

Parsons 1993d. Transportation Impacts for RMI Environmental Assessment

9601250014 960117
PDR ADOCK 04002384
B PDR

CRU: RMI PO: TO-4 Job Number: 7883-0004-11221-110

Computer Code: RADTRAN4 Version: 4.0.13

Code Verification Status: Verified at Sandia National Laboratory

Description of Program: models transportation accidents and
calculates the dose to various receptors

Source of Data: code defaults with source term of
RMI D&D material (soils removed).

Purpose/Description of Calculation: To determine the effect on the
workers/drivers and the public if a truck of rad.
waste from the RMI site is involved in an accident
while on the road.

Run Performed By: Ron McConn

Date/Time of Run: 3/17/93 2:54:28

Computer Time of Run: N/A

Input Filename: RMI EA.IN4

Output Filename: Radtran4.out

Files Saved to Diskname: N/A Disk Location: Sandia National Labs

Results: See attached pg. 40+42

Performed By: Ron McConn Date: 4/9/93

Checked By: Ang Till Date: 4/12/93

Approved By: Dean Green Date: 4/28/93

CALCULATION SHEET

Rev	By	Date	Checker	Date	Title		
0	4/6/93	ROM	611.	4/12/93	RADTRAN4 Transportation Accident Computer Calculation		
							RD TO-4
					Author R. J. McConn	Sheet 2 of 44	CRU-RMI

Assumptions as input to code

- 1) B-25 box size has a dimension 2.0 meters
- 2) The maximum distance to be traveled in one-way trip is 4000 km
- 3) The dose rate per package is 0.5 mrem/hr (Ref. 1) and there is a maximum of 8 packages per shipment.
- 4) Radtran 4 is used solely for the incident free impacts of transport of low level waste by truck.
- 5) radtran 4 defaults are used for all other inputs.

References

- 1) Fax from RMI on Feb. 24, 1993.

RRRR	AAA	DDDD	TTTTT	RRRR	AAA	N	N
R R	A A	D D	T	R R	A A	NN	N
R R	A A	D D	T	R R	A A	N N	N
RRRR	A A	D D	T	RRRR	A A	N	NN
R R	AAAAA	D D	T	R R	AAAAA	N	N
R R	A A	D D	T	R R	A A	N	N
R R	A A	DDDD	T	R R	A A	N	N

4
4 4
4 4
44444
4
4
4

RADTRAN 4.0.13 VERSION DATE: OCTOBER 27,1992

MODE DESCRIPTIONS

NUMBER	NAME	CHARACTERIZATION
1	TRUCK	LONG HAUL VEHICLE
2	RAIL	COMMERCIAL TRAIN
3	BARGE	INLAND VESSEL
4	SHIP	OPEN SEA VESSEL
5	CARGO AIR	CARGO AIRCRAFT
6	PASS AIR	PASSENGER AIRCRAFT
7	P-VAN	PASSENGER VAN
8	CVAN-T	COMMERCIAL VAN
9	CVAN-R	COMMERCIAL VAN
10	CVAN-CA	COMMERCIAL VAN

ECHO CHECK

&& Edited Wed Mar 17 14:53:28 1993

&& AT PRESENT THE PHYSICAL FORM OF THE ISOTOPES IS UNCLEAR

TITLE RMI EA SOIL SHIPMENT

FORM UNIT

DIMEN 3 8 1 10 18

PARM 1 3 2 1 1

PACKAGE

LABGRP

1

SHIPMENT

LABISO

U238

U235

U234

NORMAL

NMODE=1

8.069E-01	1.916E-01	1.500E-03	8.856E+01	4.032E+01	2.416E+01
2.000E+00	1.000E+01	0.000E+00	1.100E-02	5.300E+01	0.000E+00
0.000E+00	5.000E+01	2.000E+01	0.000E+00	1.000E+02	1.000E+02
2.000E+00	1.000E-01	5.000E-02	7.500E-01	4.700E+02	7.800E+02
2.800E+03					

ACCIDENT

ARATMZ

NMODE=1	1.370E-07	3.000E-06	1.600E-05
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SEVFR

NPOP=1

NMODE=1

4.62E-01	3.02E-01	1.76E-01	4.03E-02	1.18E-02	6.47E-03
5.71E-04	1.13E-04				

NPOP=2

NMODE=1

4.35E-01	2.85E-01	2.21E-01	5.06E-02	6.64E-03	1.74E-03
6.72E-05	5.93E-06				

NPOP=3

NMODE=1

5.83E-01	3.82E-01	2.78E-02	6.36E-03	7.42E-04	1.46E-04
1.13E-05	9.94E-07				

RELEASE

RFRAC

GROUP=1

0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
1.00E+00	1.00E+00				

PSPROB 2.00E-03 2.80E-02 9.50E-02 6.80E-01 9.10E-02 1.04E-01

DEFINE U234

8.96E+07	1.21E-01	1.04E-04	2.20E+08	2.30E+05	0.00E+00
0.00E+00	1.00E-02	3.00E+00	3.50E+08	6.30E+03	

EOF

ISOTOPES -1 1 8.00 0.500 1.00 0.00 SOIL

U238 5.50E-07 1 4

U235 2.60E-08 1 4

U234 6.00E-07 1 4

DISTKM

NMODE=1 4000.00

PKGSIZ

RMI_EA_SOIL_SHIPMENT

ZONE	POPULATION DENSITY (PERSONS PER SQ KM)
RURAL	6.
SUBURBAN	719.
URBAN	3861.

PACKAGE CHARACTERISTICS

FOR	DIMENSION	EFFECTIVE	K(0)
MATERIAL	(METERS)	DIMENSION	METERS SQ.
SOIL	2.000E+00	2.000E+00	4.000E+00

K(0) IS TI TO DOSE RATE CONVERSION FACTOR

PACKAGE HANDLING THRESHOLDS (METERS)

PKGSZ1= 5.000E-01

PKGSZ2= 1.000E+00

PACKAGES .LE. PKGSZ1 ARE HAND CARRIED

PACKAGES .GT. PKGSZ1 AND .LE. PKGSZ2 ARE HANDLED BY SMALL EQUIPMENT

PACKAGES .GT. PKGSZ2 ARE HANDLED BY HEAVY EQUIPMENT

MATERIAL CHARACTERISTICS

MATERIAL	FRACTION OF GAMMA	FRACTION OF NEUTRON
SOIL	1.000E+00	0.000E+00

EOF

SOIL

2.00

RMI_EA_SOIL_SHIPMENT_

MODE CHARACTERISTICS

MODE	DISTANCE TRAVELED	EXCLUSIVE USE	NUMBER OF SHIPMENTS	MATERIALS	TRANSPORT INDEX (TI)	PACKAGES/ SHIPMENT
TRUCK	4.00E+03	YES	1.00E+00			
				SOIL	5.00E-01	8.00E+00

BUILDING SHIELDING OPTION= 2
(1=TOTAL SHIELDING, 2=PARTIAL SHIELDING, 3=NO SHIELDING)

RPD= 6.000E+00
(RATIO OF PEDESTRIAN DENSITY (PEDESTRIAN/KM SQ OF SIDEWALK)
TO POPULATION DENSITY (PEOPLE/KM SQ IN URBAN AREAS)

RR = 1.000E+00
(TRANSMISSION FACTOR FOR RURAL AREAS)

RS = 8.700E-01
(TRANSMISSION FACTOR FOR SUBURBAN AREAS)

RU = 1.800E-02
(TRANSMISSION FACTOR FOR URBAN AREAS)

_RMI_EA_SOIL_SHIPMENT_

NO	DNORML INPUT	TRUCK
1	FRACTION OF TRAVEL IN RURAL POPULATION ZONE	8.069E-01
2	FRACTION OF TRAVEL IN SUBURBAN POPULATION ZONE	1.916E-01
3	FRACTION OF TRAVEL IN URBAN POPULATION ZONE	1.500E-03
4	VELOCITY IN RURAL POPULATION ZONE (KILOMETERS/HOUR)	8.856E+01
5	VELOCITY IN SUBURBAN POP. ZONE (KILOMETERS/HOUR)	4.032E+01
6	VELOCITY IN URBAN POPULATION ZONE (KILOMETERS/HOUR)	2.416E+01
7	NUMBER OF CREWMEN	2.000E+00
8	DISTANCE FROM SOURCE TO CREW (METERS)	1.000E+01
9	NUMBER OF HANDLINGS	0.000E+00
10	STOP TIME PER KM (HR/KM)	1.100E-02
11	MINIMUM STOP TIME PER TRIP (HR)	5.300E+01
12	ZERO STOP TIME PER TRIP (HR)	0.000E+00
13	MINIMUM NUMBER OF RAIL CLASSIF ICATIONS/INSPECTIONS	0.000E+00
14	PERSONS EXPOSED WHILE STOPPED	5.000E+01
15	AVERAGE EXPOSURE DISTANCE WHILE STOPPED (METERS)	2.000E+01
16	STORAGE TIME PER SHIPMENT (HR)	0.000E+00
17	NUMBER OF EXPOSED PERSONS DURING STORAGE	1.000E+02
18	AVERAGE EXPOSURE DISTANCE WHILE IN STORAGE (METERS)	1.000E+02
19	NUMBER OF PEOPLE PER VEHICLE ON LINK	2.000E+00
20	FRACTION OF URBAN TRAVEL DURING RUSH HOUR TRAFFIC	1.000E-01
21	FRACTION OF URBAN TRAVEL ON CITY STREETS	5.000E-02
22	FRACTION OF RURAL-SUBURBAN TRAVEL ON FREEWAYS	7.500E-01
23	*TRAFFIC COUNT PASSING A SPECIFIC POINT-RURAL ZONE	4.700E+02
24	*TRAFFIC COUNT PASSING A SPECIFIC POINT-SUBURBAN ZONE	7.800E+02
25	*TRAFFIC COUNT PASSING A SPECIFIC POINT-URBAN ZONE	2.800E+03

*(ONE WAY VEHICLES/HR)

_RMI_EA_SOIL_SHIPMENT_

ISOTOPE RELATED DATA

NUCLIDE	CURIES PER PKG	RELEASE GROUP	RESUSP FACTOR	LUNG TYPE	DISPERS. CATEGORY	1YR INHAL LUNG	REM/CI MARROW
SOIL							
U238	5.50E-07	1	5.55E+00	3	4	3.50E+08	6.30E+03
U235	2.60E-08	1	5.57E+00	3	4	3.60E+08	1.00E+04
U234	6.00E-07	1	5.57E+00	3	4	3.50E+08	6.30E+03

NUCLIDE	HALF LIFE	GAMMA ENERGY	CLOUD FACTOR	TRANSFER CROPS	TRANSFER SOIL	DEPOS SPEED
SOIL						
U238	1.63E+12	1.36E-03	1.65E-05	0.00E+00	0.00E+00	1.00E-02
U235	2.57E+11	1.54E-01	2.44E-02	0.00E+00	0.00E+00	1.00E-02
U234	8.96E+07	1.21E-01	1.04E-04	0.00E+00	0.00E+00	1.00E-02

NUCLIDE	50-YR EFFECTIVE INHALE	REM/CI INGEST
SOIL		
U238	2.20E+08	2.30E+05
U235	2.20E+08	2.50E+05
U234	2.20E+08	2.30E+05

_RMI_EA_SOIL_SHIPMENT_

RELEASE RELATED DATA

ACCIDENT RATES (PER KM)

MODE	RURAL	SUBURBAN	URBAN
TRUCK	1.370E-07	3.000E-06	1.600E-05

RELEASE FRACTIONS

GROUP	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00

GROUP	SEVER: 8
1	1.00E+00

ACCIDENT SEVERITY FRACTIONS
FOR TRUCK

ZONE	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	4.62E-01	3.02E-01	1.76E-01	4.03E-02	1.18E-02	6.47E-03	5.71E-04
2	4.35E-01	2.85E-01	2.21E-01	5.06E-02	6.64E-03	1.74E-03	6.72E-05
3	5.83E-01	3.82E-01	2.78E-02	6.36E-03	7.42E-04	1.46E-04	1.13E-05

ZONE	SEVER: 8
1	1.13E-04
2	5.93E-06
3	9.94E-07

_RMI_EA_SOIL_SHIPMENT_

AEROSOLIZED FRACTION OF RELEASED MATERIAL

DISP CAT	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
3	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
4	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
5	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
6	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
7	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
8	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
9	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
11	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00

DISP CAT	SEVER: 8
1	0.00E+00
2	1.00E+00
3	1.00E-02
4	5.00E-02
5	1.00E-01
6	1.00E+00
7	1.00E+00
8	1.00E+00
9	1.00E+00
10	1.00E+00
11	1.00E+00

_RMI_EA_SOIL_SHIPMENT_

FRACTION OF AEROSOLS BELOW 10 MICRONS MD

DISP CAT	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
3	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
4	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
5	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
6	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
7	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
8	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
9	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
11	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00

DISP CAT	SEVER: 8
1	0.00E+00
2	5.00E-02
3	5.00E-02
4	5.00E-02
5	5.00E-02
6	5.00E-02
7	1.00E+00
8	1.00E+00
9	1.00E+00
10	1.00E+00
11	1.00E+00

_RMI_EA_SOIL_SHIPMENT_

COST RELATED DATA

EMERGENCY RESPONSE COST

	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	SEVER: 8						
1	0.00E+00						

ON-SCENE COSTS
(RF=RELEASE FRACTION)

RF=0.	0.<RF<=.01	.01<RF<=0.1	.1<RF<=1.
0.	0.	0.	0.

_RMI_EA_SOIL_SHIPMENT_

HEALTH RELATED DATA

EARLY FATALITY PROBABILITIES

DOSE (REM)	LUNG-1	LUNG-2	LUNG-3	MARROW
100000.000	1.000E+00	1.000E+00	1.000E+00	1.000E+00
80000.000	1.000E+00	8.500E-01	8.000E-01	1.000E+00
70000.000	1.000E+00	8.000E-01	5.000E-01	1.000E+00
40000.000	1.000E+00	7.000E-01	0.000E+00	1.000E+00
30000.000	1.000E+00	5.000E-01	0.000E+00	1.000E+00
25000.000	1.000E+00	2.000E-01	0.000E+00	1.000E+00
20000.000	1.000E+00	8.000E-02	0.000E+00	1.000E+00
10000.000	6.000E-01	0.000E+00	0.000E+00	1.000E+00
8000.000	1.000E-01	0.000E+00	0.000E+00	1.000E+00
6000.000	6.000E-02	0.000E+00	0.000E+00	1.000E+00
4000.000	3.000E-02	0.000E+00	0.000E+00	1.000E+00
3000.000	0.000E+00	0.000E+00	0.000E+00	1.000E+00
2000.000	0.000E+00	0.000E+00	0.000E+00	1.000E+00
1000.000	0.000E+00	0.000E+00	0.000E+00	1.000E+00
800.000	0.000E+00	0.000E+00	0.000E+00	9.960E-01
700.000	0.000E+00	0.000E+00	0.000E+00	9.000E-01
600.000	0.000E+00	0.000E+00	0.000E+00	4.000E-01
500.000	0.000E+00	0.000E+00	0.000E+00	5.000E-02
400.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
300.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
100.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
75.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
50.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.000	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0.100	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0.010	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0.010	0.000E+00	0.000E+00	0.000E+00	0.000E+00

_RMI_EA_SOIL_SHIPMENT_

METEOROLOGICAL DATA BASED ON PASQUILL CATEGORIES

PROB. A	PROB. B	PROB. C	PROB. D	PROB. E	PROB. F
0.0020	0.0280	0.0950	0.6800	0.0910	0.1040

AREA (M SQ)	*PASQUILL CATEGORY					
	A	B	C	D	E	F
4.59E+02	6.00E-03	4.00E-03	4.00E-03	4.30E-03	9.60E-03	6.20E-02
1.53E+03	1.70E-03	1.30E-03	1.10E-03	1.30E-03	3.20E-03	1.80E-02
3.94E+03	8.40E-04	5.50E-04	5.70E-04	6.50E-04	1.60E-03	8.40E-03
1.25E+04	1.70E-04	1.30E-04	1.30E-04	1.80E-04	4.00E-04	2.00E-03
3.04E+04	7.80E-05	6.00E-05	6.70E-05	9.50E-05	2.10E-04	9.20E-04
6.85E+04	2.80E-05	2.70E-05	3.00E-05	4.30E-05	1.40E-04	4.40E-04
1.76E+05	8.00E-06	1.00E-05	1.00E-05	1.80E-05	4.40E-05	2.00E-04
4.45E+05	2.20E-06	3.50E-06	5.00E-06	8.50E-06	2.10E-05	1.00E-04
8.59E+05	9.00E-07	1.60E-06	2.80E-06	5.00E-06	1.20E-05	6.20E-05
2.55E+06	1.40E-07	4.10E-07	1.00E-06	1.90E-06	4.80E-06	2.60E-05
4.45E+06	7.00E-08	2.20E-07	6.00E-07	1.30E-06	3.60E-06	1.90E-05
1.03E+07	1.10E-08	5.00E-08	1.70E-07	4.00E-07	1.40E-06	8.40E-06
2.16E+07	7.76E-09	3.20E-08	1.30E-07	3.00E-07	1.20E-06	7.00E-06
5.52E+07	2.24E-09	1.10E-08	5.70E-08	1.50E-07	6.00E-07	4.00E-06
1.77E+08	4.50E-10	2.50E-09	1.70E-08	5.50E-08	2.80E-07	2.00E-06
4.89E+08	1.13E-10	7.24E-10	6.32E-09	2.41E-08	1.38E-07	1.09E-06
8.12E+08	5.96E-11	4.09E-10	4.01E-09	1.65E-08	9.97E-08	8.22E-07
1.35E+09	2.76E-11	2.08E-10	2.33E-09	1.05E-08	6.77E-08	5.89E-07

* DILUTION FACTOR UNITS ARE (CI-SEC/M**3/CI-RELEASED)

NON-DISPERSAL ACCIDENT INPUT

RADIST(M)		
RURAL	SUBURBAN	URBAN
3.050E+00	3.050E+00	3.050E+00
6.100E+00	6.100E+00	6.100E+00
9.100E+00	9.100E+00	9.100E+00
1.220E+01	1.220E+01	1.220E+01
1.520E+01	1.520E+01	1.520E+01
3.050E+01	3.050E+01	3.050E+01
6.100E+01	6.100E+01	6.100E+01
9.140E+01	9.140E+01	9.140E+01
1.524E+02	1.524E+02	1.524E+02
3.050E+02	3.050E+02	3.050E+02

BUILDING DOSE FACTOR	= 8.600E-03
FRACTION OF LAND UNDER CULTIVATION	= 5.000E-01
CONTAMINATION CLEAN UP LEVEL (UCI/M**2)	= 2.000E-01
BREATHING RATE (M**3/SEC)	= 3.300E-04

_RMI_EA_SOIL_SHIPMENT_

REGULATORY CHECKS

THE SHIPMENT OF SOIL BY MODE 1 IS DESIGNATED AS EXCLUSIVE USE
BUT IS NOT REQUIRED TO BE SO DESIGNATED BY REGULATIONS

_RMI_EA_SOIL_SHIPMENT_

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY A

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY A
MODE TRUCK1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.63E-05	1.63E-05	1.63E-05	1.63E-05	1.63E-05	1.63E-05
2	0.00E+00	4.62E-06	4.62E-06	4.62E-06	4.62E-06	4.62E-06	4.62E-06
3	0.00E+00	2.20E-06	2.20E-06	2.20E-06	2.20E-06	2.20E-06	2.20E-06
4	0.00E+00	4.33E-07	4.33E-07	4.33E-07	4.33E-07	4.33E-07	4.33E-07
5	0.00E+00	1.92E-07	1.92E-07	1.92E-07	1.92E-07	1.92E-07	1.92E-07
6	0.00E+00	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08
7	0.00E+00	1.89E-08	1.89E-08	1.89E-08	1.89E-08	1.89E-08	1.89E-08
8	0.00E+00	5.12E-09	5.12E-09	5.12E-09	5.12E-09	5.12E-09	5.12E-09
9	0.00E+00	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09
10	0.00E+00	3.20E-10	3.20E-10	3.20E-10	3.20E-10	3.20E-10	3.20E-10
11	0.00E+00	1.59E-10	1.59E-10	1.59E-10	1.59E-10	1.59E-10	1.59E-10
12	0.00E+00	2.50E-11	2.50E-11	2.50E-11	2.50E-11	2.50E-11	2.50E-11
13	0.00E+00	1.75E-11	1.75E-11	1.75E-11	1.75E-11	1.75E-11	1.75E-11
14	0.00E+00	5.06E-12	5.06E-12	5.06E-12	5.06E-12	5.06E-12	5.06E-12
15	0.00E+00	1.02E-12	1.02E-12	1.02E-12	1.02E-12	1.02E-12	1.02E-12
16	0.00E+00	2.55E-13	2.55E-13	2.55E-13	2.55E-13	2.55E-13	2.55E-13
17	0.00E+00	1.34E-13	1.34E-13	1.34E-13	1.34E-13	1.34E-13	1.34E-13
18	0.00E+00	6.21E-14	6.21E-14	6.21E-14	6.21E-14	6.21E-14	6.21E-14

AREA #	SEVER: 8
1	1.63E-05
2	4.62E-06
3	2.20E-06
4	4.33E-07
5	1.92E-07
6	6.75E-08
7	1.89E-08
8	5.12E-09
9	2.07E-09
10	3.20E-10
11	1.59E-10
12	2.50E-11
13	1.75E-11
14	5.06E-12
15	1.02E-12
16	2.55E-13
17	1.34E-13
18	6.21E-14

RMI_EA_SOIL_SHIPMENT1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.97E-10	2.97E-10	2.97E-10	2.97E-10	2.97E-10	2.97E-10
2	0.00E+00	8.41E-11	8.41E-11	8.41E-11	8.41E-11	8.41E-11	8.41E-11
3	0.00E+00	4.01E-11	4.01E-11	4.01E-11	4.01E-11	4.01E-11	4.01E-11
4	0.00E+00	7.89E-12	7.89E-12	7.89E-12	7.89E-12	7.89E-12	7.89E-12
5	0.00E+00	3.49E-12	3.49E-12	3.49E-12	3.49E-12	3.49E-12	3.49E-12
6	0.00E+00	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12
7	0.00E+00	3.45E-13	3.45E-13	3.45E-13	3.45E-13	3.45E-13	3.45E-13
8	0.00E+00	9.33E-14	9.33E-14	9.33E-14	9.33E-14	9.33E-14	9.33E-14
9	0.00E+00	3.77E-14	3.77E-14	3.77E-14	3.77E-14	3.77E-14	3.77E-14
10	0.00E+00	5.83E-15	5.83E-15	5.83E-15	5.83E-15	5.83E-15	5.83E-15
11	0.00E+00	2.90E-15	2.90E-15	2.90E-15	2.90E-15	2.90E-15	2.90E-15
12	0.00E+00	4.55E-16	4.55E-16	4.55E-16	4.55E-16	4.55E-16	4.55E-16
13	0.00E+00	3.20E-16	3.20E-16	3.20E-16	3.20E-16	3.20E-16	3.20E-16
14	0.00E+00	9.22E-17	9.22E-17	9.22E-17	9.22E-17	9.22E-17	9.22E-17
15	0.00E+00	1.85E-17	1.85E-17	1.85E-17	1.85E-17	1.85E-17	1.85E-17
16	0.00E+00	4.64E-18	4.64E-18	4.64E-18	4.64E-18	4.64E-18	4.64E-18
17	0.00E+00	2.45E-18	2.45E-18	2.45E-18	2.45E-18	2.45E-18	2.45E-18
18	0.00E+00	1.13E-18	1.13E-18	1.13E-18	1.13E-18	1.13E-18	1.13E-18

AREA #	SEVER: 8
1	2.97E-10
2	8.41E-11
3	4.01E-11
4	7.89E-12
5	3.49E-12
6	1.23E-12
7	3.45E-13
8	9.33E-14
9	3.77E-14
10	5.83E-15
11	2.90E-15
12	4.55E-16
13	3.20E-16
14	9.22E-17
15	1.85E-17
16	4.64E-18
17	2.45E-18
18	1.13E-18

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY A
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.82E-05	2.82E-05	2.82E-05	2.82E-05	2.82E-05	2.82E-05
2	0.00E+00	7.99E-06	7.99E-06	7.99E-06	7.99E-06	7.99E-06	7.99E-06
3	0.00E+00	3.81E-06	3.81E-06	3.81E-06	3.81E-06	3.81E-06	3.81E-06
4	0.00E+00	7.50E-07	7.50E-07	7.50E-07	7.50E-07	7.50E-07	7.50E-07
5	0.00E+00	3.32E-07	3.32E-07	3.32E-07	3.32E-07	3.32E-07	3.32E-07
6	0.00E+00	1.17E-07	1.17E-07	1.17E-07	1.17E-07	1.17E-07	1.17E-07
7	0.00E+00	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08
8	0.00E+00	8.86E-09	8.86E-09	8.86E-09	8.86E-09	8.86E-09	8.86E-09
9	0.00E+00	3.58E-09	3.58E-09	3.58E-09	3.58E-09	3.58E-09	3.58E-09
10	0.00E+00	5.54E-10	5.54E-10	5.54E-10	5.54E-10	5.54E-10	5.54E-10
11	0.00E+00	2.75E-10	2.75E-10	2.75E-10	2.75E-10	2.75E-10	2.75E-10
12	0.00E+00	4.32E-11	4.32E-11	4.32E-11	4.32E-11	4.32E-11	4.32E-11
13	0.00E+00	3.04E-11	3.04E-11	3.04E-11	3.04E-11	3.04E-11	3.04E-11
14	0.00E+00	8.76E-12	8.76E-12	8.76E-12	8.76E-12	8.76E-12	8.76E-12
15	0.00E+00	1.76E-12	1.76E-12	1.76E-12	1.76E-12	1.76E-12	1.76E-12
16	0.00E+00	4.41E-13	4.41E-13	4.41E-13	4.41E-13	4.41E-13	4.41E-13
17	0.00E+00	2.32E-13	2.32E-13	2.32E-13	2.32E-13	2.32E-13	2.32E-13
18	0.00E+00	1.08E-13	1.08E-13	1.08E-13	1.08E-13	1.08E-13	1.08E-13

AREA #	SEVER: 8
1	2.82E-05
2	7.99E-06
3	3.81E-06
4	7.50E-07
5	3.32E-07
6	1.17E-07
7	3.28E-08
8	8.86E-09
9	3.58E-09
10	5.54E-10
11	2.75E-10
12	4.32E-11
13	3.04E-11
14	8.76E-12
15	1.76E-12
16	4.41E-13
17	2.32E-13
18	1.08E-13

_RMI_EA_SOIL_SHIPMENT_

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY B

RMI_EA_SOIL_SHIPMENTPASQUILL CATEGORY B
MODE TRUCK1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
2	0.00E+00	3.53E-06	3.53E-06	3.53E-06	3.53E-06	3.53E-06	3.53E-06
3	0.00E+00	1.46E-06	1.46E-06	1.46E-06	1.46E-06	1.46E-06	1.46E-06
4	0.00E+00	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
5	0.00E+00	1.52E-07	1.52E-07	1.52E-07	1.52E-07	1.52E-07	1.52E-07
6	0.00E+00	6.73E-08	6.73E-08	6.73E-08	6.73E-08	6.73E-08	6.73E-08
7	0.00E+00	2.45E-08	2.45E-08	2.45E-08	2.45E-08	2.45E-08	2.45E-08
8	0.00E+00	8.43E-09	8.43E-09	8.43E-09	8.43E-09	8.43E-09	8.43E-09
9	0.00E+00	3.79E-09	3.79E-09	3.79E-09	3.79E-09	3.79E-09	3.79E-09
10	0.00E+00	9.63E-10	9.63E-10	9.63E-10	9.63E-10	9.63E-10	9.63E-10
11	0.00E+00	5.09E-10	5.09E-10	5.09E-10	5.09E-10	5.09E-10	5.09E-10
12	0.00E+00	1.15E-10	1.15E-10	1.15E-10	1.15E-10	1.15E-10	1.15E-10
13	0.00E+00	7.27E-11	7.27E-11	7.27E-11	7.27E-11	7.27E-11	7.27E-11
14	0.00E+00	2.49E-11	2.49E-11	2.49E-11	2.49E-11	2.49E-11	2.49E-11
15	0.00E+00	5.63E-12	5.63E-12	5.63E-12	5.63E-12	5.63E-12	5.63E-12
16	0.00E+00	1.62E-12	1.62E-12	1.62E-12	1.62E-12	1.62E-12	1.62E-12
17	0.00E+00	9.11E-13	9.11E-13	9.11E-13	9.11E-13	9.11E-13	9.11E-13
18	0.00E+00	4.63E-13	4.63E-13	4.63E-13	4.63E-13	4.63E-13	4.63E-13

AREA #	SEVER: 8
1	1.09E-05
2	3.53E-06
3	1.46E-06
4	3.38E-07
5	1.52E-07
6	6.73E-08
7	2.45E-08
8	8.43E-09
9	3.79E-09
10	9.63E-10
11	5.09E-10
12	1.15E-10
13	7.27E-11
14	2.49E-11
15	5.63E-12
16	1.62E-12
17	9.11E-13
18	4.63E-13

_RMI_EA_SOIL_SHIPMENT_1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.98E-10	1.98E-10	1.98E-10	1.98E-10	1.98E-10	1.98E-10
2	0.00E+00	6.43E-11	6.43E-11	6.43E-11	6.43E-11	6.43E-11	6.43E-11
3	0.00E+00	2.66E-11	2.66E-11	2.66E-11	2.66E-11	2.66E-11	2.66E-11
4	0.00E+00	6.15E-12	6.15E-12	6.15E-12	6.15E-12	6.15E-12	6.15E-12
5	0.00E+00	2.77E-12	2.77E-12	2.77E-12	2.77E-12	2.77E-12	2.77E-12
6	0.00E+00	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12	1.23E-12
7	0.00E+00	4.47E-13	4.47E-13	4.47E-13	4.47E-13	4.47E-13	4.47E-13
8	0.00E+00	1.54E-13	1.54E-13	1.54E-13	1.54E-13	1.54E-13	1.54E-13
9	0.00E+00	6.91E-14	6.91E-14	6.91E-14	6.91E-14	6.91E-14	6.91E-14
10	0.00E+00	1.75E-14	1.75E-14	1.75E-14	1.75E-14	1.75E-14	1.75E-14
11	0.00E+00	9.28E-15	9.28E-15	9.28E-15	9.28E-15	9.28E-15	9.28E-15
12	0.00E+00	2.10E-15	2.10E-15	2.10E-15	2.10E-15	2.10E-15	2.10E-15
13	0.00E+00	1.32E-15	1.32E-15	1.32E-15	1.32E-15	1.32E-15	1.32E-15
14	0.00E+00	4.54E-16	4.54E-16	4.54E-16	4.54E-16	4.54E-16	4.54E-16
15	0.00E+00	1.03E-16	1.03E-16	1.03E-16	1.03E-16	1.03E-16	1.03E-16
16	0.00E+00	2.95E-17	2.95E-17	2.95E-17	2.95E-17	2.95E-17	2.95E-17
17	0.00E+00	1.66E-17	1.66E-17	1.66E-17	1.66E-17	1.66E-17	1.66E-17
18	0.00E+00	8.43E-18	8.43E-18	8.43E-18	8.43E-18	8.43E-18	8.43E-18

AREA #	SEVER: 8
1	1.98E-10
2	6.43E-11
3	2.66E-11
4	6.15E-12
5	2.77E-12
6	1.23E-12
7	4.47E-13
8	1.54E-13
9	6.91E-14
10	1.75E-14
11	9.28E-15
12	2.10E-15
13	1.32E-15
14	4.54E-16
15	1.03E-16
16	2.95E-17
17	1.66E-17
18	8.43E-18

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY B
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.88E-05	1.88E-05	1.88E-05	1.88E-05	1.88E-05	1.88E-05
2	0.00E+00	6.11E-06	6.11E-06	6.11E-06	6.11E-06	6.11E-06	6.11E-06
3	0.00E+00	2.52E-06	2.52E-06	2.52E-06	2.52E-06	2.52E-06	2.52E-06
4	0.00E+00	5.84E-07	5.84E-07	5.84E-07	5.84E-07	5.84E-07	5.84E-07
5	0.00E+00	2.63E-07	2.63E-07	2.63E-07	2.63E-07	2.63E-07	2.63E-07
6	0.00E+00	1.16E-07	1.16E-07	1.16E-07	1.16E-07	1.16E-07	1.16E-07
7	0.00E+00	4.25E-08	4.25E-08	4.25E-08	4.25E-08	4.25E-08	4.25E-08
8	0.00E+00	1.46E-08	1.46E-08	1.46E-08	1.46E-08	1.46E-08	1.46E-08
9	0.00E+00	6.57E-09	6.57E-09	6.57E-09	6.57E-09	6.57E-09	6.57E-09
10	0.00E+00	1.67E-09	1.67E-09	1.67E-09	1.67E-09	1.67E-09	1.67E-09
11	0.00E+00	8.81E-10	8.81E-10	8.81E-10	8.81E-10	8.81E-10	8.81E-10
12	0.00E+00	1.99E-10	1.99E-10	1.99E-10	1.99E-10	1.99E-10	1.99E-10
13	0.00E+00	1.26E-10	1.26E-10	1.26E-10	1.26E-10	1.26E-10	1.26E-10
14	0.00E+00	4.31E-11	4.31E-11	4.31E-11	4.31E-11	4.31E-11	4.31E-11
15	0.00E+00	9.74E-12	9.74E-12	9.74E-12	9.74E-12	9.74E-12	9.74E-12
16	0.00E+00	2.80E-12	2.80E-12	2.80E-12	2.80E-12	2.80E-12	2.80E-12
17	0.00E+00	1.58E-12	1.58E-12	1.58E-12	1.58E-12	1.58E-12	1.58E-12
18	0.00E+00	8.00E-13	8.00E-13	8.00E-13	8.00E-13	8.00E-13	8.00E-13

AREA #	SEVER: 8
1	1.88E-05
2	6.11E-06
3	2.52E-06
4	5.84E-07
5	2.63E-07
6	1.16E-07
7	4.25E-08
8	1.46E-08
9	6.57E-09
10	1.67E-09
11	8.81E-10
12	1.99E-10
13	1.26E-10
14	4.31E-11
15	9.74E-12
16	2.80E-12
17	1.58E-12
18	8.00E-13

_RMI_EA_SOIL_SHIPMENT_

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY C

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY C
MODE TRUCK1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
2	0.00E+00	2.99E-06	2.99E-06	2.99E-06	2.99E-06	2.99E-06	2.99E-06
3	0.00E+00	1.51E-06	1.51E-06	1.51E-06	1.51E-06	1.51E-06	1.51E-06
4	0.00E+00	3.39E-07	3.39E-07	3.39E-07	3.39E-07	3.39E-07	3.39E-07
5	0.00E+00	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
6	0.00E+00	7.49E-08	7.49E-08	7.49E-08	7.49E-08	7.49E-08	7.49E-08
7	0.00E+00	2.45E-08	2.45E-08	2.45E-08	2.45E-08	2.45E-08	2.45E-08
8	0.00E+00	1.20E-08	1.20E-08	1.20E-08	1.20E-08	1.20E-08	1.20E-08
9	0.00E+00	6.61E-09	6.61E-09	6.61E-09	6.61E-09	6.61E-09	6.61E-09
10	0.00E+00	2.32E-09	2.32E-09	2.32E-09	2.32E-09	2.32E-09	2.32E-09
11	0.00E+00	1.35E-09	1.35E-09	1.35E-09	1.35E-09	1.35E-09	1.35E-09
12	0.00E+00	3.78E-10	3.78E-10	3.78E-10	3.78E-10	3.78E-10	3.78E-10
13	0.00E+00	2.77E-10	2.77E-10	2.77E-10	2.77E-10	2.77E-10	2.77E-10
14	0.00E+00	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10
15	0.00E+00	3.50E-11	3.50E-11	3.50E-11	3.50E-11	3.50E-11	3.50E-11
16	0.00E+00	1.25E-11	1.25E-11	1.25E-11	1.25E-11	1.25E-11	1.25E-11
17	0.00E+00	7.66E-12	7.66E-12	7.66E-12	7.66E-12	7.66E-12	7.66E-12
18	0.00E+00	4.38E-12	4.38E-12	4.38E-12	4.38E-12	4.38E-12	4.38E-12

AREA #	SEVER: 8
1	1.09E-05
2	2.99E-06
3	1.51E-06
4	3.39E-07
5	1.70E-07
6	7.49E-08
7	2.45E-08
8	1.20E-08
9	6.61E-09
10	2.32E-09
11	1.35E-09
12	3.78E-10
13	2.77E-10
14	1.21E-10
15	3.50E-11
16	1.25E-11
17	7.66E-12
18	4.38E-12

_RMI_EA_SOIL_SHIPMENT_1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.98E-10	1.98E-10	1.98E-10	1.98E-10	1.98E-10	1.98E-10
2	0.00E+00	5.44E-11	5.44E-11	5.44E-11	5.44E-11	5.44E-11	5.44E-11
3	0.00E+00	2.76E-11	2.76E-11	2.76E-11	2.76E-11	2.76E-11	2.76E-11
4	0.00E+00	6.17E-12	6.17E-12	6.17E-12	6.17E-12	6.17E-12	6.17E-12
5	0.00E+00	3.10E-12	3.10E-12	3.10E-12	3.10E-12	3.10E-12	3.10E-12
6	0.00E+00	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12
7	0.00E+00	4.47E-13	4.47E-13	4.47E-13	4.47E-13	4.47E-13	4.47E-13
8	0.00E+00	2.19E-13	2.19E-13	2.19E-13	2.19E-13	2.19E-13	2.19E-13
9	0.00E+00	1.20E-13	1.20E-13	1.20E-13	1.20E-13	1.20E-13	1.20E-13
10	0.00E+00	4.24E-14	4.24E-14	4.24E-14	4.24E-14	4.24E-14	4.24E-14
11	0.00E+00	2.47E-14	2.47E-14	2.47E-14	2.47E-14	2.47E-14	2.47E-14
12	0.00E+00	6.88E-15	6.88E-15	6.88E-15	6.88E-15	6.88E-15	6.88E-15
13	0.00E+00	5.05E-15	5.05E-15	5.05E-15	5.05E-15	5.05E-15	5.05E-15
14	0.00E+00	2.20E-15	2.20E-15	2.20E-15	2.20E-15	2.20E-15	2.20E-15
15	0.00E+00	6.37E-16	6.37E-16	6.37E-16	6.37E-16	6.37E-16	6.37E-16
16	0.00E+00	2.28E-16	2.28E-16	2.28E-16	2.28E-16	2.28E-16	2.28E-16
17	0.00E+00	1.40E-16	1.40E-16	1.40E-16	1.40E-16	1.40E-16	1.40E-16
18	0.00E+00	7.98E-17	7.98E-17	7.98E-17	7.98E-17	7.98E-17	7.98E-17

AREA #	SEVER: 8
1	1.98E-10
2	5.44E-11
3	2.76E-11
4	6.17E-12
5	3.10E-12
6	1.37E-12
7	4.47E-13
8	2.19E-13
9	1.20E-13
10	4.24E-14
11	2.47E-14
12	6.88E-15
13	5.05E-15
14	2.20E-15
15	6.37E-16
16	2.28E-16
17	1.40E-16
18	7.98E-17

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY C
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.88E-05	1.88E-05	1.88E-05	1.88E-05	1.88E-05	1.88E-05
2	0.00E+00	5.17E-06	5.17E-06	5.17E-06	5.17E-06	5.17E-06	5.17E-06
3	0.00E+00	2.62E-06	2.62E-06	2.62E-06	2.62E-06	2.62E-06	2.62E-06
4	0.00E+00	5.86E-07	5.86E-07	5.86E-07	5.86E-07	5.86E-07	5.86E-07
5	0.00E+00	2.94E-07	2.94E-07	2.94E-07	2.94E-07	2.94E-07	2.94E-07
6	0.00E+00	1.30E-07	1.30E-07	1.30E-07	1.30E-07	1.30E-07	1.30E-07
7	0.00E+00	4.25E-08	4.25E-08	4.25E-08	4.25E-08	4.25E-08	4.25E-08
8	0.00E+00	2.08E-08	2.08E-08	2.08E-08	2.08E-08	2.08E-08	2.08E-08
9	0.00E+00	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08
10	0.00E+00	4.02E-09	4.02E-09	4.02E-09	4.02E-09	4.02E-09	4.02E-09
11	0.00E+00	2.34E-09	2.34E-09	2.34E-09	2.34E-09	2.34E-09	2.34E-09
12	0.00E+00	6.54E-10	6.54E-10	6.54E-10	6.54E-10	6.54E-10	6.54E-10
13	0.00E+00	4.80E-10	4.80E-10	4.80E-10	4.80E-10	4.80E-10	4.80E-10
14	0.00E+00	2.09E-10	2.09E-10	2.09E-10	2.09E-10	2.09E-10	2.09E-10
15	0.00E+00	6.05E-11	6.05E-11	6.05E-11	6.05E-11	6.05E-11	6.05E-11
16	0.00E+00	2.16E-11	2.16E-11	2.16E-11	2.16E-11	2.16E-11	2.16E-11
17	0.00E+00	1.32E-11	1.32E-11	1.32E-11	1.32E-11	1.32E-11	1.32E-11
18	0.00E+00	7.58E-12	7.58E-12	7.58E-12	7.58E-12	7.58E-12	7.58E-12

AREA #	SEVER: 8
1	1.88E-05
2	5.17E-06
3	2.62E-06
4	5.86E-07
5	2.94E-07
6	1.30E-07
7	4.25E-08
8	2.08E-08
9	1.14E-08
10	4.02E-09
11	2.34E-09
12	6.54E-10
13	4.80E-10
14	2.09E-10
15	6.05E-11
16	2.16E-11
17	1.32E-11
18	7.58E-12

_RMI_EA_SOIL_SHIPMENT_

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY D

RMI_EA_SOIL_SHIPMENTPASQUILL CATEGORY D
MODE TRUCK1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05
2	0.00E+00	3.53E-06	3.53E-06	3.53E-06	3.53E-06	3.53E-06	3.53E-06
3	0.00E+00	1.72E-06	1.72E-06	1.72E-06	1.72E-06	1.72E-06	1.72E-06
4	0.00E+00	4.66E-07	4.66E-07	4.66E-07	4.66E-07	4.66E-07	4.66E-07
5	0.00E+00	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07
6	0.00E+00	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07
7	0.00E+00	4.30E-08	4.30E-08	4.30E-08	4.30E-08	4.30E-08	4.30E-08
8	0.00E+00	1.97E-08	1.97E-08	1.97E-08	1.97E-08	1.97E-08	1.97E-08
9	0.00E+00	1.12E-08	1.12E-08	1.12E-08	1.12E-08	1.12E-08	1.12E-08
10	0.00E+00	4.13E-09	4.13E-09	4.13E-09	4.13E-09	4.13E-09	4.13E-09
11	0.00E+00	2.68E-09	2.68E-09	2.68E-09	2.68E-09	2.68E-09	2.68E-09
12	0.00E+00	7.98E-10	7.98E-10	7.98E-10	7.98E-10	7.98E-10	7.98E-10
13	0.00E+00	5.44E-10	5.44E-10	5.44E-10	5.44E-10	5.44E-10	5.44E-10
14	0.00E+00	2.67E-10	2.67E-10	2.67E-10	2.67E-10	2.67E-10	2.67E-10
15	0.00E+00	9.09E-11	9.09E-11	9.09E-11	9.09E-11	9.09E-11	9.09E-11
16	0.00E+00	3.52E-11	3.52E-11	3.52E-11	3.52E-11	3.52E-11	3.52E-11
17	0.00E+00	2.11E-11	2.11E-11	2.11E-11	2.11E-11	2.11E-11	2.11E-11
18	0.00E+00	1.26E-11	1.26E-11	1.26E-11	1.26E-11	1.26E-11	1.26E-11

AREA #	SEVER: 8
1	1.17E-05
2	3.53E-06
3	1.72E-06
4	4.66E-07
5	2.38E-07
6	1.05E-07
7	4.30E-08
8	1.97E-08
9	1.12E-08
10	4.13E-09
11	2.68E-09
12	7.98E-10
13	5.44E-10
14	2.67E-10
15	9.09E-11
16	3.52E-11
17	2.11E-11
18	1.26E-11

_RMI_EA_SOIL_SHIPMENT_1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.13E-10	2.13E-10	2.13E-10	2.13E-10	2.13E-10	2.13E-10
2	0.00E+00	6.43E-11	6.43E-11	6.43E-11	6.43E-11	6.43E-11	6.43E-11
3	0.00E+00	3.14E-11	3.14E-11	3.14E-11	3.14E-11	3.14E-11	3.14E-11
4	0.00E+00	8.49E-12	8.49E-12	8.49E-12	8.49E-12	8.49E-12	8.49E-12
5	0.00E+00	4.34E-12	4.34E-12	4.34E-12	4.34E-12	4.34E-12	4.34E-12
6	0.00E+00	1.92E-12	1.92E-12	1.92E-12	1.92E-12	1.92E-12	1.92E-12
7	0.00E+00	7.84E-13	7.84E-13	7.84E-13	7.84E-13	7.84E-13	7.84E-13
8	0.00E+00	3.58E-13	3.58E-13	3.58E-13	3.58E-13	3.58E-13	3.58E-13
9	0.00E+00	2.04E-13	2.04E-13	2.04E-13	2.04E-13	2.04E-13	2.04E-13
10	0.00E+00	7.53E-14	7.53E-14	7.53E-14	7.53E-14	7.53E-14	7.53E-14
11	0.00E+00	4.88E-14	4.88E-14	4.88E-14	4.88E-14	4.88E-14	4.88E-14
12	0.00E+00	1.45E-14	1.45E-14	1.45E-14	1.45E-14	1.45E-14	1.45E-14
13	0.00E+00	9.91E-15	9.91E-15	9.91E-15	9.91E-15	9.91E-15	9.91E-15
14	0.00E+00	4.86E-15	4.86E-15	4.86E-15	4.86E-15	4.86E-15	4.86E-15
15	0.00E+00	1.66E-15	1.66E-15	1.66E-15	1.66E-15	1.66E-15	1.66E-15
16	0.00E+00	6.41E-16	6.41E-16	6.41E-16	6.41E-16	6.41E-16	6.41E-16
17	0.00E+00	3.84E-16	3.84E-16	3.84E-16	3.84E-16	3.84E-16	3.84E-16
18	0.00E+00	2.29E-16	2.29E-16	2.29E-16	2.29E-16	2.29E-16	2.29E-16

AREA #	SEVER: 8
1	2.13E-10
2	6.43E-11
3	3.14E-11
4	8.49E-12
5	4.34E-12
6	1.92E-12
7	7.84E-13
8	3.58E-13
9	2.04E-13
10	7.53E-14
11	4.88E-14
12	1.45E-14
13	9.91E-15
14	4.86E-15
15	1.66E-15
16	6.41E-16
17	3.84E-16
18	2.29E-16

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY D
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.02E-05	2.02E-05	2.02E-05	2.02E-05	2.02E-05	2.02E-05
2	0.00E+00	6.11E-06	6.11E-06	6.11E-06	6.11E-06	6.11E-06	6.11E-06
3	0.00E+00	2.98E-06	2.98E-06	2.98E-06	2.98E-06	2.98E-06	2.98E-06
4	0.00E+00	8.07E-07	8.07E-07	8.07E-07	8.07E-07	8.07E-07	8.07E-07
5	0.00E+00	4.12E-07	4.12E-07	4.12E-07	4.12E-07	4.12E-07	4.12E-07
6	0.00E+00	1.82E-07	1.82E-07	1.82E-07	1.82E-07	1.82E-07	1.82E-07
7	0.00E+00	7.44E-08	7.44E-08	7.44E-08	7.44E-08	7.44E-08	7.44E-08
8	0.00E+00	3.40E-08	3.40E-08	3.40E-08	3.40E-08	3.40E-08	3.40E-08
9	0.00E+00	1.93E-08	1.93E-08	1.93E-08	1.93E-08	1.93E-08	1.93E-08
10	0.00E+00	7.15E-09	7.15E-09	7.15E-09	7.15E-09	7.15E-09	7.15E-09
11	0.00E+00	4.63E-09	4.63E-09	4.63E-09	4.63E-09	4.63E-09	4.63E-09
12	0.00E+00	1.38E-09	1.38E-09	1.38E-09	1.38E-09	1.38E-09	1.38E-09
13	0.00E+00	9.41E-10	9.41E-10	9.41E-10	9.41E-10	9.41E-10	9.41E-10
14	0.00E+00	4.62E-10	4.62E-10	4.62E-10	4.62E-10	4.62E-10	4.62E-10
15	0.00E+00	1.57E-10	1.57E-10	1.57E-10	1.57E-10	1.57E-10	1.57E-10
16	0.00E+00	6.09E-11	6.09E-11	6.09E-11	6.09E-11	6.09E-11	6.09E-11
17	0.00E+00	3.65E-11	3.65E-11	3.65E-11	3.65E-11	3.65E-11	3.65E-11
18	0.00E+00	2.18E-11	2.18E-11	2.18E-11	2.18E-11	2.18E-11	2.18E-11

AREA #	SEVER: 8
1	2.02E-05
2	6.11E-06
3	2.98E-06
4	8.07E-07
5	4.12E-07
6	1.82E-07
7	7.44E-08
8	3.40E-08
9	1.93E-08
10	7.15E-09
11	4.63E-09
12	1.38E-09
13	9.41E-10
14	4.62E-10
15	1.57E-10
16	6.09E-11
17	3.65E-11
18	2.18E-11

RMI_EA_SO'L_SHIPMENT_

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY E

IN CALCULATING THE DEPLETION OF U238 THE CONCENTRATION
IN AREA 16 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 16 AND LARGER HAVE BEEN SET TO 0.0.

IN CALCULATING THE DEPLETION OF U235 THE CONCENTRATION
IN AREA 16 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 16 AND LARGER HAVE BEEN SET TO 0.0.

IN CALCULATING THE DEPLETION OF U234 THE CONCENTRATION
IN AREA 16 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 16 AND LARGER HAVE BEEN SET TO 0.0.

RMI_EA_SOIL_SHIPMENT

PASQUILL CATEGORY E
MODE TRUCK

1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.61E-05	2.61E-05	2.61E-05	2.61E-05	2.61E-05	2.61E-05
2	0.00E+00	8.68E-06	8.68E-06	8.68E-06	8.68E-06	8.68E-06	8.68E-06
3	0.00E+00	4.09E-06	4.09E-06	4.09E-06	4.09E-06	4.09E-06	4.09E-06
4	0.00E+00	9.66E-07	9.66E-07	9.66E-07	9.66E-07	9.66E-07	9.66E-07
5	0.00E+00	4.69E-07	4.69E-07	4.69E-07	4.69E-07	4.69E-07	4.69E-07
6	0.00E+00	2.97E-07	2.97E-07	2.97E-07	2.97E-07	2.97E-07	2.97E-07
7	0.00E+00	8.69E-08	8.69E-08	8.69E-08	8.69E-08	8.69E-08	8.69E-08
8	0.00E+00	3.77E-08	3.77E-08	3.77E-08	3.77E-08	3.77E-08	3.77E-08
9	0.00E+00	1.97E-08	1.97E-08	1.97E-08	1.97E-08	1.97E-08	1.97E-08
10	0.00E+00	7.35E-09	7.35E-09	7.35E-09	7.35E-09	7.35E-09	7.35E-09
11	0.00E+00	4.76E-09	4.76E-09	4.76E-09	4.76E-09	4.76E-09	4.76E-09
12	0.00E+00	1.69E-09	1.69E-09	1.69E-09	1.69E-09	1.69E-09	1.69E-09
13	0.00E+00	1.03E-09	1.03E-09	1.03E-09	1.03E-09	1.03E-09	1.03E-09
14	0.00E+00	4.74E-10	4.74E-10	4.74E-10	4.74E-10	4.74E-10	4.74E-10
15	0.00E+00	1.57E-10	1.57E-10	1.57E-10	1.57E-10	1.57E-10	1.57E-10
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	2.61E-05
2	8.68E-06
3	4.09E-06
4	9.66E-07
5	4.69E-07
6	2.97E-07
7	8.69E-08
8	3.77E-08
9	1.97E-08
10	7.35E-09
11	4.76E-09
12	1.69E-09
13	1.03E-09
14	4.74E-10
15	1.57E-10
16	0.00E+00
17	0.00E+00
18	0.00E+00

RMI_EA_SOIL_SHIPMENT1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	4.76E-10	4.76E-10	4.76E-10	4.76E-10	4.76E-10	4.76E-10
2	0.00E+00	1.58E-10	1.58E-10	1.58E-10	1.58E-10	1.58E-10	1.58E-10
3	0.00E+00	7.46E-11	7.46E-11	7.46E-11	7.46E-11	7.46E-11	7.46E-11
4	0.00E+00	1.76E-11	1.76E-11	1.76E-11	1.76E-11	1.76E-11	1.76E-11
5	0.00E+00	8.55E-12	8.55E-12	8.55E-12	8.55E-12	8.55E-12	8.55E-12
6	0.00E+00	5.41E-12	5.41E-12	5.41E-12	5.41E-12	5.41E-12	5.41E-12
7	0.00E+00	1.58E-12	1.58E-12	1.58E-12	1.58E-12	1.58E-12	1.58E-12
8	0.00E+00	6.88E-13	6.88E-13	6.88E-13	6.88E-13	6.88E-13	6.88E-13
9	0.00E+00	3.59E-13	3.59E-13	3.59E-13	3.59E-13	3.59E-13	3.59E-13
10	0.00E+00	1.34E-13	1.34E-13	1.34E-13	1.34E-13	1.34E-13	1.34E-13
11	0.00E+00	8.67E-14	8.67E-14	8.67E-14	8.67E-14	8.67E-14	8.67E-14
12	0.00E+00	3.09E-14	3.09E-14	3.09E-14	3.09E-14	3.09E-14	3.09E-14
13	0.00E+00	1.87E-14	1.87E-14	1.87E-14	1.87E-14	1.87E-14	1.87E-14
14	0.00E+00	8.63E-15	8.63E-15	8.63E-15	8.63E-15	8.63E-15	8.63E-15
15	0.00E+00	2.85E-15	2.85E-15	2.85E-15	2.85E-15	2.85E-15	2.85E-15
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	4.76E-10
2	1.58E-10
3	7.46E-11
4	1.76E-11
5	8.55E-12
6	5.41E-12
7	1.58E-12
8	6.88E-13
9	3.59E-13
10	1.34E-13
11	8.67E-14
12	3.09E-14
13	1.87E-14
14	8.63E-15
15	2.85E-15
16	0.00E+00
17	0.00E+00
18	0.00E+00

RMI_EA_SOIL_SHIPMENTPASQUILL CATEGORY E
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	4.52E-05	4.52E-05	4.52E-05	4.52E-05	4.52E-05	4.52E-05
2	0.00E+00	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
3	0.00E+00	7.08E-06	7.08E-06	7.08E-06	7.08E-06	7.08E-06	7.08E-06
4	0.00E+00	1.67E-06	1.67E-06	1.67E-06	1.67E-06	1.67E-06	1.67E-06
5	0.00E+00	8.12E-07	8.12E-07	8.12E-07	8.12E-07	8.12E-07	8.12E-07
6	0.00E+00	5.14E-07	5.14E-07	5.14E-07	5.14E-07	5.14E-07	5.14E-07
7	0.00E+00	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.50E-07
8	0.00E+00	6.53E-08	6.53E-08	6.53E-08	6.53E-08	6.53E-08	6.53E-08
9	0.00E+00	3.41E-08	3.41E-08	3.41E-08	3.41E-08	3.41E-08	3.41E-08
10	0.00E+00	1.27E-08	1.27E-08	1.27E-08	1.27E-08	1.27E-08	1.27E-08
11	0.00E+00	8.24E-09	8.24E-09	8.24E-09	8.24E-09	8.24E-09	8.24E-09
12	0.00E+00	2.93E-09	2.93E-09	2.93E-09	2.93E-09	2.93E-09	2.93E-09
13	0.00E+00	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09
14	0.00E+00	8.19E-10	8.19E-10	8.19E-10	8.19E-10	8.19E-10	8.19E-10
15	0.00E+00	2.71E-10	2.71E-10	2.71E-10	2.71E-10	2.71E-10	2.71E-10
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	4.52E-05
2	1.50E-05
3	7.08E-06
4	1.67E-06
5	8.12E-07
6	5.14E-07
7	1.50E-07
8	6.53E-08
9	3.41E-08
10	1.27E-08
11	8.24E-09
12	2.93E-09
13	1.78E-09
14	8.19E-10
15	2.71E-10
16	0.00E+00
17	0.00E+00
18	0.00E+00

RMI_EA_SOIL_SHIPMENT

CALCULATIONAL INFORMATION FOR MODE

TRUCK AND PASQUILL CATEGORY F

IN CALCULATING THE DEPLETION OF U238 THE CONCENTRATION
IN AREA 11 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 11 AND LARGER HAVE BEEN SET TO 0.0.

IN CALCULATING THE DEPLETION OF U235 THE CONCENTRATION
IN AREA 11 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 11 AND LARGER HAVE BEEN SET TO 0.0.

IN CALCULATING THE DEPLETION OF U234 THE CONCENTRATION
IN AREA 11 HAS BECOME NEGATIVE. THE CONTAMINATION AND
CONCENTRATIONS IN AREAS 11 AND LARGER HAVE BEEN SET TO 0.0.

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY F
MODE TRUCK1-YEAR LUNG DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	1.69E-04	1.69E-04	1.69E-04	1.69E-04	1.69E-04	1.69E-04
2	0.00E+00	4.89E-05	4.89E-05	4.89E-05	4.89E-05	4.89E-05	4.89E-05
3	0.00E+00	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05
4	0.00E+00	2.25E-06	2.25E-06	2.25E-06	2.25E-06	2.25E-06	2.25E-06
5	0.00E+00	5.51E-07	5.51E-07	5.51E-07	5.51E-07	5.51E-07	5.51E-07
6	0.00E+00	1.81E-07	1.81E-07	1.81E-07	1.81E-07	1.81E-07	1.81E-07
7	0.00E+00	5.75E-08	5.75E-08	5.75E-08	5.75E-08	5.75E-08	5.75E-08
8	0.00E+00	1.75E-08	1.75E-08	1.75E-08	1.75E-08	1.75E-08	1.75E-08
9	0.00E+00	5.53E-09	5.53E-09	5.53E-09	5.53E-09	5.53E-09	5.53E-09
10	0.00E+00	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.27E-09
11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	1.69E-04
2	4.89E-05
3	1.49E-05
4	2.25E-06
5	5.51E-07
6	1.81E-07
7	5.75E-08
8	1.75E-08
9	5.53E-09
10	1.27E-09
11	0.00E+00
12	0.00E+00
13	0.00E+00
14	0.00E+00
15	0.00E+00
16	0.00E+00
17	0.00E+00
18	0.00E+00

_RMI_EA_SOIL_SHIPMENT_1-YEAR MARROW DOSE - INHALATION PATHWAY
BDF = 1 (REM)

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	3.07E-09	3.07E-09	3.07E-09	3.07E-09	3.07E-09	3.07E-09
2	0.00E+00	8.90E-10	8.90E-10	8.90E-10	8.90E-10	8.90E-10	8.90E-10
3	0.00E+00	2.71E-10	2.71E-10	2.71E-10	2.71E-10	2.71E-10	2.71E-10
4	0.00E+00	4.10E-11	4.10E-11	4.10E-11	4.10E-11	4.10E-11	4.10E-11
5	0.00E+00	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11
6	0.00E+00	3.29E-12	3.29E-12	3.29E-12	3.29E-12	3.29E-12	3.29E-12
7	0.00E+00	1.05E-12	1.05E-12	1.05E-12	1.05E-12	1.05E-12	1.05E-12
8	0.00E+00	3.18E-13	3.18E-13	3.18E-13	3.18E-13	3.18E-13	3.18E-13
9	0.00E+00	1.01E-13	1.01E-13	1.01E-13	1.01E-13	1.01E-13	1.01E-13
10	0.00E+00	2.32E-14	2.32E-14	2.32E-14	2.32E-14	2.32E-14	2.32E-14
11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	3.07E-09
2	8.90E-10
3	2.71E-10
4	4.10E-11
5	1.00E-11
6	3.29E-12
7	1.05E-12
8	3.18E-13
9	1.01E-13
10	2.32E-14
11	0.00E+00
12	0.00E+00
13	0.00E+00
14	0.00E+00
15	0.00E+00
16	0.00E+00
17	0.00E+00
18	0.00E+00

_RMI_EA_SOIL_SHIPMENT_PASQUILL CATEGORY F
MODE TRUCKGROUND SURFACE CONTAMINATION TABLE (MICRO CI/M**2)
BEFORE CLEANUP

AREA #	SEVER: 1	SEVER: 2	SEVER: 3	SEVER: 4	SEVER: 5	SEVER: 6	SEVER: 7
1	0.00E+00	2.92E-04	2.92E-04	2.92E-04	2.92E-04	2.92E-04	2.92E-04
2	0.00E+00	8.46E-05	8.46E-05	8.46E-05	8.46E-05	8.46E-05	8.46E-05
3	0.00E+00	2.58E-05	2.58E-05	2.58E-05	2.58E-05	2.58E-05	2.58E-05
4	0.00E+00	3.90E-06	3.90E-06	3.90E-06	3.90E-06	3.90E-06	3.90E-06
5	0.00E+00	9.54E-07	9.54E-07	9.54E-07	9.54E-07	9.54E-07	9.54E-07
6	0.00E+00	3.12E-07	3.12E-07	3.12E-07	3.12E-07	3.12E-07	3.12E-07
7	0.00E+00	9.95E-08	9.95E-08	9.95E-08	9.95E-08	9.95E-08	9.95E-08
8	0.00E+00	3.02E-08	3.02E-08	3.02E-08	3.02E-08	3.02E-08	3.02E-08
9	0.00E+00	9.57E-09	9.57E-09	9.57E-09	9.57E-09	9.57E-09	9.57E-09
10	0.00E+00	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09
11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AREA #	SEVER: 8
1	2.92E-04
2	8.46E-05
3	2.58E-05
4	3.90E-06
5	9.54E-07
6	3.12E-07
7	9.95E-08
8	3.02E-08
9	9.57E-09
10	2.20E-09
11	0.00E+00
12	0.00E+00
13	0.00E+00
14	0.00E+00
15	0.00E+00
16	0.00E+00
17	0.00E+00
18	0.00E+00

RMI_EA_SOIL_SHIPMENT

INCIDENT-FREE SUMMARY

INCIDENT-FREE POPULATION EXPOSURE IN PERSON-REM

	PASSENGR	CREW	HANDLERS	OFF LINK	ON LINK	STOPS	STORAGE	TOTALS
LINK 1	0.00E+00	1.80E-02	0.00E+00	2.91E-03	1.27E-02	1.06E-01	0.00E+00	1.40E-01
TOTALS:	0.00E+00	1.80E-02	0.00E+00	2.91E-03	1.27E-02	1.06E-01	0.00E+00	1.40E-01

MAXIMUM INDIVIDUAL IN-TRANSIT DOSE

LINK 1 6.11E-08 REM

$$1.8 \times 10^{-2} \times 2600 \text{ stops} = 46.8 \text{ person-rem}$$

assume 10 crews for 8 yrs
2 people/crew

RMI_EA_SOIL_SHIPMENT_INCIDENT-FREE IMPORTANCE ANALYSIS SUMMARY FOR LINK 1

INDEX	DESCRIPTION OF PARAMETER	IMPORTANCE
1	DISTANCE TRAVELED	1.396E-03
2	NUMBER OF SHIPMENTS	1.396E-03
3	PACKAGES PER SHIPMENT	1.396E-03
4	DOSE RATE (TRANSPORT INDEX)	1.396E-03
5	K ZERO	1.396E-03
6	STOP TIME	1.060E-03
7	PERSONS EXPOSED WHILE STOPPED	1.060E-03
8	NUMBER OF CREW MEMBERS	1.797E-04
9	FRACTION OF TRAVEL - SUBURBAN	1.727E-04
10	FRACTION OF TRAVEL - RURAL	1.609E-04
11	NUMBER OF PEOPLE PER VEHICLE	1.274E-04
12	TRAFFIC COUNT - SUBURBAN	8.320E-05
13	TRAFFIC COUNT - RURAL	4.257E-05
14	FRACTION OF RUSH HOUR TRAVEL	3.832E-05
15	POPULATION DENSITY - SUBURBAN	2.815E-05
16	SUBURBAN SHIELDING FACTOR (RS)	2.574E-05
17	FRACTION OF TRAVEL - URBAN	2.612E-06
18	RATIO OF PEDESTRIAN DENSITY (RPD)	2.593E-06
19	TRAFFIC COUNT - URBAN	1.640E-06
20	FRACTION OF TRAVEL ON CITY STREETS	1.225E-06
21	POPULATION DENSITY - RURAL	7.626E-07
22	RURAL SHIELDING FACTOR (RR)	7.276E-07
23	POPULATION DENSITY - URBAN	1.715E-07
24	URBAN SHIELDING FACTOR (RU)	2.080E-08
25	HANDLER EXPOSURE DISTANCE	0.000E+00
26	STORAGE TIME PER SHIPMENT	0.000E+00
27	NUMBER OF FLIGHT ATTENDANTS	0.000E+00
28	PERSONS EXPOSED PER HANDLING	0.000E+00
29	EXPOSURE TIME FOR HANDLERS	0.000E+00
30	NUMBER OF PERSONS EXPOSED DURING STORAGE	0.000E+00
31	NUMBER OF HANDLINGS	0.000E+00
32	STORAGE EXPOSURE DISTANCE	0.000E+00
33	VELOCITY - URBAN	-3.154E-06
34	VELOCITY - SUBURBAN	-2.106E-04
35	VELOCITY - RURAL	-2.498E-04
36	FRACTION OF TRAVEL ON FREEWAYS	-2.528E-04
37	DISTANCE FROM SOURCE TO CREW	-3.593E-04
38	EXPOSURE DISTANCE WHILE STOPPED	-2.120E-03

THE IMPORTANCE VALUE ESTIMATES THE PERSON-REM INFLUENCE
OF A ONE PERCENT INCREASE IN THE PARAMETER

_RMI_EA_SOIL_SHIPMENT_

ACCIDENT SUMMARY

	NUMBER OF EXPECTED ACCIDENTS -- MODE		TRUCK
CATEGORY	RURAL	SUBURB	URBAN
1	2.04E-04	1.00E-03	5.60E-05
2	1.34E-04	6.55E-04	3.67E-05
3	7.78E-05	5.08E-04	2.67E-06
4	1.78E-05	1.16E-04	6.11E-07
5	5.22E-06	1.53E-05	7.12E-08
6	2.86E-06	4.00E-06	1.40E-08
7	2.52E-07	1.55E-07	1.08E-09
8	5.00E-08	1.36E-08	9.54E-11

	EARLY FATALITY CONSEQUENCES -- MODE		TRUCK
CATEGORY	RURAL	SUBURB	URBAN
1	0.00E+00	0.00E+00	0.00E+00
2	0.00E+00	0.00E+00	0.00E+00
3	0.00E+00	0.00E+00	0.00E+00
4	0.00E+00	0.00E+00	0.00E+00
5	0.00E+00	0.00E+00	0.00E+00
6	0.00E+00	0.00E+00	0.00E+00
7	0.00E+00	0.00E+00	0.00E+00
8	0.00E+00	0.00E+00	0.00E+00

	ECONOMIC CONSEQUENCES -- MODE		TRUCK
CATEGORY	RURAL	SUBURB	URBAN
1	0.00E+00	0.00E+00	0.00E+00
2	0.00E+00	0.00E+00	0.00E+00
3	0.00E+00	0.00E+00	0.00E+00
4	0.00E+00	0.00E+00	0.00E+00
5	0.00E+00	0.00E+00	0.00E+00
6	0.00E+00	0.00E+00	0.00E+00
7	0.00E+00	0.00E+00	0.00E+00
8	0.00E+00	0.00E+00	0.00E+00

_RMI_EA_SOIL_SHIPMENT_RADIOLOGICAL CONSEQUENCES -- MODE TRUCK
50 YEAR POPULATION DOSE IN PERSON REM

CATEGORY	RURAL	SUBURB	URBAN
1	0.00E+00	0.00E+00	0.00E+00
2	3.24E-06	3.89E-04	1.26E-03
3	3.24E-06	3.89E-04	1.26E-03
4	3.24E-06	3.89E-04	1.26E-03
5	3.24E-06	3.89E-04	1.26E-03
6	3.24E-06	3.89E-04	1.26E-03
7	3.24E-06	3.89E-04	1.26E-03
8	3.24E-06	3.89E-04	1.26E-03

_RMI_EA_SOIL_SHIPMENT_

EXPECTED VALUES OF POPULATION RISK IN PERSON REM

	GROUND	INHALED	RESUSPD	CLOUDSH	*INGESTION	TOTAL
SOIL						
U238	2.40E-10	4.47E-08	2.03E-07	2.03E-16	0.00E+00	2.48E-07
U235	1.28E-09	2.11E-09	9.65E-09	1.42E-14	0.00E+00	1.31E-08
U234	2.33E-08	4.88E-08	2.23E-07	1.40E-15	0.00E+00	2.95E-07
TOTALS:	2.48E-08	9.56E-08	4.36E-07	1.58E-14	0.00E+00	5.56E-07

* NOTE THAT INGESTION RISK IS A SOCIETAL RISK;
THE USER MAY WISH TO TREAT THIS VALUE SEPARATELY.