+02
INFANT:	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	6.62E+02	7.68E+02

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	7.42E+06	4.14E+07	2.58E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.20E+07	5.00E+07	4.20E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.91E+07	3.95E+07	1.02E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.68E+05	9.41E+05	5.86E+06	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.42E+05	5.90E+05	4.95E+06	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.68E+05	3.63E+05	9.37E+06	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	8.09E+05	4.52E+06	2.82E+07	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.49E+06	6.19E+06	5.20E+07	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.67E+06	4.98E+06	1.29E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	7.02E+06	5.03E+06	2.45E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.70E+06	9.50E+06	5.92E+07	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	3.13E+06	1.30E+07	1.09E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	7.72E+06	1.05E+07	2.70E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	1.47E+07	1.06E+07	5.14E+08	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.76E+02	1.11E+04	9.64E+03	0.00E-01	0.00E-01	0.00E-01	4.44E+04
TEEN:	3.96E+02	1.18E+04	1.38E+04	0.00E-01	0.00E-01	0.00E-01	7.66E+04
CHILD:	5.47E+02	5.30E+03	1.90E+04	0.00E-01	0.00E-01	0.00E-01	6.84E+04
INFANT:	3.62E+02	2.03E+03	1.26E+04	0.00E-01	0.00E-01	0.00E-01	6.44E+04

OCT 10 1994

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : SR90

FOR PATHWAY: PLUME

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01								
TEEN:	0.00E-01								
CHILD:	0.00E-01								
INFANT:	0.00E-01								

FOR PATHWAY: GROUND

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01								
TEEN:	0.00E-01								
CHILD:	0.00E-01								
INFANT:	0.00E-01								

FOR PATHWAY: VEGETABLE

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.38E+10	1.63E+09	5.64E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.79E+10	2.04E+09	7.27E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.09E+10	1.64E+09	1.22E+11	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01								

FOR PATHWAY: MEAT

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.45E+08	5.24E+07	1.81E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	2.90E+08	3.29E+07	1.17E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.84E+08	2.04E+07	1.52E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01								

FOR PATHWAY: COW MILK

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.67E+09	1.97E+08	6.82E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	2.38E+09	2.70E+08	9.64E+09	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	4.13E+09	2.19E+08	1.63E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	4.51E+09	2.21E+08	1.77E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.51E+09	4.14E+08	1.43E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	5.00E+09	5.68E+08	2.02E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	8.67E+09	4.61E+08	3.42E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	9.47E+09	4.65E+08	3.72E+10	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T.	BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.93E+05	2.29E+04	3.14E+06	0.00E-01	0.00E-01	0.00E-01	3.04E+05	0.00E-01	
TEEN:	2.12E+05	2.42E+04	3.42E+06	0.00E-01	0.00E-01	0.00E-01	5.22E+05	0.00E-01	
CHILD:	2.04E+05	1.09E+04	3.20E+06	0.00E-01	0.00E-01	0.00E-01	4.68E+05	0.00E-01	
INFANT:	8.21E+04	4.15E+03	1.30E+06	0.00E-01	0.00E-01	0.00E-01	3.56E+05	0.00E-01	

OCT 19 1984

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : ZR95

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	8.67E+06
TEEN:	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	8.67E+06
CHILD:	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	8.67E+06
INFANT:	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	7.48E+06	8.67E+06

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	6.46E+03	3.03E+07	2.98E+04	9.55E+03	1.50E+04	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.01E+04	3.37E+07	4.63E+04	1.46E+04	2.15E+04	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.07E+04	2.43E+07	1.06E+05	2.33E+04	3.33E+04	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	7.26E+03	3.40E+07	3.34E+04	1.07E+04	1.68E+04	0.00E-01	0.00E-01	0.00E-01
TEEN:	5.81E+03	1.95E+07	2.68E+04	8.45E+03	1.24E+04	0.00E-01	0.00E-01	0.00E-01
CHILD:	9.30E+03	1.09E+07	4.75E+04	1.05E+04	1.50E+04	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.65E+00	1.71E+04	1.68E+01	5.40E+00	8.47E+00	0.00E-01	0.00E-01	0.00E-01
TEEN:	6.39E+00	2.14E+04	2.94E+01	9.29E+00	1.36E+01	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.34E+01	1.57E+04	6.84E+01	1.50E+01	2.15E+01	0.00E-01	0.00E-01	0.00E-01
INFANT:	2.10E+01	1.47E+04	1.21E+02	2.95E+01	3.19E+01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	4.39E-01	2.05E+03	2.02E+00	6.48E-01	1.02E+00	0.00E-01	0.00E-01	0.00E-01
TEEN:	7.66E-01	2.57E+03	3.53E+00	1.11E+00	1.64E+00	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.61E+00	1.88E+03	8.20E+00	1.80E+00	2.58E+00	0.00E-01	0.00E-01	0.00E-01
INFANT:	2.52E+00	1.77E+03	1.46E+01	3.55E+00	3.83E+00	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	7.38E+02	4.77E+03	3.40E+03	1.09E+03	1.72E+03	0.00E-01	5.60E+04	0.00E-01
TEEN:	9.99E+02	4.72E+03	4.62E+03	1.45E+03	2.14E+03	0.00E-01	8.52E+04	0.00E-01
CHILD:	1.17E+03	1.94E+03	6.02E+03	1.33E+03	1.89E+03	0.00E-01	7.07E+04	0.00E-01
INFANT:	6.44E+02	5.88E+02	3.66E+03	8.83E+02	9.85E+02	0.00E-01	5.55E+04	0.00E-01

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : SB124

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

OCT 10 1984

## NDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CS134

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01
TEEN:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01
CHILD:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01
INFANT:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.46E+08
TEEN:	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.46E+08
CHILD:	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.46E+08
INFANT:	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.11E+08	2.46E+08

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.50E+08	5.34E+06	1.28E+08	3.05E+08	9.99E+07	0.00E+01	3.28E+07
TEEN:	2.21E+08	5.93E+06	2.03E+08	4.77E+08	1.52E+08	0.00E+01	5.79E+07
CHILD:	1.60E+08	4.10E+06	4.63E+08	7.60E+08	2.36E+08	0.00E+01	8.46E+07
INFANT:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.38E+07	5.10E+05	1.22E+07	2.91E+07	9.43E+06	0.00E+01	3.13E+06
TEEN:	1.06E+07	2.85E+05	9.74E+06	2.29E+07	7.28E+06	0.00E+01	2.78E+06
CHILD:	5.94E+06	1.52E+05	1.72E+07	2.82E+07	8.73E+06	0.00E+01	3.13E+06
INFANT:	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01	0.00E+01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.05E+08	4.38E+06	1.05E+08	2.50E+08	8.11E+07	0.00E+01	2.69E+07
TEEN:	2.00E+08	5.35E+06	1.83E+08	4.30E+08	1.37E+08	0.00E+01	5.22E+07
CHILD:	1.46E+08	3.73E+06	4.22E+08	6.92E+08	2.14E+08	0.00E+01	7.69E+07
INFANT:	1.28E+08	3.44E+06	6.79E+08	1.27E+09	3.26E+08	0.00E+01	1.34E+08

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.14E+08	1.32E+07	3.16E+08	7.51E+08	2.43E+08	0.00E+01	8.07E+07
TEEN:	5.99E+08	1.61E+07	5.48E+08	1.29E+09	4.10E+08	0.00E+01	1.57E+08
CHILD:	4.38E+08	1.12E+07	1.26E+09	2.08E+09	6.43E+08	0.00E+01	2.31E+08
INFANT:	3.84E+08	1.03E+07	2.04E+09	3.80E+09	9.78E+08	0.00E+01	4.01E+08

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.31E+04	3.30E+02	1.18E+04	2.69E+04	9.10E+03	0.00E+01	3.09E+03
TEEN:	1.74E+04	3.09E+02	1.59E+04	3.58E+04	1.19E+04	0.00E+01	4.64E+03
CHILD:	7.12E+03	1.22E+02	2.06E+04	3.21E+04	1.05E+04	0.00E+01	3.94E+03
INFANT:	2.36E+03	4.23E+01	1.26E+04	2.23E+04	6.04E+03	0.00E+01	2.53E+03

OCT 19 1984

INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CS136

FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	5.21E+06
TEEN:	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	5.21E+06
CHILD:	4.00E+06	4.60E+06	4.50E+06	4.60E+06	4.60E+06	4.60E+06	5.21E+06
INFANT:	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	4.60E+06	5.21E+06

FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.99E+06	3.15E+05	7.01E+05	2.77E+06	1.54E+06	0.00E-01	2.11E+05
TEEN:	2.14E+06	2.57E+05	8.10E+05	3.19E+06	1.74E+06	0.00E-01	2.74E+05
CHILD:	2.88E+06	1.57E+05	1.62E+06	4.46E+06	2.37E+06	0.00E-01	3.54E+05
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.53E+05	1.03E+05	2.30E+05	9.08E+05	5.05E+05	0.00E-01	6.92E+04
TEEN:	4.74E+05	5.68E+04	1.79E+05	7.05E+05	3.84E+05	0.00E-01	6.05E+04
CHILD:	5.50E+05	2.99E+04	3.09E+05	8.50E+05	4.53E+05	0.00E-01	6.75E+04
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.43E+07	2.26E+06	5.03E+06	1.99E+07	1.10E+07	0.00E-01	1.51E+06
TEEN:	2.26E+07	2.71E+06	8.56E+06	3.37E+07	1.83E+07	0.00E-01	2.89E+06
CHILD:	3.44E+07	1.87E+06	1.93E+07	5.31E+07	2.83E+07	0.00E-01	4.22E+06
INFANT:	4.14E+07	1.69E+06	3.77E+07	1.11E+08	4.42E+07	0.00E-01	9.05E+06

FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.29E+07	6.77E+06	1.51E+07	5.96E+07	3.31E+07	0.00E-01	4.54E+06
TEEN:	6.79E+07	8.13E+06	2.57E+07	1.01E+08	5.50E+07	0.00E-01	8.67E+06
CHILD:	1.03E+08	5.60E+06	5.80E+07	1.59E+08	8.49E+07	0.00E-01	1.27E+07
INFANT:	1.24E+08	5.06E+06	1.13E+08	3.33E+08	1.33E+08	0.00E-01	2.71E+07

FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.50E+03	3.70E+02	1.24E+03	4.64E+03	2.71E+03	0.00E-01	3.80E+02
TEEN:	4.34E+03	3.45E+02	1.63E+03	6.14E+03	3.50E+03	0.00E-01	5.63E+02
CHILD:	3.68E+03	1.33E+02	2.06E+03	5.42E+03	3.03E+03	0.00E-01	4.61E+02
INFANT:	1.68E+03	4.53E+01	1.53E+03	4.26E+03	1.79E+03	0.00E-01	3.73E+02

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CS137

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	4.64E+08
TEEN:	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	4.64E+08
CHILD:	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	4.64E+08
INFANT:	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	3.98E+08	4.64E+08

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.88E+08	5.56E+06	2.10E+08	2.87E+08	9.75E+07	0.00E-01	3.24E+07
TEEN:	1.61E+08	6.57E+06	3.47E+08	4.62E+08	1.57E+08	0.00E-01	6.11E+07
CHILD:	1.17E+08	4.97E+06	8.29E+08	7.94E+08	2.59E+08	0.00E-01	9.31E+07
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.63E+07	4.80E+05	1.81E+07	2.48E+07	8.42E+06	0.00E-01	2.80E+06
TEEN:	6.98E+06	2.85E+05	1.51E+07	2.00E+07	6.92E+06	0.00E-01	2.65E+06
CHILD:	3.92E+06	1.66E+05	2.77E+07	2.66E+07	8.65E+06	0.00E-01	3.11E+06
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.38E+08	4.07E+06	1.54E+08	2.10E+08	7.13E+07	0.00E-01	2.37E+07
TEEN:	1.29E+08	5.27E+06	2.78E+08	3.70E+08	1.26E+08	0.00E-01	4.90E+07
CHILD:	9.48E+07	4.02E+06	6.71E+08	6.42E+08	2.09E+08	0.00E-01	7.53E+07
INFANT:	8.38E+07	3.92E+06	1.07E+09	1.25E+09	3.36E+08	0.00E-01	1.36E+08

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.13E+08	1.22E+07	4.61E+08	6.30E+08	2.14E+08	0.00E-01	7.11E+07
TEEN:	3.87E+08	1.58E+07	8.35E+08	1.11E+09	3.78E+08	0.00E-01	1.47E+08
CHILD:	2.84E+08	1.21E+07	2.01E+09	1.93E+09	6.28E+08	0.00E-01	2.26E+08
INFANT:	2.66E+08	1.18E+07	3.21E+09	3.76E+09	1.01E+09	0.00E-01	4.09E+08

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.36E+04	2.66E+02	1.52E+04	1.97E+04	7.05E+03	0.00E-01	2.38E+03
TEEN:	9.87E+03	2.69E+02	2.13E+04	2.69E+04	9.64E+03	0.00E-01	3.83E+03
CHILD:	4.07E+03	1.15E+02	2.87E+04	2.62E+04	8.95E+03	0.00E-01	3.30E+03
INFANT:	1.44E+03	4.23E+01	1.74E+04	1.94E+04	5.46E+03	0.00E-01	2.26E+03

OCT 10 1991

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : BA140

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	7.16E+05
TEEN:	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	7.16E+05
CHILD:	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	7.16E+05
INFANT:	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	6.27E+05	7.16E+05

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	1.36E+05	4.29E+06	2.08E+06	2.62E+03	8.89E+02	0.00E-01	1.50E+03	0.00E-01
TEEN:	1.62E+05	3.88E+06	2.52E+06	3.09E+03	1.05E+03	0.00E-01	2.07E+03	0.00E-01
CHILD:	3.13E+05	2.72E+06	5.36E+06	4.69E+03	1.53E+03	0.00E-01	2.80E+03	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.61E+04	1.13E+06	5.50E+05	6.91E+02	2.35E+02	0.00E-01	3.96E+02	0.00E-01
TEEN:	2.93E+04	7.02E+05	4.55E+05	5.58E+02	1.89E+02	0.00E-01	3.75E+02	0.00E-01
CHILD:	4.90E+04	4.25E+05	8.40E+05	7.36E+02	2.40E+02	0.00E-01	4.39E+02	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	3.37E+04	1.06E+06	5.15E+05	6.47E+02	2.20E+02	0.00E-01	3.70E+02	0.00E-01
TEEN:	5.99E+04	1.43E+06	9.29E+05	1.14E+03	3.86E+02	0.00E-01	7.66E+02	0.00E-01
CHILD:	1.31E+05	1.14E+06	2.24E+06	1.97E+03	6.40E+02	0.00E-01	1.17E+03	0.00E-01
INFANT:	2.38E+05	1.13E+06	4.62E+06	4.62E+03	1.10E+03	0.00E-01	2.83E+03	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	4.05E+03	1.27E+05	6.18E+04	7.76E+01	2.64E+01	0.00E-01	4.44E+01	0.00E-01
TEEN:	7.18E+03	1.72E+05	1.12E+05	1.37E+02	4.63E+01	0.00E-01	9.19E+01	0.00E-01
CHILD:	1.57E+04	1.36E+05	2.69E+05	2.36E+02	7.68E+01	0.00E-01	1.41E+02	0.00E-01
INFANT:	2.85E+04	1.36E+05	5.54E+05	5.54E+02	1.32E+02	0.00E-01	3.40E+02	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	8.14E+01	6.92E+03	1.24E+03	1.55E+00	5.30E-01	0.00E-01	4.03E+04	0.00E-01
TEEN:	1.12E+02	7.25E+03	1.73E+03	2.13E+00	7.23E-01	0.00E-01	6.44E+04	0.00E-01
CHILD:	1.37E+02	3.23E+03	2.35E+03	2.05E+00	6.70E-01	0.00E-01	5.52E+04	0.00E-01
INFANT:	9.19E+01	1.22E+03	1.78E+03	1.78E+00	4.26E-01	0.00E-01	5.06E+04	0.00E-01

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## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CE141

## FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

## FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.17E+05	4.70E+05						
TEEN:	4.17E+05	4.70E+05						
CHILD:	4.17E+05	4.70E+05						
INFANT:	4.17E+05	4.70E+05						

## FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.55E+02	1.20E+07	4.63E+03	3.13E+03	1.45E+03	0.00E-01	0.00E-01	0.00E-01
TEEN:	5.57E+02	1.39E+07	7.26E+03	4.85E+03	2.28E+03	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.29E+03	1.08E+07	1.74E+04	8.67E+03	3.80E+03	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.95E+01	6.56E+05	2.54E+02	1.72E+02	7.97E+01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.63E+01	4.07E+05	2.13E+02	1.42E+02	6.70E+01	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.97E+01	2.50E+05	4.01E+02	2.00E+02	8.77E+01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

## FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	6.71E+00	2.26E+05	8.75E+01	5.92E+01	2.75E+01	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.23E+01	3.06E+05	1.60E+02	1.07E+02	5.04E+01	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.93E+01	2.46E+05	3.95E+02	1.97E+02	8.64E+01	0.00E-01	0.00E-01	0.00E-01
INFANT:	5.62E+01	2.47E+05	7.83E+02	4.78E+02	1.47E+02	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	8.06E-01	2.72E+04	1.05E+01	7.10E+00	3.30E+00	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.48E+00	3.68E+04	1.93E+01	1.29E+01	6.05E+00	0.00E-01	0.00E-01	0.00E-01
CHILD:	3.51E+00	2.95E+04	4.74E+01	2.37E+01	1.04E+01	0.00E-01	0.00E-01	0.00E-01
INFANT:	6.75E+00	2.96E+04	9.40E+01	5.73E+01	1.77E+01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.84E+01	3.80E+03	6.31E+02	4.29E+02	1.99E+02	0.00E-01	1.15E+04	0.00E-01
TEEN:	6.87E+01	4.01E+03	9.00E+02	6.01E+02	2.81E+02	0.00E-01	1.95E+04	0.00E-01
CHILD:	9.18E+01	1.79E+03	1.24E+03	6.19E+02	2.71E+02	0.00E-01	1.72E+04	0.00E-01
INFANT:	6.30E+01	6.83E+02	8.79E+02	5.28E+02	1.66E+02	0.00E-01	1.64E+04	0.00E-01

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INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : CE144

FOR PATHWAY: PLUME

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01							
TEEN:	0.00E-01							
CHILD:	0.00E-01							
INFANT:	0.00E-01							

FOR PATHWAY: GROUND

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.12E+06	2.45E+06						
TEEN:	2.12E+06	2.45E+06						
CHILD:	2.12E+06	2.45E+06						
INFANT:	2.12E+06	2.45E+06						

FOR PATHWAY: VEGETABLE

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.63E+04	2.91E+08	8.62E+05	3.60E+05	2.14E+05	0.00E-01	0.00E-01	0.00E-01
TEEN:	7.73E+04	3.62E+08	1.44E+06	5.95E+05	3.56E+05	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.87E+05	2.87E+08	3.51E+06	1.10E+06	6.10E+05	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

FOR PATHWAY: MEAT

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	1.41E+03	8.90E+06	2.63E+04	1.10E+04	6.53E+03	0.00E-01	0.00E-01	0.00E-01
TEEN:	1.19E+03	5.58E+06	2.22E+04	9.18E+03	5.48E+03	0.00E-01	0.00E-01	0.00E-01
CHILD:	2.23E+03	3.42E+06	4.18E+04	1.31E+04	7.26E+03	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01							

FOR PATHWAY: COW MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.47E+02	2.18E+06	6.46E+03	2.70E+03	1.60E+03	0.00E-01	0.00E-01	0.00E-01
TEEN:	6.39E+02	2.99E+06	1.19E+04	4.92E+03	2.94E+03	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.56E+03	2.40E+06	2.93E+04	9.19E+03	5.09E+03	0.00E-01	0.00E-01	0.00E-01
INFANT:	2.35E+03	2.41E+06	4.20E+04	1.72E+04	6.95E+03	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: GOAT MILK

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	4.16E+01	2.62E+05	7.75E+02	3.24E+02	1.92E+02	0.00E-01	0.00E-01	0.00E-01
TEEN:	7.67E+01	3.59E+05	1.43E+03	5.90E+02	3.53E+02	0.00E-01	0.00E-01	0.00E-01
CHILD:	1.88E+02	2.88E+05	3.52E+03	1.10E+03	6.11E+02	0.00E-01	0.00E-01	0.00E-01
INFANT:	2.82E+02	2.89E+05	5.04E+03	2.06E+03	8.34E+02	0.00E-01	0.00E-01	0.00E-01

FOR PATHWAY: INHALATION

	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	5.83E+03	2.59E+04	1.09E+05	4.54E+04	2.69E+04	0.00E-01	2.46E+05	0.00E-01
TEEN:	8.32E+03	2.74E+04	1.55E+05	6.42E+04	3.83E+04	0.00E-01	4.24E+05	0.00E-01
CHILD:	1.15E+04	1.23E+04	2.15E+05	6.71E+04	3.72E+04	0.00E-01	3.79E+05	0.00E-01
INFANT:	5.59E+03	4.70E+03	1.01E+05	3.84E+04	1.70E+04	0.00E-01	3.12E+05	0.00E-01

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : I131

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	3.19E+05
TEEN:	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	3.19E+05
CHILD:	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	3.19E+05
INFANT:	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	2.63E+05	3.19E+05

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	4.43E+05	2.04E+05	5.41E+05	7.74E+05	1.33E+06	2.54E+08	0.00E-01	0.00E-01
TEEN:	4.02E+05	1.48E+05	5.35E+05	7.48E+05	1.29E+06	2.18E+08	0.00E-01	0.00E-01
CHILD:	5.83E+05	9.13E+04	1.02E+06	1.03E+06	1.68E+06	3.39E+08	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	8.70E+04	4.01E+04	1.06E+05	1.52E+05	2.60E+05	4.98E+07	0.00E-01	0.00E-01
TEEN:	6.64E+04	2.44E+04	8.82E+04	1.24E+05	2.13E+05	3.60E+07	0.00E-01	0.00E-01
CHILD:	9.35E+04	1.46E+04	1.64E+05	1.65E+05	2.70E+05	5.44E+07	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.39E+06	1.10E+06	2.92E+06	4.17E+06	7.16E+06	1.37E+09	0.00E-01	0.00E-01
TEEN:	3.98E+06	1.47E+06	5.30E+06	7.42E+06	1.28E+07	2.16E+09	0.00E-01	0.00E-01
CHILD:	7.34E+06	1.15E+06	1.28E+07	1.29E+07	2.12E+07	4.27E+09	0.00E-01	0.00E-01
INFANT:	1.39E+07	1.13E+06	2.68E+07	3.16E+07	3.69E+07	1.04E+10	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.87E+06	1.32E+06	3.50E+06	5.01E+06	8.59E+06	1.64E+09	0.00E-01	0.00E-01
TEEN:	4.78E+06	1.76E+06	6.36E+06	8.90E+06	1.53E+07	2.60E+09	0.00E-01	0.00E-01
CHILD:	8.81E+06	1.38E+06	1.54E+07	1.55E+07	2.55E+07	5.13E+09	0.00E-01	0.00E-01
INFANT:	1.67E+07	1.35E+06	3.22E+07	3.79E+07	4.43E+07	1.25E+10	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	6.49E+02	1.99E+02	7.99E+02	1.13E+03	1.94E+03	3.78E+05	0.00E-01	0.00E-01
TEEN:	8.37E+02	2.06E+02	1.12E+03	1.56E+03	2.66E+03	4.64E+05	0.00E-01	0.00E-01
CHILD:	8.64E+02	9.01E+01	1.52E+03	1.52E+03	2.50E+03	5.15E+05	0.00E-01	0.00E-01
INFANT:	6.21E+02	3.36E+01	1.20E+03	1.41E+03	1.64E+03	4.70E+05	0.00E-01	0.00E-01

OCT 19 1984

## INDIVIDUAL DOSE FACTORS FOR GASEOUS EFFLUENTS -- FOR ISOTOPE : I133

## FOR PATHWAY: PLUME

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
TEEN:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
CHILD:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: GROUND

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT:	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	4.56E+04
TEEN:	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	4.56E+04
CHILD:	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	4.56E+04
INFANT:	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	3.75E+04	4.56E+04

## FOR PATHWAY: VEGETABLE

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	7.07E+03	2.08E+04	1.33E+04	2.32E+04	4.05E+04	3.41E+06	0.00E-01	0.00E-01
TEEN:	6.41E+03	1.59E+04	1.24E+04	2.10E+04	3.69E+04	2.93E+06	0.00E-01	0.00E-01
CHILD:	1.06E+04	1.13E+04	2.26E+04	2.79E+04	4.65E+04	5.19E+06	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: MEAT

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.01E-03	5.93E-03	3.79E-03	6.60E-03	1.15E-02	9.70E-01	0.00E-01	0.00E-01
TEEN:	1.64E-03	4.07E-03	3.17E-03	5.38E-03	9.44E-03	7.52E-01	0.00E-01	0.00E-01
CHILD:	2.76E-03	2.94E-03	5.90E-03	7.29E-03	1.22E-02	1.35E+00	0.00E-01	0.00E-01
INFANT:	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01

## FOR PATHWAY: COW MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.07E+04	6.12E+04	3.91E+04	6.81E+04	1.19E+05	1.00E+07	0.00E-01	0.00E-01
TEEN:	3.70E+04	9.17E+04	7.15E+04	1.21E+05	2.13E+05	1.69E+07	0.00E-01	0.00E-01
CHILD:	8.12E+04	8.65E+04	1.74E+05	2.15E+05	3.58E+05	3.99E+07	0.00E-01	0.00E-01
INFANT:	1.56E+05	9.03E+04	3.67E+05	5.34E+05	6.28E+05	9.71E+07	0.00E-01	0.00E-01

## FOR PATHWAY: GOAT MILK

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	2.49E+04	7.34E+04	4.69E+04	8.17E+04	1.42E+05	1.20E+07	0.00E-01	0.00E-01
TEEN:	4.44E+04	1.10E+05	8.57E+04	1.45E+05	2.55E+05	2.03E+07	0.00E-01	0.00E-01
CHILD:	9.75E+04	1.04E+05	2.08E+05	2.58E+05	4.29E+05	4.79E+07	0.00E-01	0.00E-01
INFANT:	1.88E+05	1.08E+05	4.40E+05	6.41E+05	7.53E+05	1.16E+08	0.00E-01	0.00E-01

## FOR PATHWAY: INHALATION

	T. BODY GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN	
ADULT:	1.43E+02	2.81E+02	2.74E+02	4.69E+02	8.19E+02	6.82E+04	0.00E-01	0.00E-01
TEEN:	1.97E+02	3.27E+02	3.85E+02	6.49E+02	1.14E+03	9.26E+04	0.00E-01	0.00E-01
CHILD:	2.44E+02	1.74E+02	5.25E+02	6.44E+02	1.07E+03	1.22E+05	0.00E-01	0.00E-01
INFANT:	1.78E+02	6.83E+01	4.20E+02	6.08E+02	7.10E+02	1.13E+05	0.00E-01	0.00E-01

OCT 19 1984

References

1. USNRC, Regulatory Guide 1.109, Calculation of Annual Doses to Man from Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR Part 50, Appendix 1, NRC, Washington, D.C. (October 1977).
2. Limerick Generating Station, Environmental Report - Operating License Stage, Table 5.2A-2.

GBR/dg/10158401

OCT 19 1984

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OCT 19 1984

JOHN S. KEMPER  
VICE-PRESIDENT  
ENGINEERING AND RESEARCH

Mr. A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Docket Nos.: 50-352  
50-353

Subject: Limerick Generating Station, Units 1 and 2  
Appendix to Offsite Dose Calculation  
Manual (ODCM)

Reference: J. S. Kemper to A. Schwencer letter  
dated September 14, 1984, "Revision  
of Offsite Dose Calculation Manual  
(ODCM)"

File: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

In accordance with our commitment made in the reference letter,  
enclosed is Appendix 1 to the ODCM entitled "Computer-Based  
Calculational Program Equations and Dose Factors." Appendix 1  
contains the computer model dose parameters for the various age groups  
and organs for sections II.B, III.A.2 and III.C of the ODCM.

Sincerely,

JW Gallagher  
for  
JS Kemper

RJS/mlb/10188405

cc: See Attached Service List

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cc: Judge Helen F. Hoyt  
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Judge Christine N. Kohl  
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