RAI 185 Attachment

Supporting TRAGIS Output for ER Section 5.11 for CCNPP Unit 3:

RUN DATE: [08-MAR-07 AT 12:19:24] PAGE 6

Unirradiated Fuel Truck from WA to CCNPP

INCIDENT-FREE SUMMARY
******** **** *******

```
[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800
[ROUTEINFO]
From CITY=RICHLAND
From STATE=WA
From SUBNET=
To CITY=CALVERT CLIFFS NP
```

```
To STATE=MD
To SUBNET=
[ID]
Rural - KM= 357.0
Suburban - KM=  79.3
Urban - KM=   7.3
Total - KM= 443.5
Rural Pop Density=  11.3
Suburban Pop Density= 278.7
Urban Pop Density=2219.6
[IL]
Rural - KM= 178.4
Suburban - KM=  73.0
Urban - KM=  10.2
Total - KM= 261.7
Rural Pop Density=  14.4
Suburban Pop Density= 323.6
Urban Pop Density=2379.1
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[IA]
Rural - KM= 377.8
Suburban - KM= 107.7
Urban - KM=   5.8
Total - KM= 491.3
Rural Pop Density=  16.4
Suburban Pop Density= 272.7
Urban Pop Density=2191.1
[MD]
Rural - KM=  90.3
Suburban - KM= 127.2
Urban - KM=  29.8
Total - KM= 247.4
Rural Pop Density=  23.9
Suburban Pop Density= 386.0
Urban Pop Density=2531.7
[NE]
Rural - KM= 649.1
Suburban - KM=  71.5
Urban - KM=   8.0
Total - KM= 728.5
Rural Pop Density=   9.9
Suburban Pop Density= 270.2
Urban Pop Density=2410.2
[OH]
Rural - KM= 220.0
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
```

```
Urban Pop Density=2179.6
[OR]
Rural - KM= 301.0
Suburban - KM=  32.2
Urban - KM=   2.3
Total - KM= 335.5
Rural Pop Density=   8.2
Suburban Pop Density= 313.2
Urban Pop Density=1976.3
[PA]
Rural - KM= 174.1
Suburban - KM= 119.6
Urban - KM=   7.7
Total - KM= 301.5
Rural Pop Density=  17.0
Suburban Pop Density= 303.9
Urban Pop Density=2123.7
[UT]
Rural - KM= 186.8
Suburban - KM=  51.6
Urban - KM=   1.5
Total - KM= 240.0
Rural Pop Density=   9.7
Suburban Pop Density= 257.8
Urban Pop Density=2112.2
[WA]
Rural - KM=  44.1
Suburban - KM=   8.6
Urban - KM=   4.7
Total - KM=  57.4
Rural Pop Density=   1.5
Suburban Pop Density= 604.4
Urban Pop Density=2293.2
[WY]
Rural - KM= 607.2
Suburban - KM=  33.9
Urban - KM=   3.4
Total - KM= 644.6
Rural Pop Density=   4.9
Suburban Pop Density= 399.4
Urban Pop Density=1966.6
[Total]
Rural - KM=3322.5
Suburban - KM= 953.6
Urban - KM= 104.9
Total - KM=4381.0
Rural Pop Density=  11.7
Suburban Pop Density= 309.3
Urban Pop Density=2324.3
RUN DATE: [ 08-MAR-07 AT 08:51:58 ]            PAGE    6
```

Irradiated Fuel Truck from CCNPP to Yucca Mt.

INCIDENT-FREE SUMMARY
******** **** *******

[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800
[ROUTEINFO]
From CITY=CALVERT CLIFFS NP
From STATE=MD
From SUBNET=
To CITY=YUCCA MOUNTAIN
To STATE=NV
To SUBNET=

```
[AZ]
Rural - KM=  46.8
Suburban - KM=   0.3
Urban - KM=   0.0
Total - KM=  47.1
Rural Pop Density=  3.2
Suburban Pop Density= 135.8
Urban Pop Density=   0.0
[IL]
Rural - KM= 178.4
Suburban - KM=  73.0
Urban - KM=  10.2
Total - KM= 261.7
Rural Pop Density=  14.4
Suburban Pop Density= 323.6
Urban Pop Density=2379.1
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[IA]
Rural - KM= 393.8
Suburban - KM=  95.4
Urban - KM=   5.1
Total - KM= 494.1
Rural Pop Density=  15.7
Suburban Pop Density= 268.0
Urban Pop Density=2185.2
[MD]
Rural - KM= 190.6
Suburban - KM= 155.6
Urban - KM=  32.7
Total - KM= 378.8
Rural Pop Density=  19.5
Suburban Pop Density= 364.4
Urban Pop Density=2501.5
[NE]
Rural - KM= 652.2
Suburban - KM=  75.6
Urban - KM=   7.0
Total - KM= 734.8
Rural Pop Density=  10.0
Suburban Pop Density= 268.5
Urban Pop Density=2401.8
[NV]
Rural - KM= 252.6
Suburban - KM=  15.5
Urban - KM=   1.5
Total - KM= 269.5
Rural Pop Density=   4.8
Suburban Pop Density= 267.6
Urban Pop Density=2318.5
[OH]
```

```
Rural - KM= 220.0
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
Urban Pop Density=2179.6
[PA]
Rural - KM=  80.2
Suburban - KM=  85.3
Urban - KM=   7.2
Total - KM= 172.6
Rural Pop Density=  21.1
Suburban Pop Density= 325.8
Urban Pop Density=2259.4
[UT]
Rural - KM= 471.6
Suburban - KM= 106.5
Urban - KM=  32.2
Total - KM= 610.3
Rural Pop Density=   9.9
Suburban Pop Density= 362.6
Urban Pop Density=2472.3
[WV]
Rural - KM=  45.2
Suburban - KM=  24.1
Urban - KM=   0.5
Total - KM=  69.7
Rural Pop Density=  19.3
Suburban Pop Density= 214.1
Urban Pop Density=1764.7
[WY]
Rural - KM= 607.2
Suburban - KM=  33.9
Urban - KM=   3.4
Total - KM= 644.6
Rural Pop Density=   4.9
Suburban Pop Density= 399.4
Urban Pop Density=1966.6
[Total]
Rural - KM=3275.2
Suburban - KM= 914.0
Urban - KM= 123.8
Total - KM=4312.8
Rural Pop Density=  11.5
Suburban Pop Density= 315.5
Urban Pop Density=2381.8
   RUN DATE: [ 09-MAR-07 AT 11:40:51 ]            PAGE    6
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Radioactive Waste Truck from CCNPP to Hanford Rep.

INCIDENT-FREE SUMMARY
******** **** *******

[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800

```
[ROUTEINFO]
From CITY=CALVERT CLIFFS NP
From STATE=MD
From SUBNET=
To CITY=HANFORD RPSTRY
To STATE=WA
To SUBNET=
[ID]
Rural - KM=  74.8
Suburban - KM=  37.0
Urban - KM=   4.8
Total - KM= 116.6
Rural Pop Density=   8.7
Suburban Pop Density= 371.3
Urban Pop Density=2100.2
[IL]
Rural - KM=  76.0
Suburban - KM=  86.6
Urban - KM=  28.2
Total - KM= 190.7
Rural Pop Density=  21.1
Suburban Pop Density= 455.8
Urban Pop Density=2518.0
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[MD]
Rural - KM=  90.3
Suburban - KM= 127.2
Urban - KM=  29.8
Total - KM= 247.4
Rural Pop Density=  23.9
Suburban Pop Density= 386.0
Urban Pop Density=2531.7
[MN]
Rural - KM= 392.0
Suburban - KM=  49.3
Urban - KM=   1.1
Total - KM= 442.4
Rural Pop Density=  14.2
Suburban Pop Density= 210.2
Urban Pop Density=2268.5
[MT]
Rural - KM= 777.0
Suburban - KM= 103.0
Urban - KM=   8.6
Total - KM= 888.5
Rural Pop Density=   8.4
Suburban Pop Density= 299.3
Urban Pop Density=2220.9
[OH]
Rural - KM= 220.0
```

```
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
Urban Pop Density=2179.6
[PA]
Rural - KM= 174.1
Suburban - KM= 119.6
Urban - KM=   7.7
Total - KM= 301.5
Rural Pop Density=  17.0
Suburban Pop Density= 303.9
Urban Pop Density=2123.7
[SD]
Rural - KM= 602.7
Suburban - KM=  57.3
Urban - KM=   2.5
Total - KM= 662.4
Rural Pop Density=   7.9
Suburban Pop Density= 254.0
Urban Pop Density=2364.5
[WA]
Rural - KM= 235.9
Suburban - KM=  36.9
Urban - KM=   8.7
Total - KM= 281.5
Rural Pop Density=   6.0
Suburban Pop Density= 418.4
Urban Pop Density=2170.5
[WI]
Rural - KM= 220.6
Suburban - KM=  75.8
Urban - KM=   5.5
Total - KM= 301.9
Rural Pop Density=  18.7
Suburban Pop Density= 253.1
Urban Pop Density=2145.2
[WY]
Rural - KM= 320.5
Suburban - KM=  14.0
Urban - KM=   2.2
Total - KM= 336.7
Rural Pop Density=   5.7
Suburban Pop Density= 439.1
Urban Pop Density=1902.3
[Total]
Rural - KM=3320.5
Suburban - KM= 955.5
Urban - KM= 123.2
Total - KM=4399.1
Rural Pop Density=  11.6
Suburban Pop Density= 322.4
Urban Pop Density=2349.5

TRAGIS Routing Engine Version 1.5.4        -- Highway Data Network   4.0
```

FROM: CALVERT CLIFFS NP MD Leaving : 03/09/07 11:34
TO : HANFORD RPSTRY WA Arriving : 03/11/07 08:57

Routing parameters used to calculate the route-

Routing type: Commercial with 2 driver(s)
Time bias: 0.70 Mile bias: 0.30, Toll bias: 1.00

Constraints used on route:
Prohibit use of links prohibiting truck use
Prohibit use of ferry crossing

Miles	Hwy Sign		City	Dir	Junction	State	Dist	Time	Date	Hour	Impedance
0.0			CALVERT CLIFFS NP			MD	0.0	0:00	03/09/07	11:34	
1.3	LOCAL		LUSBY	N	S2 LOCL	MD	1.3	0:03	03/09/07	11:37	3.1
10.6	S2	S4	PRINC FREDERCK		S2 S231	MD	11.9	0:15	03/09/07	11:49	11.3
9.2	S2	S4	SUNDERLAND	S	S2 S4	MD	21.1	0:25	03/09/07	11:59	9.8
14.5	S4		UPPER MARLBORO	E	U301S4	MD	35.6	0:42	03/09/07	12:16	16.6
6.2	S4		ADW AIRPORT			MD	41.8	0:50	03/09/07	12:24	7.1
1.7	S4		FORESTVILLE	SE	I95 X11	MD	43.5	0:52	03/09/07	12:26	2.1
7.9	I495	I95	NEW CARROLLTON	SE	I95 X19	MD	51.3	1:01	03/09/07	12:35	8.4
1.1	I495	I95	LANHAM		I95 X20	MD	52.4	1:02	03/09/07	12:36	1.1
2.5	I495	I95	GREENBELT	SE	I95 X22	MD	54.9	1:05	03/09/07	12:39	2.7
3.1	I495	I95	BELTSVILLE	SW	I95 X25	MD	58.0	1:08	03/09/07	12:42	3.3
1.3	I495	I95	COLLEGE PARK	NW	I495I95	MD	59.3	1:09	03/09/07	12:43	1.4
1.5	I495		KNOLLWOOD	SW	I495X28	MD	60.8	1:11	03/09/07	12:45	1.6
2.2	I495		FOUR CORNERS	SW	I495X30	MD	63.0	1:13	03/09/07	12:47	2.3
1.4	I495		WHEATON	S	I495X31	MD	64.4	1:15	03/09/07	12:49	1.5
2.2	I495		CHEVY CHASE	N	I495X33	MD	66.6	1:17	03/09/07	12:51	2.3
1.5	I495		KENSINGTON	SW	I495X34	MD	68.1	1:19	03/09/07	12:53	1.6
0.2	I495		GARRETT PARK	S	I270I495	MD	68.4	1:19	03/09/07	12:53	0.2
2.7	I270		ROCKVILLE	S	I270I270	MD	71.0	1:22	03/09/07	12:56	2.9
8.8	I270		GAITHERSBURG		I270X11	MD	79.8	1:30	03/09/07	13:04	8.3
3.3	I270		GERMANTOWN	NE	I270X15	MD	83.1	1:33	03/09/07	13:07	3.1
17.9	I270		FREDERICK	S	I270I70	MD	101.0	1:50	03/09/07	13:24	16.9
0.9	I70		FREDERICK	SW	I70 X52	MD	101.9	1:51	03/09/07	13:25	0.8
20.4	I70		FUNKSTOWN	SE	I70 X32	MD	122.3	2:09	03/09/07	13:43	19.3
5.9	I70		HALFWAY	W	I70 I81	MD	128.2	2:15	03/09/07	13:49	5.6
24.5	I70		HANCOCK	N	I70 X1	MD	152.6	2:37	03/09/07	14:11	23.1
1.1	I70		crossing state border MD/PA			BD	153.8	2:39	03/09/07	14:13	1.1
2.6	I70		WARFORDSBURG	N	I70 X168	PA	156.3	2:41	03/09/07	14:15	2.4
20.8	I70		BREEZEWOOD		I70 U30	PA	177.2	3:00	03/09/07	14:34	19.7
0.3	U30		BREEZEWOOD	E	I70 X147	PA	177.5	3:01	03/09/07	14:35	0.6
1.8	I70 $		BREEZEWOOD	SW	I70 I76	PA	179.3	3:04	03/09/07	14:38	2.5
15.7	I70 $	I76 $	WOLFSBURG	E	I70 X146	PA	195.1	3:18	03/09/07	14:52	14.9
35.5	I70 $	I76 $	SOMERSET	N	I77 X110	PA	230.6	3:51	03/09/07	15:25	33.6
19.8	I70 $	I76 $	DONEGAL		I70 X91	PA	250.4	4:09	03/09/07	15:43	18.7
			Rest 30 minutes								
15.1	I70 $	I76 $	NEW STANTON	N	I70 I76	PA	265.4	4:53	03/09/07	16:27	14.2
8.6	I76 $		IRWIN	SE	I76 X67	PA	274.0	5:02	03/09/07	16:36	8.6
10.8	I76 $		MONROEVILLE		I376I76	PA	284.8	5:12	03/09/07	16:46	10.8
8.9	I76 $		CHESWICK	W	I76 X48	PA	293.6	5:21	03/09/07	16:55	8.9
8.5	I76 $		BAKERSTOWN	S	I76 X39	PA	302.1	5:30	03/09/07	17:04	8.5
11.1	I76 $		WARRENDALE	W	I76 X28	PA	313.2	5:41	03/09/07	17:15	11.1
15.1	I76 $		HOMEWOOD	N	I76 X13	PA	328.3	5:56	03/09/07	17:30	15.0
2.8	I76 $		BIG BEAVER	NE	I76 X10	PA	331.1	5:58	03/09/07	17:32	2.8
10.0	I76 $		crossing state border OH/PA			BD	341.1	6:08	03/09/07	17:42	10.0
7.1	I76 $		NORTH LIMA	E	I680I76	OH	348.2	6:16	03/09/07	17:50	7.6
1.5	I76 $		NORTH LIMA	N	I76 X232	OH	349.7	6:18	03/09/07	17:52	1.6
13.6	I76 $		NORTH JACKSON	NE	I76 I80	OH	363.3	6:33	03/09/07	18:07	14.4
9.5	I80 $		NEWTON FALLS	NE	I80 X209	OH	372.8	6:43	03/09/07	18:17	10.1
15.3	I80 $		SHALERSVILLE	N	I80 X193	OH	388.1	7:00	03/09/07	18:34	16.3
7.3	I80 $		STREETSBORO	NW	I480I80	OH	395.4	7:08	03/09/07	18:42	7.8
6.8	I80 $		BOSTON HTS		I80 X180	OH	402.2	7:15	03/09/07	18:49	7.2
6.8	I80 $		BRECKSVILLE	S	I80 X173	OH	408.9	7:22	03/09/07	18:56	7.2
11.1	I80 $		STRONGSVILLE	NE	I71 I80	OH	420.0	7:35	03/09/07	19:09	11.8

10.2	I80 $		N RIDGEVILLE	S	I480I80	OH	430.2	7:46	03/09/07	19:20	10.9
6.6	I80 $		ELYRIA	N	I80 X145	OH	436.8	7:53	03/09/07	19:27	7.0
2.5	I80 $		ELYRIA	NW	I80 I90	OH	439.3	7:56	03/09/07	19:30	2.6
24.4	I80 $	I90 $	AVERY	S	I80 X118	OH	463.6	8:22	03/09/07	19:56	25.9
			Rest 30 minutes								
7.5	I80 $	I90 $	PARKERTOWN	E	I80 X110	OH	471.1	9:00	03/09/07	20:34	8.0
18.4	I80 $	I90 $	FREMONT	N	I80 X91	OH	489.6	9:20	03/09/07	20:54	19.6
11.0	I80 $	I90 $	ELMORE	S	I80 X81	OH	500.6	9:32	03/09/07	21:06	11.7
9.5	I80 $	I90 $	LEMOYNE	NE	I280I80	OH	510.1	9:43	03/09/07	21:17	10.1
6.9	I80 $	I90 $	PERRYSBURG	NE	I75 I80	OH	517.0	9:50	03/09/07	21:24	7.3
11.6	I80 $	I90 $	TOLEDO	W	I80 X52	OH	528.5	10:03	03/09/07	21:37	12.3
18.2	I80 $	I90 $	WAUSEON	N	I80 X34	OH	546.8	10:23	03/09/07	21:57	19.4
21.2	I80 $	I90 $	WEST JEFFERSON	N	I80 X13	OH	568.0	10:46	03/09/07	22:20	22.6
13.1	I80 $	I90 $	crossing state border IN/OH			BD	581.0	11:00	03/09/07	22:34	13.9
13.2	I80 $	I90 $	JAMESTOWN	SE	I69 I80	IN	594.2	11:13	03/09/07	22:47	13.2
22.9	I80 $	I90 $	HOWE	N	I80 X121	IN	617.1	11:36	03/09/07	23:10	22.9
13.3	I80 $	I90 $	VISTULA	E	I80 X107	IN	630.4	11:49	03/09/07	23:23	13.3
15.5	I80 $	I90 $	ELKHART	N	I80 X92	IN	645.9	12:05	03/09/07	23:39	15.5
15.0	I80 $	I90 $	SOUTH BEND	N	I80 X77	IN	660.9	12:20	03/09/07	23:54	15.0
4.5	I80 $	I90 $	SOUTH BEND	NW	I80 X72	IN	665.4	12:25	03/09/07	23:59	4.5
23.1	I80 $	I90 $	SPRINGVILLE	S	I80 X49	IN	688.5	12:48	03/10/07	00:22	23.1
			Rest 30 minutes								
9.9	I80 $	I90 $	OTIS	SE	I80 X39	IN	698.3	13:27	03/10/07	00:01	9.9
7.9	I80 $	I90 $	TRATEBAS MILL	W	I80 X31	IN	706.2	13:35	03/10/07	00:09	7.9
10.2	I80 $	I90 $	PORTAGE	W	I80 I90	IN	716.4	13:46	03/10/07	00:20	10.2
0.5	I80		LAKE STATION	NE	I80 I94	IN	716.9	13:46	03/10/07	00:20	0.5
0.5	I80	I94	EAST GARY	E	I80 X16	IN	717.4	13:47	03/10/07	00:21	0.5
3.3	I80	I94	GARY	SE	I65 I80	IN	720.6	13:50	03/10/07	00:24	3.3
9.3	I80	I94	HAMMOND		I80 X2	IN	730.0	14:00	03/10/07	00:34	9.9
1.5	I80	I94	HAMMOND	W	I80 X1	IN	731.4	14:02	03/10/07	00:36	1.6
0.9	I80	I94	crossing state border IL/IN			BD	732.3	14:03	03/10/07	00:37	0.9
3.0	I80	I94	LANSING	W	I294I94	IL	735.2	14:06	03/10/07	00:40	3.1
4.9	I294$	I80 $	HOMEWOOD	NW	I294I80	IL	740.2	14:11	03/10/07	00:45	5.3
1.5	I294$		MARKHAM	E	I294U6	IL	741.7	14:13	03/10/07	00:47	1.6
5.7	I294$		ALSIP		I294S50	IL	747.4	14:19	03/10/07	00:53	6.0
5.5	I294$		OAK LAWN	W	I294U12	IL	752.9	14:25	03/10/07	00:59	5.9
5.6	I294$		BURR RIDGE	E	I294I55	IL	758.5	14:31	03/10/07	01:05	5.9
1.0	I294$		BURR RIDGE	E	I294R55	IL	759.5	14:32	03/10/07	01:06	1.1
3.4	I294$		HINSDALE		I294U34	IL	762.9	14:36	03/10/07	01:10	3.6
3.6	I294$		HILLSIDE	SW	I294I88	IL	766.5	14:40	03/10/07	01:14	3.8
0.6	I294$		HILLSIDE	NW	I290I294	IL	767.1	14:41	03/10/07	01:15	0.6
2.0	I290		ELMHURST		I290X13	IL	769.1	14:43	03/10/07	01:17	2.2
2.8	I290		WOOD DALE	S	I290X10	IL	771.9	14:46	03/10/07	01:20	2.9
3.9	I290		ITASCA	SW	I290I355	IL	775.8	14:50	03/10/07	01:24	4.1
1.8	I290		ITASCA	NW	I290EOEX	IL	777.6	14:52	03/10/07	01:26	1.9
5.1	I290		ROLLING MDWS	S	I290I90	IL	782.7	14:58	03/10/07	01:32	5.4
8.5	I90 $		HOFFMAN ESTATS	W	I90 S59	IL	791.2	15:07	03/10/07	01:41	9.0
5.0	I90 $		ELGIN	N	I90 S31	IL	796.2	15:12	03/10/07	01:46	5.3
8.2	I90 $		HUNTLEY	S	I90 S47	IL	804.4	15:21	03/10/07	01:55	8.7
4.5	I90 $		HARMONY	SE	I90 LOCL	IL	808.8	15:26	03/10/07	02:00	4.8
16.5	I90 $		BELVIDERE	SE	I90 LOCL	IL	825.4	15:44	03/10/07	02:18	17.6
7.9	I90 $		CHERRY VALLEY	NE	I39 I90	IL	833.2	15:53	03/10/07	02:27	8.4
17.2	I39 $	I90 $	SOUTH BELOIT	E	I90 S75	IL	850.5	16:12	03/10/07	02:46	18.3
0.3	I39	I90	crossing state border IL/WI			BD	850.8	16:12	03/10/07	02:46	0.3
2.5	I39	I90	BELOIT	NE	I43 I90	WI	853.2	16:14	03/10/07	02:48	2.5
10.0	I39	I90	JANESVILLE	E	I90 X175	WI	863.3	16:24	03/10/07	02:58	9.5
3.2	I39	I90	JANESVILLE	NE	I90 X172	WI	866.4	16:27	03/10/07	03:01	3.2
0.8	I39	I90	JANESVILLE	N	I90 X171	WI	867.2	16:28	03/10/07	03:02	0.8
26.9	I39	I90	OLD IRB			WI	894.2	16:52	03/10/07	03:26	25.5
			Entering Ho-Chunk Reservation tribal lands								
2.2	I39	I90	MADISON	SE	I90 X142	WI	896.4	16:55	03/10/07	03:29	2.1
			Exiting Ho-Chunk Reservation tribal lands								
1.1	I39	I90	OLD IRB			WI	897.5	16:56	03/10/07	03:30	1.2
			Rest 30 minutes								
2.9	I39	I90	MADISON	E	I90 I94	WI	900.4	17:29	03/10/07	04:03	3.1
2.4	I39	I90	MADISON	NE	I90 X135	WI	902.8	17:32	03/10/07	04:06	2.6
27.2	I39	I90	PORTAGE	S	I39 I90	WI	930.0	17:57	03/10/07	04:31	25.7
15.9	I90	I94	LAKE DELTON	SE	I90 X92	WI	945.9	18:11	03/10/07	04:45	15.1
4.9	I90	I94	WISC DELLS	W	I90 X87	WI	950.8	18:16	03/10/07	04:50	4.6
25.8	I90	I94	NEW LISBON	NE	I90 X61	WI	976.7	18:40	03/10/07	05:14	24.4
6.4	I90	I94	VOK AIRPORT		I90 X55	WI	983.1	18:46	03/10/07	05:20	6.0
10.0	I90	I94	TOMAH	E	I90 I94	WI	993.0	18:55	03/10/07	05:29	9.4

20.3	I90	SPARTA	S	I90	X25	WI	1013.3	19:14	03/10/07	05:48	19.2
20.3	I90	ONALASKA	SE	I90	X4	WI	1033.7	19:32	03/10/07	06:06	19.3
1.5	I90	ONALASKA	S	I90	X3	WI	1035.2	19:34	03/10/07	06:08	1.4
1.0	I90	LSE AIRPORT		I90	X2	WI	1036.2	19:35	03/10/07	06:09	0.9
2.2	I90	crossing state border MN/WI				BD	1038.3	19:37	03/10/07	06:11	2.1
0.3	I90	LA CRESCENT	N	I90	X275	MN	1038.6	19:37	03/10/07	06:11	0.3
5.1	I90	DAKOTA		I90	X270	MN	1043.7	19:41	03/10/07	06:15	4.6
18.2	I90	WILSON		I90	X252	MN	1061.9	19:57	03/10/07	06:31	16.4
19.7	I90	ST CHARLES	S	I90	X233	MN	1081.6	20:14	03/10/07	06:48	17.7
14.6	I90	MARION	W	I90	X218	MN	1096.2	20:26	03/10/07	07:00	13.2
8.3	I90	STEWARTVILLE	N	I90	X209	MN	1104.6	20:33	03/10/07	07:07	7.5
16.3	I90	DEXTER	S	I90	X193	MN	1120.9	20:47	03/10/07	07:21	14.6
9.4	I90	BROWNSDALE	S	I90	X183	MN	1130.3	20:55	03/10/07	07:29	8.5
3.5	I90	AUSTIN	E	I90	X180	MN	1133.8	20:58	03/10/07	07:32	3.2
2.8	I90	AUSTIN	N	I90	X177	MN	1136.7	21:01	03/10/07	07:35	2.6
17.4	I90	ALBERT LEA	NE	I35	I90	MN	1154.1	21:16	03/10/07	07:50	15.7
5.0	I90	ALBERT LEA	NW	I90	X154	MN	1159.1	21:20	03/10/07	07:54	4.5
34.7	I90	BLUE EARTH	N	I90	X119	MN	1193.8	21:50	03/10/07	08:24	31.2
		Rest 30 minutes									
17.8	I90	FAIRMONT	N	I90	X102	MN	1211.6	22:35	03/10/07	09:09	16.0
28.2	I90	JACKSON	N	I90	X73	MN	1239.8	22:59	03/10/07	09:33	25.4
28.5	I90	WORTHINGTON	E	I90	X45	MN	1268.3	23:24	03/10/07	09:58	25.7
1.4	I90	WORTHINGTON	N	I90	X43	MN	1269.7	23:25	03/10/07	09:59	1.3
31.1	I90	LUVERNE	S	I90	X12	MN	1300.8	23:52	03/10/07	10:26	28.0
11.4	I90	BEAVER CREEK	W	I90	X1	MN	1312.2	24:01	03/10/07	10:35	10.2
1.0	I90	crossing state border MN/SD				BD	1313.2	24:02	03/10/07	10:36	0.9
11.9	I90	SIOUX FALLS	NE	I229	I90	SD	1325.1	24:12	03/10/07	10:46	10.2
1.1	I90	SIOUX FALLS	N	I90	X399	SD	1326.2	24:13	03/10/07	10:47	1.0
3.0	I90	SIOUX FALLS	NW	I29	I90	SD	1329.2	24:16	03/10/07	10:50	2.8
32.4	I90	SALEM	S	I90	X363	SD	1361.6	24:41	03/10/07	11:15	27.8
19.9	I90	ALEXANDRIA		I90	X344	SD	1381.4	24:57	03/10/07	11:31	17.1
11.8	I90	MITCHELL	SE	I90	X332	SD	1393.3	25:07	03/10/07	11:41	10.2
21.6	I90	PLANKINTON		I90	X310	SD	1414.8	25:24	03/10/07	11:58	18.6
21.2	I90	KIMBALL	E	I90	X289	SD	1436.0	25:41	03/10/07	12:15	18.2
5.2	I90	KIMBALL		I90	X284	SD	1441.2	25:45	03/10/07	12:19	4.4
18.1	I90	CHAMBERLAIN	S	I90	X265	SD	1459.3	26:00	03/10/07	12:34	15.6
		Rest 30 minutes									
39.3	I90	PRESHO		I90	X226	SD	1498.6	27:01	03/10/07	13:35	33.8
13.5	I90	VIVIAN	SW	I90	X212	SD	1512.1	27:12	03/10/07	13:46	11.6
20.1	I90	MURDO		I90	X192	SD	1532.3	27:28	03/10/07	13:02	17.3
42.3	I90	KADOKA		I90	X150	SD	1574.6	28:02	03/10/07	13:36	36.4
6.9	I90	PHILIP	S	I90	X143	SD	1581.5	28:07	03/10/07	13:41	5.9
12.0	I90	CACTUS FLAT		I90	X131	SD	1593.4	28:17	03/10/07	13:51	10.3
19.2	I90	WALL	E	I90	X112	SD	1612.6	28:32	03/10/07	14:06	16.5
46.1	I90	ELLSWORTH AFB		I90	X66	SD	1658.7	29:09	03/10/07	14:43	39.6
5.6	I90	RAPID CITY	NE	I90	X60	SD	1664.3	29:14	03/10/07	14:48	4.8
2.8	I90	RAPID CITY	N	I190	I90	SD	1667.2	29:16	03/10/07	14:50	2.7
27.6	I90	STURGIS	W	I90	X30	SD	1694.8	29:38	03/10/07	15:12	23.8
6.5	I90	WHITEWOOD		I90	X24	SD	1701.3	29:44	03/10/07	15:18	5.6
5.6	I90	ST ONGE	S	I90	X18	SD	1706.9	29:48	03/10/07	15:22	4.8
7.8	I90	SPEARFISH	N	I90	X10	SD	1714.7	29:54	03/10/07	15:28	6.7
10.1	I90	crossing state border SD/WY				BD	1724.8	30:02	03/10/07	15:36	8.7
19.8	I90	SUNDANCE	SE	I90	X187	WY	1744.6	30:18	03/10/07	15:52	17.0
		Rest 30 minutes									
34.1	I90	MOORCROFT	W	I90	X153	WY	1778.7	31:16	03/10/07	16:50	29.4
27.1	I90	GILLETTE	S	I90	X126	WY	1805.8	31:37	03/10/07	17:11	23.3
2.1	I90	GILLETTE	W	I90	X124	WY	1808.0	31:39	03/10/07	17:13	1.8
65.4	I90	BUFFALO	E	I90	X58	WY	1873.4	32:31	03/10/07	18:05	56.3
2.0	I90	BUFFALO	N	I25	I90	WY	1875.4	32:33	03/10/07	18:07	1.7
31.4	I90	SHERIDAN	SE	I90	X25	WY	1906.8	32:58	03/10/07	18:32	27.0
4.4	I90	SHERIDAN	N	I90	X20	WY	1911.2	33:01	03/10/07	18:35	3.8
7.3	I90	RANCHESTER	E	I90	X9	WY	1918.5	33:07	03/10/07	18:41	6.3
15.6	I90	OLD IRB				WY	1934.1	33:20	03/10/07	18:54	13.4
		Entering Crow Reservation tribal lands									
0.0	I90	IRB				MT	1934.1	33:20	03/10/07	18:54	0.0
41.7	I90	CROW AGENCY	S	I90	X510	MT	1975.8	33:58	03/10/07	19:32	39.5
13.9	I90	OLD IRB				MT	1989.7	34:11	03/10/07	19:45	13.1
		Exiting Crow Reservation tribal lands									
1.0	I90	HARDIN	N	I90	X495	MT	1990.7	34:12	03/10/07	19:46	1.0
39.4	I90	BILLINGS	NE	I90	I94	MT	2030.0	34:48	03/10/07	20:22	37.2
		Rest 30 minutes									
3.7	I90	BILLINGS	E	I90	X452	MT	2033.8	35:22	03/10/07	20:56	4.0

2.8	I90		BILLINGS	SE	I90	X450	MT	2036.5	35:25	03/10/07	20:59	2.9
16.0	I90		LAUREL	S	I90	X434	MT	2052.5	35:40	03/10/07	21:14	15.1
25.2	I90		COLUMBUS	N	I90	X408	MT	2077.8	36:04	03/10/07	21:38	23.9
41.4	I90		BIG TIMBER	SW	I90	X367	MT	2119.2	36:42	03/10/07	22:16	39.2
27.2	I90		LIVINGSTON	NE	I90	X340	MT	2146.4	37:07	03/10/07	22:41	25.7
7.5	I90		LIVINGSTON	S	I90	X332	MT	2153.9	37:14	03/10/07	22:48	7.1
23.2	I90		BOZEMAN	E	I90	X309	MT	2177.0	37:35	03/10/07	23:09	21.9
11.0	I90		BELGRADE	S	I90	X298	MT	2188.0	37:45	03/10/07	23:19	10.4
23.4	I90		THREE FORKS	NW	I90	X274	MT	2211.4	38:07	03/10/07	23:41	22.2
18.5	I90		CARDWELL	N	I90	X256	MT	2229.9	38:24	03/10/07	23:58	17.5
4.1	I90		WHITEHALL	N	I90	X249	MT	2234.0	38:28	03/11/07	00:02	3.9
24.9	I90		BUTTE	E	I15	I90	MT	2258.9	38:51	03/11/07	00:25	23.6
			Rest 30 minutes									
1.6	I15	I90	BUTTE		I15	X127	MT	2260.5	39:22	03/11/07	00:56	1.7
6.9	I15	I90	BUTTE	W	I15	I90	MT	2267.4	39:30	03/11/07	01:04	7.3
10.8	I90		OPPORTUNITY	SE	I90	X208	MT	2278.2	39:42	03/11/07	01:16	11.5
32.5	I90		GARRISON		I90	X175	MT	2310.7	40:12	03/11/07	01:46	30.8
21.2	I90		DRUMMOND	N	I90	X153	MT	2331.9	40:31	03/11/07	02:05	20.0
46.4	I90		MILLTOWN	W	I90	X109	MT	2378.3	41:14	03/11/07	02:48	43.9
2.5	I90		MISSOULA	N	I90	X105	MT	2380.8	41:17	03/11/07	02:51	2.5
8.4	I90		FRENCHTOWN	E	I90	X96	MT	2389.3	41:24	03/11/07	02:58	8.0
96.9	I90		crossing state border ID/MT				BD	2486.2	43:01	03/11/07	04:35	96.9
			Rest 30 minutes									
23.5	I90		KELLOGG		I90	X50	ID	2509.6	43:53	03/11/07	04:27	22.2
14.4	I90		OLD IRB				ID	2524.1	44:06	03/11/07	04:40	13.6
0.0	I90		OLD IRB				ID	2524.1	44:06	03/11/07	04:40	0.0
0.5	I90		OLD IRB				ID	2524.5	44:07	03/11/07	04:41	0.4
0.0	I90		OLD IRB				ID	2524.5	44:07	03/11/07	04:41	0.0
0.3	I90		OLD IRB				ID	2524.9	44:07	03/11/07	04:41	0.3
0.2	I90		OLD IRB				ID	2525.1	44:07	03/11/07	04:41	0.2
0.2	I90		OLD IRB				ID	2525.2	44:07	03/11/07	04:41	0.1
0.0	I90		OLD IRB				ID	2525.2	44:07	03/11/07	04:41	0.0
0.7	I90		OLD IRB				ID	2525.9	44:08	03/11/07	04:42	0.7
0.2	I90		ROSE LAKE	NE	I90	X34	ID	2526.1	44:08	03/11/07	04:42	0.2
7.4	I90		OLD IRB				ID	2533.5	44:15	03/11/07	04:49	7.0
0.0	I90		OLD IRB				ID	2533.5	44:15	03/11/07	04:49	0.0
0.2	I90		OLD IRB				ID	2533.7	44:15	03/11/07	04:49	0.2
0.0	I90		OLD IRB				ID	2533.7	44:15	03/11/07	04:49	0.0
0.6	I90		OLD IRB				ID	2534.3	44:16	03/11/07	04:50	0.5
0.1	I90		OLD IRB				ID	2534.4	44:16	03/11/07	04:50	0.1
0.1	I90		OLD IRB				ID	2534.5	44:16	03/11/07	04:50	0.1
3.7	I90		WOLF LODGE		I90	X22	ID	2538.2	44:19	03/11/07	04:53	3.5
8.9	I90		COEUR D'ALENE	N	I90	X12	ID	2547.1	44:28	03/11/07	05:02	8.4
11.5	I90		crossing state border ID/WA				BD	2558.6	44:38	03/11/07	05:12	10.9
18.9	I90		SPOKANE		I90	X281	WA	2577.5	44:57	03/11/07	05:31	18.9
2.0	I90		SPOKANE	W	I90	X279	WA	2579.5	44:59	03/11/07	05:33	2.0
1.6	I90		SPOKANE	SW	I90	X277	WA	2581.1	45:01	03/11/07	05:35	1.6
55.8	I90		RITZVILLE		I90	X221	WA	2636.9	45:57	03/11/07	06:31	55.8
			Rest 30 minutes									
1.1	I90		RITZVILLE	SW	I90	X220	WA	2638.0	46:28	03/11/07	07:02	1.1
29.8	U395		HATTON	E	U395	S26	WA	2667.8	47:03	03/11/07	07:37	33.9
18.6	S26		OTHELLO	SE	S17	S26	WA	2686.3	47:26	03/11/07	08:00	21.2
2.0	S26		OTHELLO	S	S24	S26	WA	2688.4	47:28	03/11/07	08:02	2.3
5.1	S24		OTHELLO	S	S24	LOCL	WA	2693.4	47:34	03/11/07	08:08	5.8
30.4	S24		VERNITA	NE	S24	S243	WA	2723.8	48:11	03/11/07	08:45	34.6
5.4	S24		VERNITA	SE	S24	S240	WA	2729.1	48:17	03/11/07	08:51	6.1
4.4	S240		HANFORD RPSTRY				WA	2733.5	48:23	03/11/07	08:57	5.4

Total elapsed time: 48:23 Total trip mileage: 2733.5 Impedance: 2621.4

Mileage by State :

ID:	72.4	IL:	118.5	IN:	151.2	MD:	153.8	MN:	274.9	MT:	552.1
OH:	239.9	PA:	187.4	SD:	411.6	WA:	174.9	WI:	187.6	WY:	209.2

Mileage by Sign Type:
1-INTERSTATE: 2594.2 2-US: 30.1 3-STATE: 107.9 6-LOCAL: 1.3

Mileage by Lane Type:
1-Multi-Lane Controlled Access: 2600.4 3-Multi-Lane Divided Highway: 36.0
5-Principle Road: 39.8 6-Through Road: 56.0
7-Other: 1.3

Mileage by Tribal Lands:
Total Outside Tribal Lands : 2675.7
Total Inside Tribal Lands : 57.8

Crow Reservation : 55.6 Ho-Chunk Reservation : 2.2

Supporting RADTRAN Output for ER Section 5.11 for CCNPP Unit 3:

RADTRAN CCNPP CASE: UNIRRADATED FUEL w/TRAGIS DATA

```
          RUN DATE: [ 08-MAR-07 AT 12:19:24 ]            PAGE    1


  RRRR    AAA   DDDD   TTTTT  RRRR    AAA   N   N  55555         6
  R   R  A   A  D   D    T    R   R  A   A  NN  N  5             6
  R   R  A   A  D   D    T    R   R  A   A  N N N  5             6
  RRRR   A   A  D   D    T    RRRR   A   A  N  NN  5555          6666
  R R    AAAAA  D   D    T    R R    AAAAA  N   N      5         6   6
  R  R   A   A  D   D    T    R  R   A   A  N   N  5   5         6   6
  R   R  A   A  DDDD     T    R   R  A   A  N   N  5555      *    666

                         RADTRAN 5.6   February 20, 2006

                                 INPUT ECHO
                                 ----------


 && test
 TITLE Unirradiated Fuel Truck from WA to CCNPP
 INPUT STANDARD
STD: 0 10 18                              && DIMEN=NSEV NRAD NAREAS
STD: 1 3 3 0                              && PARM=IRNKC IANA ISEN IPSQSB
STD: .TRUE. .FALSE.                       && FORM = UNIT, SI-UNITS?
STD: 2.3E12                               && NEVAL FOR CF252
STD: 9.25E5 5.77E6 1.27E6                 && RPCTHY FOR I125, I129, I131
STD: 0.0 0.0 0.0 0.0 0.0                  && TRANSFER GAMMA
STD: 7.42E-3 2.02E-2 6.17E-5 3.17E-8 0.0  && TRANSFER NEUTRON
STD: 30  24                               && MITDDIST  MITDVEL
STD: 1  2   .0018                         && ITRAIN FMINCL DDRWEF
STD:    33    68    105   244   369               && CENTER LINE
STD:   561  1018   1628  2308  4269               && DISTANCES
STD:  5468 11136  13097 21334 40502               && FOR AVERAGE
STD: 69986 89860 120878 0 0 0 0 0 0 0 0 0 0 0 0   && US CLOUD
STD: 4.59E+02 1.53E+03 3.94E+03 1.25E+04 3.04E+04 6.85E+04 1.76E+05 4.45E+05
STD: 8.59E+05 2.55E+06 4.45E+06 1.03E+07 2.16E+07 5.52E+07 1.77E+08 4.89E+08
STD: 8.12E+08 1.35E+09 0 0 0 0 0 0 0 0 0 0 0 0     && AREADA
STD: 3.42E-03 1.72E-03 8.58E-04 3.42E-04 1.72E-04 8.58E-05 3.42E-05 1.72E-05
STD:  8.58E-06 3.42E-06 1.72E-06 8.58E-07 3.42E-07 1.72E-07 8.58E-08 5.42E-
08
STD:  4.30E-08 3.42E-08 0 0 0 0 0 0 0 0 0 0 0 0     && DFLEV
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0 && RADIST
STD: 0.5                                 && SMLPKG
STD: 1.0  0.87  0.018                    && SHIELDING FACTORS RR  RS  RU
STD:  30  30  800                        && OFFLINK {FREEWAY}
STD:  27  30  800                        && OFFLINK {NON-FREEWAY}
STD:   5   8  800                        && OFFLINK {CITY STREETS}
STD:  30  30  800                        && OFFLINK {RAILWAY}
STD: 200 200 1000                        && OFFLINK {WATERWAY}
```

```
STD: 15  3  3  3  4                    && ONLINK {FWAY NONFWY STREET RAIL
ADJ}
STD: 6.0  4  40.0                      && RPD FNOATT INTERDICT
STD: 0.05   0.2   3.3E-4               && BDF CULVL BRATE
STD: 0.9   0.1                         && UBF USWF
STD: 1.0  10.0 1.0                     && EVACUATION SURVEY CAMPAIGN
```


Unirradiated Fuel Truck from WA to CCNPP

```
STD: 0.0  0.0     1.5E-8  5.3E-8       && HIGHWAY - RURAL - NONRAD
STD: 0.0  0.0     3.7E-9  1.3E-8       && HIGHWAY - SUBURBAN - NONRAD
STD: 0.0  0.0     2.1E-9  7.5E-9       && HIGHWAY - URBAN - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8      && GENERAL FREIGHT - R - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8      && GENERAL FREIGHT - S - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8      && GENERAL FREIGHT - U - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6      && DEDICATED RAIL - R - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6      && DEDICATED RAIL - S - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6      && DEDICATED RAIL - U - NONRAD
STD: 0.0 0.0 0.0 0.0 0.0 0.0           && PSPROB
STD: 0.67  0.67  0.42                  && TIMENDE NON-DISPERSAL EVAC TIME
(LCF&EARLY)
STD: 2 2 1                             && FLAGS=IUOPT IACC REGCHECK
STD: 5E-4, 4E-4, 1.0E-4                && LCFCON(1), LCFCON(2), GECON
STD: R5INGEST.BIN                      && INGESTION FILE
 OUTPUT BQ_SV
 FORM UNIT
 DIMEN 1 10 18
 PARM 1 1 1 0
 SEVERITY
    NPOP=1
       NMODE=1
        0.1

    NPOP=2
       NMODE=1
        0.1

    NPOP=3
       NMODE=1
        0.1

 RELEASE
    GROUP=GROUP_1
       RFRAC
          0.0

       AERSOL
          0.0

       RESP
          0.0

       LOS
          0.0
```

```
      DEPVEL 1.0
PACKAGE PACKAGE_1 0.1 1.0 0.0 7.3
   CO60 0.1 GROUP_1
   U235 0.1 GROUP_1
```



```
END
VEHICLE -1 VEHICLE_1 1.00E-01 1.0 0.0 7.3 1.0 2.0 3.1 1.0 1.0
      PACKAGE_1 1.0
FLAGS
   IACC 2
   IUOPT 2
   REGCHECK 1
MODSTD
   DISTOFF FREEWAY 3.00E01 3.00E01 8.00E02
   DISTOFF SECONDARY 2.70E01 3.00E01 8.00E02
   DISTOFF STREET 5.00E00 8.00E00 8.00E02
   DISTON
     FREEWAY 1.50E01
     SECONDARY 3.00E00
     STREET 3.00E00
     ADJACENT 4.00E00
   BDF 5.00E-02
   BRATE 3.30E-04
   CULVL 2.00E-01
   EVACUATION 1.00E00
   GECON 1.00E-04
   INTERDICT 4.00E01
   LCFCON 5.00E-04 4.00E-04
   SURVEY 1.00E01
   UBF 5.20E-01
   USWF 4.80E-01
   CAMPAIGN 8.33E-02
   MITDDIST 3.00E01
   MITDVEL 2.40E01
   RPD 6.00E00
   RR 1.00E00
   RU 1.00E00
   RS 1.00E00
   SMALLPKG 5.00E-01
   RPCTHYROID
     I131  1.27E06
EOF
LINK LINK_1 VEHICLE_1 3322.5 88.49 1.6 11.7 530.0 0.0010 0.0 R 1 1.0
LINK LINK_2 VEHICLE_1 953.6 88.49 1.6 309.3 760.0 0.0010 0.0 S 1 1.0
LINK LINK_3 VEHICLE_1 104.9 88.49 1.6 2324.3 2400.0 0.0010 0.0 U 1 1.0

STOP STOP_1 VEHICLE_1 64300.0 1.0 10.0 1.0 6.2

HANDLING HANDLE_1 VEHICLE_1 1.0 10.0 0.01

EOF
```

Unirradiated Fuel Truck from WA to CCNPP

NON-RADIOLOGICAL DATA (ACCIDENTS and FATALITIES)
****

HIGHWAY

	ACCIDENT RATE	ACCIDENTS	FATALITIES
LINK_1	1.00E-03	3.32E+00	0.00E+00
LINK_2	1.00E-03	9.54E-01	0.00E+00
LINK_3	1.00E-03	1.05E-01	0.00E+00
TOTALS:	3.00E-03	4.38E+00	0.00E+00

RUN DATE: [08-MAR-07 AT 12:19:24] PAGE 5

Unirradiated Fuel Truck from WA to CCNPP

REGULATORY CHECKS

THE SHIPMENT BY VEHICLE_1 IS DESIGNATED AS EXCLUSIVE USE
BUT IS NOT REQUIRED TO BE SO DESIGNATED BY REGULATIONS

RUN DATE: [08-MAR-07 AT 12:19:24] PAGE 6

Unirradiated Fuel Truck from WA to CCNPP

INCIDENT-FREE SUMMARY
******** **** *******

IN-TRANSIT POPULATION EXPOSURE IN PERSON-SV

	PASSENGER	CREW	OFF LINK	ON LINK	TOTALS
LINK_1	0.00E+00	1.77E-05	1.38E-07	2.61E-06	2.05E-05
LINK_2	0.00E+00	5.09E-06	1.05E-06	1.07E-06	7.21E-06
LINK_3	0.00E+00	5.60E-07	8.68E-07	3.73E-07	1.80E-06
RURAL	0.00E+00	1.77E-05	1.38E-07	2.61E-06	2.05E-05
SUBURB	0.00E+00	5.09E-06	1.05E-06	1.07E-06	7.21E-06
URBAN	0.00E+00	5.60E-07	8.68E-07	3.73E-07	1.80E-06
TOTALS:	0.00E+00	2.34E-05	2.06E-06	4.06E-06	2.95E-05

MAXIMUM INDIVIDUAL IN-TRANSIT DOSE

VEHICLE_1 5.79E-11 SV

STOP EXPOSURE IN PERSON-SV

ANNULAR AREA	STOP_1	8.73E-05
	TOTAL:	8.73E-05

HANDLING EXPOSURE IN PERSON-SV

HANDLING	VEHICLE	MATERIAL	METHOD	DOSE
HANDLE_1	VEHICLE_1	PACKAGE_1	LINE-SOURCE	3.89E-09
			TOTAL:	3.89E-09

EOI
END OF RUN
SUCCESSFUL COMPLETION

RADTRAN CCNPP CASE: IRRADATED FUEL w/ TRAGIS DATA

```
                    RUN DATE: [ 08-MAR-07 AT 08:51:58 ]            PAGE    1

  RRRR    AAA   DDDD   TTTTT  RRRR    AAA   N   N  55555         6
  R   R  A   A  D   D    T    R   R  A   A  NN  N  5             6
  R   R  A   A  D   D    T    R   R  A   A  N N N  5             6
  RRRR   A   A  D   D    T    RRRR   A   A  N  NN  5555          6666
  R R    AAAAA  D   D    T    R R    AAAAA  N   N      5         6   6
  R  R   A   A  D   D    T    R  R   A   A  N   N  5   5         6   6
  R   R  A   A  DDDD     T    R   R  A   A  N   N  5555      *    666

                          RADTRAN 5.6   February 20, 2006

                                  INPUT ECHO
                                  ----------


 && test
 TITLE Irradiated Fuel Truck from CCNPP to Yucca Mt.
 INPUT STANDARD
STD: 0 10 18                              && DIMEN=NSEV NRAD NAREAS
STD: 1 3 3 0                              && PARM=IRNKC IANA ISEN IPSQSB
STD: .TRUE. .FALSE.                       && FORM = UNIT, SI-UNITS?
STD: 2.3E12                               && NEVAL FOR CF252
STD: 9.25E5 5.77E6 1.27E6                 && RPCTHY FOR I125, I129, I131
STD: 0.0 0.0 0.0 0.0 0.0                  && TRANSFER GAMMA
STD: 7.42E-3 2.02E-2 6.17E-5 3.17E-8 0.0  && TRANSFER NEUTRON
STD: 30  24                               && MITDDIST  MITDVEL
STD: 1  2   .0018                         && ITRAIN FMINCL DDRWEF
STD:    33    68    105   244   369              && CENTER LINE
STD:   561  1018   1628  2308  4269              && DISTANCES
STD:  5468 11136  13097 21334 40502              && FOR AVERAGE
STD: 69986 89860 120878 0 0 0 0 0 0 0 0 0 0 0 0  && US CLOUD
STD: 4.59E+02 1.53E+03 3.94E+03 1.25E+04 3.04E+04 6.85E+04 1.76E+05 4.45E+05
STD: 8.59E+05 2.55E+06 4.45E+06 1.03E+07 2.16E+07 5.52E+07 1.77E+08 4.89E+08
STD: 8.12E+08 1.35E+09 0 0 0 0 0 0 0 0 0 0 0 0     && AREADA
STD: 3.42E-03 1.72E-03 8.58E-04 3.42E-04 1.72E-04 8.58E-05 3.42E-05 1.72E-05
STD:  8.58E-06 3.42E-06 1.72E-06 8.58E-07 3.42E-07 1.72E-07 8.58E-08 5.42E-
08
STD:  4.30E-08 3.42E-08 0 0 0 0 0 0 0 0 0 0 0 0     && DFLEV
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0 && RADIST
STD: 0.5                              && SMLPKG
STD: 1.0  0.87  0.018                 && SHIELDING FACTORS RR  RS  RU
STD:  30  30  800                     && OFFLINK {FREEWAY}
STD:  27  30  800                     && OFFLINK {NON-FREEWAY}
STD:   5   8  800                     && OFFLINK {CITY STREETS}
STD:  30  30  800                     && OFFLINK {RAILWAY}
STD: 200 200 1000                     && OFFLINK {WATERWAY}
STD: 15  3  3  3  4                   && ONLINK {FWAY NONFWY STREET RAIL
ADJ}
STD: 6.0  4  40.0                     && RPD FNOATT INTERDICT
```

```
STD: 0.05   0.2   3.3E-4                && BDF CULVL BRATE
STD: 0.9   0.1                          && UBF USWF
STD: 1.0  10.0 1.0                      && EVACUATION SURVEY CAMPAIGN
```


Irradiated Fuel Truck from CCNPP to Yucca Mt.

```
STD: 0.0  0.0     1.5E-8  5.3E-8      && HIGHWAY - RURAL - NONRAD
STD: 0.0  0.0     3.7E-9  1.3E-8      && HIGHWAY - SUBURBAN - NONRAD
STD: 0.0  0.0     2.1E-9  7.5E-9      && HIGHWAY - URBAN - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - R - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - S - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - U - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - R - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - S - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - U - NONRAD
STD: 0.0 0.0 0.0 0.0 0.0 0.0          && PSPROB
STD: 0.67  0.67  0.42                 && TIMENDE NON-DISPERSAL EVAC TIME
(LCF&EARLY)
STD: 2 2 1                            && FLAGS=IUOPT IACC REGCHECK
STD: 5E-4, 4E-4, 1.0E-4               && LCFCON(1), LCFCON(2), GECON
STD: R5INGEST.BIN                     && INGESTION FILE
 OUTPUT BQ_SV
 FORM UNIT
 DIMEN 1 10 18
 PARM 1 1 1 0
 SEVERITY
    NPOP=1
       NMODE=1
        0.1

    NPOP=2
       NMODE=1
        0.1

    NPOP=3
       NMODE=1
        0.1

 RELEASE
    GROUP=GROUP_1
       RFRAC
          0.0

       AERSOL
          0.0

       RESP
          0.0

       LOS
          0.0

       DEPVEL 1.0
 PACKAGE PACKAGE_1 14.0 1.0 0.0 5.2
    CO60 0.1 GROUP_1
```

```
   U235 0.1 GROUP_1
```



```
END
VEHICLE -1 VEHICLE_1 1.40E01 1.0 0.0 5.2 1.0 2.0 5.45 1.0 1.0
      PACKAGE_1 1.0
FLAGS
   IACC 2
   IUOPT 2
   REGCHECK 1
MODSTD
   DISTOFF FREEWAY 3.00E01 3.00E01 8.00E02
   DISTOFF SECONDARY 2.70E01 3.00E01 8.00E02
   DISTOFF STREET 5.00E00 8.00E00 8.00E02
   DISTON
     FREEWAY 1.50E01
     SECONDARY 3.00E00
     STREET 3.00E00
     ADJACENT 4.00E00
   BDF 5.00E-02
   BRATE 3.30E-04
   CULVL 2.00E-01
   EVACUATION 1.00E00
   GECON 1.00E-04
   INTERDICT 4.00E01
   LCFCON 5.00E-04 4.00E-04
   SURVEY 1.00E01
   UBF 5.20E-01
   USWF 4.80E-01
   CAMPAIGN 8.33E-02
   MITDDIST 3.00E01
   MITDVEL 2.40E01
   RPD 6.00E00
   RR 1.00E00
   RU 1.80E-02
   RS 8.70E-01
   SMALLPKG 5.00E-01
   RPCTHYROID
     I131  1.27E06
EOF
LINK LINK_1 VEHICLE_1 3275.2 88.49 1.5 11.5 530.0 0.0010 0.0 R 1 1.0
LINK LINK_2 VEHICLE_1 914.0 88.49 1.5 315.5 760.0 0.0010 0.0 S 1 1.0
LINK LINK_3 VEHICLE_1 123.8 88.49 1.5 2381.8 2400.0 0.0010 0.0 U 1 1.0

STOP STOP_1 VEHICLE_1 30000.0 1.0 10.0 1.0 5.0
STOP STOP_2 VEHICLE_1 340.0 10.0 800.0 0.2 5.0

HANDLING HANDLE_1 VEHICLE_1 1.0 10.0 0.01

EOF
```

NON-RADIOLOGICAL DATA (ACCIDENTS and FATALITIES)
****

HIGHWAY

	ACCIDENT RATE	ACCIDENTS	FATALITIES
LINK_1	1.00E-03	3.28E+00	0.00E+00
LINK_2	1.00E-03	9.14E-01	0.00E+00
LINK_3	1.00E-03	1.24E-01	0.00E+00
TOTALS:	3.00E-03	4.31E+00	0.00E+00

RUN DATE: [08-MAR-07 AT 08:51:58] PAGE 5

Irradiated Fuel Truck from CCNPP to Yucca Mt.

REGULATORY CHECKS

FOR VEHICLE_1 THE DOSE RATE AT 2 METERS COULD EXCEED 0.1 MSV/HR
THE VEHICLE DOSE RATE HAS BEEN RESET TO EQUAL 0.13 MSV/HR

RUN DATE: [08-MAR-07 AT 08:51:58] PAGE 6

Irradiated Fuel Truck from CCNPP to Yucca Mt.

INCIDENT-FREE SUMMARY
******** **** *******

IN-TRANSIT POPULATION EXPOSURE IN PERSON-SV
*INPUT DATA WERE ALTERED WITH REGULATORY CHECKS

	PASSENGER	CREW	OFF LINK	ON LINK	TOTALS
LINK_1	0.00E+00	7.91E-04	1.28E-05	2.31E-04	1.03E-03
LINK_2	0.00E+00	2.21E-04	8.54E-05	9.23E-05	3.99E-04
LINK_3	0.00E+00	2.99E-05	1.81E-06	3.95E-05	7.12E-05
RURAL	0.00E+00	7.91E-04	1.28E-05	2.31E-04	1.03E-03
SUBURB	0.00E+00	2.21E-04	8.54E-05	9.23E-05	3.99E-04
URBAN	0.00E+00	2.99E-05	1.81E-06	3.95E-05	7.12E-05
TOTALS:	0.00E+00	1.04E-03	1.00E-04	3.62E-04	1.50E-03

MAXIMUM INDIVIDUAL IN-TRANSIT DOSE

```
                    VEHICLE_1   5.96E-09 SV

                STOP EXPOSURE IN PERSON-SV

            ANNULAR AREA        STOP_1   3.14E-03
            ANNULAR AREA        STOP_2   1.36E-05

                                TOTAL:   3.16E-03


               HANDLING EXPOSURE IN PERSON-SV

      HANDLING    VEHICLE     MATERIAL     METHOD         DOSE
      HANDLE_1  VEHICLE_1    PACKAGE_1   POINT-SOURCE    1.56E-07

                                                TOTAL:   1.56E-07
EOI
END OF RUN
SUCCESSFUL COMPLETION
```

RADTRAN CCNPP CASE: RADIOACTIVE WASTE w/ TRAGIS DATA

```
          RUN DATE: [ 09-MAR-07 AT 11:40:51 ]            PAGE    1


  RRRR    AAA   DDDD   TTTTT  RRRR    AAA   N   N  55555         6
  R   R  A   A  D   D    T    R   R  A   A  NN  N  5             6
  R   R  A   A  D   D    T    R   R  A   A  N N N  5             6
  RRRR   A   A  D   D    T    RRRR   A   A  N  NN  5555          6666
  R R    AAAAA  D   D    T    R R    AAAAA  N   N      5         6   6
  R  R   A   A  D   D    T    R  R   A   A  N   N  5   5         6   6
  R   R  A   A  DDDD     T    R   R  A   A  N   N  5555      *    666

                         RADTRAN 5.6   February 20, 2006

                                INPUT ECHO
                                ----------


 && test
 TITLE Radioactive Waste Truck from CCNPP to Hanford Rep.
 INPUT STANDARD
STD: 0 10 18                              && DIMEN=NSEV NRAD NAREAS
STD: 1 3 3 0                              && PARM=IRNKC IANA ISEN IPSQSB
STD: .TRUE. .FALSE.                       && FORM = UNIT, SI-UNITS?
STD: 2.3E12                               && NEVAL FOR CF252
STD: 9.25E5 5.77E6 1.27E6                 && RPCTHY FOR I125, I129, I131
STD: 0.0 0.0 0.0 0.0 0.0                  && TRANSFER GAMMA
STD: 7.42E-3 2.02E-2 6.17E-5 3.17E-8 0.0  && TRANSFER NEUTRON
STD: 30  24                               && MITDDIST  MITDVEL
STD: 1  2   .0018                         && ITRAIN FMINCL DDRWEF
STD:    33    68    105   244   369               && CENTER LINE
STD:   561  1018   1628  2308  4269               && DISTANCES
STD:  5468 11136  13097 21334 40502               && FOR AVERAGE
STD: 69986 89860 120878 0 0 0 0 0 0 0 0 0 0 0 0   && US CLOUD
STD: 4.59E+02 1.53E+03 3.94E+03 1.25E+04 3.04E+04 6.85E+04 1.76E+05 4.45E+05
STD: 8.59E+05 2.55E+06 4.45E+06 1.03E+07 2.16E+07 5.52E+07 1.77E+08 4.89E+08
STD: 8.12E+08 1.35E+09 0 0 0 0 0 0 0 0 0 0 0 0     && AREADA
STD: 3.42E-03 1.72E-03 8.58E-04 3.42E-04 1.72E-04 8.58E-05 3.42E-05 1.72E-05
STD:  8.58E-06 3.42E-06 1.72E-06 8.58E-07 3.42E-07 1.72E-07 8.58E-08 5.42E-
08
STD:  4.30E-08 3.42E-08 0 0 0 0 0 0 0 0 0 0 0 0     && DFLEV
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0 && RADIST
STD: 0.5                              && SMLPKG
STD: 1.0  0.87  0.018                 && SHIELDING FACTORS RR  RS  RU
STD:  30  30  800                     && OFFLINK {FREEWAY}
STD:  27  30  800                     && OFFLINK {NON-FREEWAY}
STD:   5   8  800                     && OFFLINK {CITY STREETS}
STD:  30  30  800                     && OFFLINK {RAILWAY}
STD: 200 200 1000                     && OFFLINK {WATERWAY}
STD: 15  3  3  3  4                   && ONLINK {FWAY NONFWY STREET RAIL
ADJ}
STD: 6.0  4  40.0                     && RPD FNOATT INTERDICT
STD: 0.05   0.2   3.3E-4              && BDF CULVL BRATE
STD: 0.9   0.1                        && UBF USWF
```

```
STD: 1.0  10.0 1.0                    && EVACUATION SURVEY CAMPAIGN
```


Radioactive Waste Truck from CCNPP to Hanford Rep.

```
STD: 0.0  0.0     1.5E-8  5.3E-8      && HIGHWAY - RURAL - NONRAD
STD: 0.0  0.0     3.7E-9  1.3E-8      && HIGHWAY - SUBURBAN - NONRAD
STD: 0.0  0.0     2.1E-9  7.5E-9      && HIGHWAY - URBAN - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - R - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - S - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - U - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - R - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - S - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - U - NONRAD
STD: 0.0 0.0 0.0 0.0 0.0 0.0          && PSPROB
STD: 0.67  0.67  0.42                 && TIMENDE NON-DISPERSAL EVAC TIME
(LCF&EARLY)
STD: 2 2 1                            && FLAGS=IUOPT IACC REGCHECK
STD: 5E-4, 4E-4, 1.0E-4               && LCFCON(1), LCFCON(2), GECON
STD: R5INGEST.BIN                     && INGESTION FILE
 OUTPUT BQ_SV
 FORM UNIT
 DIMEN 1 10 18
 PARM 1 1 1 0
 SEVERITY
    NPOP=1
       NMODE=1
        0.1

    NPOP=2
       NMODE=1
        0.1

    NPOP=3
       NMODE=1
        0.1

 RELEASE
    GROUP=GROUP_1
       RFRAC
          0.0

       AERSOL
          0.0

       RESP
          0.0

       LOS
          0.0

       DEPVEL 1.0
 PACKAGE PACKAGE_1 14.0 1.0 0.0 5.2
    CO60 0.1 GROUP_1
    U235 0.1 GROUP_1
```

```
END
VEHICLE -1 VEHICLE_1 1.40E01 1.0 0.0 5.2 1.0 2.0 5.45 1.0 1.0
    PACKAGE_1 1.0
FLAGS
   IACC 2
   IUOPT 2
   REGCHECK 1
MODSTD
   DISTOFF FREEWAY 3.00E01 3.00E01 8.00E02
   DISTOFF SECONDARY 2.70E01 3.00E01 8.00E02
   DISTOFF STREET 5.00E00 8.00E00 8.00E02
   DISTON
     FREEWAY 1.50E01
     SECONDARY 3.00E00
     STREET 3.00E00
     ADJACENT 4.00E00
   BDF 5.00E-02
   BRATE 3.30E-04
   CULVL 2.00E-01
   EVACUATION 1.00E00
   GECON 1.00E-04
   INTERDICT 4.00E01
   LCFCON 5.00E-04 4.00E-04
   SURVEY 1.00E01
   UBF 5.20E-01
   USWF 4.80E-01
   CAMPAIGN 8.33E-02
   MITDDIST 3.00E01
   MITDVEL 2.40E01
   RPD 6.00E00
   RR 1.00E00
   RU 1.80E-02
   RS 8.70E-01
   SMALLPKG 5.00E-01
   RPCTHYROID
     I131  1.27E06
EOF
LINK LINK_1 VEHICLE_1 3320.5 88.49 1.5 11.6 530.0 0.0010 0.0 R 1 1.0
LINK LINK_2 VEHICLE_1 955.5 88.49 1.5 322.4 760.0 0.0010 0.0 S 1 1.0
LINK LINK_3 VEHICLE_1 123.2 88.49 1.5 2349.5 2400.0 0.0010 0.0 U 1 1.0

STOP STOP_1 VEHICLE_1 30000.0 1.0 10.0 1.0 7.5
STOP STOP_2 VEHICLE_1 340.0 10.0 800.0 0.2 7.5

HANDLING HANDLE_1 VEHICLE_1 1.0 10.0 0.01

EOF
```

NON-RADIOLOGICAL DATA (ACCIDENTS and FATALITIES)
****

HIGHWAY

	ACCIDENT RATE	ACCIDENTS	FATALITIES
LINK_1	1.00E-03	3.32E+00	0.00E+00
LINK_2	1.00E-03	9.56E-01	0.00E+00
LINK_3	1.00E-03	1.23E-01	0.00E+00
TOTALS:	3.00E-03	4.40E+00	0.00E+00

RUN DATE: [09-MAR-07 AT 11:40:51] PAGE 5

Radioactive Waste Truck from CCNPP to Hanford Rep.

REGULATORY CHECKS

FOR VEHICLE_1 THE DOSE RATE AT 2 METERS COULD EXCEED 0.1 MSV/HR
THE VEHICLE DOSE RATE HAS BEEN RESET TO EQUAL 0.13 MSV/HR

RUN DATE: [09-MAR-07 AT 11:40:51] PAGE 6

Radioactive Waste Truck from CCNPP to Hanford Rep.

INCIDENT-FREE SUMMARY
******** **** *******

IN-TRANSIT POPULATION EXPOSURE IN PERSON-SV
*INPUT DATA WERE ALTERED WITH REGULATORY CHECKS

	PASSENGER	CREW	OFF LINK	ON LINK	TOTALS
LINK_1	0.00E+00	8.02E-04	1.31E-05	2.34E-04	1.05E-03
LINK_2	0.00E+00	2.31E-04	9.12E-05	9.65E-05	4.19E-04
LINK_3	0.00E+00	2.98E-05	1.77E-06	3.93E-05	7.08E-05
RURAL	0.00E+00	8.02E-04	1.31E-05	2.34E-04	1.05E-03
SUBURB	0.00E+00	2.31E-04	9.12E-05	9.65E-05	4.19E-04
URBAN	0.00E+00	2.98E-05	1.77E-06	3.93E-05	7.08E-05
TOTALS:	0.00E+00	1.06E-03	1.06E-04	3.70E-04	1.54E-03

MAXIMUM INDIVIDUAL IN-TRANSIT DOSE

```
                    VEHICLE_1   5.96E-09 SV

                 STOP EXPOSURE IN PERSON-SV

            ANNULAR AREA        STOP_1   4.71E-03
            ANNULAR AREA        STOP_2   2.03E-05

                                TOTAL:   4.74E-03


              HANDLING EXPOSURE IN PERSON-SV

      HANDLING    VEHICLE     MATERIAL     METHOD          DOSE
      HANDLE_1  VEHICLE_1    PACKAGE_1   POINT-SOURCE    1.56E-07

                                                TOTAL:   1.56E-07
EOI
END OF RUN
SUCCESSFUL COMPLETION
```

Supporting TRAGIS Output for ER Section 7.4 for CCNPP Unit 3:

TRAGIS CCNPP CASE: UNIRRADATED FUEL

```
TRAGIS Routing Engine Version 1.5.4        -- Highway Data Network   4.0

FROM:    RICHLAND                    WA         Leaving  : 04/05/07 05:05
TO  :    CALVERT CLIFFS NP           MD              Arriving : 04/07/07 08:03


Routing parameters used to calculate the route-

  Routing type: Commercial with 2 driver(s)
    Time bias: 0.70 Mile bias: 0.30, Toll bias: 1.00

  Constraints used on route:
    Prohibit use of links prohibiting truck use
    Prohibit use of ferry crossing


  Miles  Hwy Sign     City           Dir  Junction  State   Dist  Time Date     Hour
-----------------------------------------------------------------------------------------
    0.0               RICHLAND                        WA      0.0 0:00 04/05/07
05:05
   10.1  S240         KENNEWICK      NW   U395S240   WA     10.1 0:13 04/05/07
05:18
    5.8  U395         KENNEWICK      SW   I82 X113   WA     15.9 0:21 04/05/07
05:26
   19.1  I82          PLYMOUTH            I82 X131   WA     35.0 0:40 04/05/07
05:45
    0.7  I82          crossing state border OR/WA    BD     35.6 0:41 04/05/07
05:46
   10.6  I82          HERMISTON      SW   I82 I84    OR     46.2 0:52 04/05/07
05:57
                      Rest  30 minutes
  196.6  I84          ONTARIO        E    I84 X376   OR    242.8 4:57 04/05/07
11:02
    1.3  I84          crossing state border ID/OR    BD    244.1 4:58 04/05/07
11:03
                      Rest  30 minutes
  221.6  I84          RAFT RIVER     W    I84 I86    ID    465.7 8:53 04/05/07
14:58
   54.0  I84          crossing state border ID/UT    BD    519.7 9:43 04/05/07
15:48
   41.8  I84          TREMONTON      W    I15 I84    UT    561.5 10:18 04/05/07
16:23
   39.4  I15    I84   OGDEN          S    I15 I84    UT    600.9 10:52 04/05/07
16:57
   38.5  I84          ECHO                I80 I84    UT    639.5 11:23 04/05/07
17:28
   29.4  I80          crossing state border UT/WY    BD    668.9 11:47 04/05/07
17:52
                      Rest  30 minutes
                      Rest  30 minutes
  360.1  I80          CHEYENNE       S    I80 X362   WY   1028.9 17:35 04/05/07
23:40
   40.5  I80          crossing state border NE/WY    BD   1069.4 18:07 04/06/07
00:12
                      Rest  30 minutes
```

```
  450.5  I80          OMAHA          S    I80 X453    NE   1520.0 24:41 04/06/07
07:46
    2.2  I80          crossing state border IA/NE     BD   1522.1 24:43 04/06/07
07:48
    0.9  I80          COUNCIL BLUFFS SW   I29 I80     IA   1523.0 24:44 04/06/07
07:49
    2.8  I29    I80   COUNCIL BLUFFS SE   I29 I80     IA   1525.8 24:47 04/06/07
07:52
                      Rest  30 minutes
  119.5  I80          DES MOINES     W    I235I35     IA   1645.3 27:08 04/06/07
10:13
   14.2  I35    I80   DES MOINES     N    I235I35     IA   1659.5 27:22 04/06/07
10:27
                      Rest  30 minutes
  167.6  I80          LE CLAIRE      SW   I80 X306    IA   1827.1 30:27 04/06/07
13:32
    0.4  I80          crossing state border IA/IL     BD   1827.4 30:28 04/06/07
13:33
  154.7  I80          HOMEWOOD       NW   I294I80     IL   1982.1 33:16 04/06/07
16:21
    4.9  I294$  I80 $ LANSING        W    I294I94     IL   1987.1 33:22 04/06/07
16:27
    3.0  I80    I94   crossing state border IL/IN     BD   1990.0 33:25 04/06/07
16:30
                      Rest  30 minutes
   15.4  I80    I94   LAKE STATION   NE   I80 I94     IN   2005.4 34:11 04/06/07
17:16
    0.5  I80          PORTAGE        W    I80 I90     IN   2005.9 34:12 04/06/07
17:17
  122.2  I80 $  I90 $ JAMESTOWN      SE   I69 I80     IN   2128.1 36:14 04/06/07
19:19
   13.2  I80 $  I90 $ crossing state border IN/OH     BD   2141.3 36:27 04/06/07
19:32
                      Rest  30 minutes
  141.8  I80 $  I90 $ ELYRIA         NW   I80 I90     OH   2283.0 39:32 04/06/07
23:37
   76.0  I80 $        NORTH JACKSON  NE   I76 I80     OH   2359.0 40:55 04/07/07
01:00
   15.1  I76 $        NORTH LIMA     E    I680I76     OH   2374.1 41:11 04/07/07
01:16
    7.1  I76 $        crossing state border OH/PA     BD   2381.2 41:19 04/07/07
01:24
                      Rest  30 minutes
   75.7  I76 $        NEW STANTON    N    I70 I76     PA   2456.9 43:05 04/07/07
03:10
   86.1  I70 $  I76 $ BREEZEWOOD     SW   I70 I76     PA   2543.0 44:24 04/07/07
04:29
    1.8  I70 $        BREEZEWOOD     E    I70 X147    PA   2544.8 44:27 04/07/07
04:32
    0.3  U30          BREEZEWOOD          I70 U30     PA   2545.1 44:27 04/07/07
04:32
   20.8  I70          WARFORDSBURG   N    I70 X168    PA   2566.0 44:47 04/07/07
04:52
    2.6  I70          crossing state border MD/PA     BD   2568.5 44:49 04/07/07
04:54
   52.8  I70          FREDERICK      S    I270I70     MD   2621.3 45:38 04/07/07
05:43
   32.6  I270         GARRETT PARK   S    I270I495    MD   2654.0 46:08 04/07/07
06:13
    9.0  I495         COLLEGE PARK   NW   I495I95     MD   2663.0 46:18 04/07/07
06:23
   15.8  I495   I95   FORESTVILLE    SE   I95 X11     MD   2678.8 46:35 04/07/07
06:40
                      Rest  30 minutes
```

```
   22.4  S4            SUNDERLAND     S    S2  S4      MD   2701.2 47:03 04/07/07
07:08
   19.8  S2      S4    LUSBY          N    S2  LOCL    MD   2721.0 47:54 04/07/07
07:59
    1.3  LOCAL         CALVERT CLIFFS NP               MD   2722.3 47:58 04/07/07
08:03

Total elapsed time: 47:58      Total trip mileage:  2722.3      Impedance:  2600.7


Mileage by State :
IA:   305.3   ID:   275.6   IL:   162.6   IN:   151.2   MD:   153.8   NE:   452.7
OH:   239.9   OR:   208.5   PA:   187.4   UT:   149.1   WA:    35.6   WY:   400.5


Mileage by Sign Type:
1-INTERSTATE: 2662.6          2-US:    6.2       3-STATE:   52.3       6-LOCAL:
1.3


Mileage by Lane Type:
  1-Multi-Lane Controlled Access:  2676.0       3-Multi-Lane Divided Highway:
41.8
                5-Principle Road:     3.1                              7-Other:
1.3


Mileage by Tribal Lands:
  Total Outside Tribal Lands     :  2695.4
  Total Inside Tribal Lands      :    26.9

Umatilla Reservation                : 26.9




[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800
[ROUTEINFO]
From CITY=RICHLAND
From STATE=WA
From SUBNET=
To CITY=CALVERT CLIFFS NP
To STATE=MD
To SUBNET=
[ID]
Rural - KM= 357.0
Suburban - KM=  79.3
Urban - KM=   7.3
Total - KM= 443.5
Rural Pop Density=  11.3
Suburban Pop Density= 278.7
Urban Pop Density=2219.6
[IL]
Rural - KM= 178.4
```

```
Suburban - KM=  73.0
Urban - KM=  10.2
Total - KM= 261.7
Rural Pop Density=  14.4
Suburban Pop Density= 323.6
Urban Pop Density=2379.1
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[IA]
Rural - KM= 377.8
Suburban - KM= 107.7
Urban - KM=   5.8
Total - KM= 491.3
Rural Pop Density=  16.4
Suburban Pop Density= 272.7
Urban Pop Density=2191.1
[MD]
Rural - KM=  90.3
Suburban - KM= 127.2
Urban - KM=  29.8
Total - KM= 247.4
Rural Pop Density=  23.9
Suburban Pop Density= 386.0
Urban Pop Density=2531.7
[NE]
Rural - KM= 649.1
Suburban - KM=  71.5
Urban - KM=   8.0
Total - KM= 728.5
Rural Pop Density=   9.9
Suburban Pop Density= 270.2
Urban Pop Density=2410.2
[OH]
Rural - KM= 220.0
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
Urban Pop Density=2179.6
[OR]
Rural - KM= 301.0
Suburban - KM=  32.2
Urban - KM=   2.3
Total - KM= 335.5
Rural Pop Density=   8.2
Suburban Pop Density= 313.2
Urban Pop Density=1976.3
[PA]
Rural - KM= 174.1
Suburban - KM= 119.6
```

```
Urban - KM=   7.7
Total - KM= 301.5
Rural Pop Density=  17.0
Suburban Pop Density= 303.9
Urban Pop Density=2123.7
[UT]
Rural - KM= 186.8
Suburban - KM=  51.6
Urban - KM=   1.5
Total - KM= 240.0
Rural Pop Density=   9.7
Suburban Pop Density= 257.8
Urban Pop Density=2112.2
[WA]
Rural - KM=  44.1
Suburban - KM=   8.6
Urban - KM=   4.7
Total - KM=  57.4
Rural Pop Density=   1.5
Suburban Pop Density= 604.4
Urban Pop Density=2293.2
[WY]
Rural - KM= 607.2
Suburban - KM=  33.9
Urban - KM=   3.4
Total - KM= 644.6
Rural Pop Density=   4.9
Suburban Pop Density= 399.4
Urban Pop Density=1966.6
[Total]
Rural - KM=3322.5
Suburban - KM= 953.6
Urban - KM= 104.9
Total - KM=4381.0
Rural Pop Density=  11.7
Suburban Pop Density= 309.3
Urban Pop Density=2324.3
```

TRAGIS CCNPP CASE: IRRADIATED FUEL

TRAGIS Routing Engine Version 1.5.4 -- Highway Data Network 4.0

FROM: CALVERT CLIFFS NP MD Leaving : 03/29/07 13:17
TO : YUCCA MOUNTAIN NV Arriving : 03/31/07 08:44

Routing parameters used to calculate the route-

Routing type: HRCQ Preferred Route with 2 driver(s)
Preferred roads Time bias: 1.00 Mile bias: 0.00, Toll bias: 1.00
Nonpreferred roads Time bias: 0.00 Mile bias: 1.00, Toll bias: 1.00, Penalty factor: 30.0

Constraints used on route:
Prohibit use of links prohibiting truck use
Prohibit use of ferry crossing
Prohibit use of roads with Radioactive materials prohibition
Las Vegas Beltway is considered a preferred route

Miles	Hwy Sign		City	Dir	Junction	State	Dist	Time	Date	Hour
0.0			CALVERT CLIFFS	NP		MD	0.0	0:00	03/29/07	13:17
1.3	LOCAL		LUSBY	N	S2 LOCL	MD	1.3	0:03	03/29/07	13:20
19.8	S2	S4	SUNDERLAND	S	S2 S4	MD	21.1	0:25	03/29/07	13:42
22.4	S4		FORESTVILLE	SE	I95 X11	MD	43.5	0:52	03/29/07	14:09
15.8	I495	I95	COLLEGE PARK	NW	I495I95	MD	59.3	1:09	03/29/07	14:26
9.0	I495		GARRETT PARK	S	I270I495	MD	68.4	1:19	03/29/07	14:36
32.6	I270		FREDERICK	S	I270I70	MD	101.0	1:50	03/29/07	15:07
51.7	I70		HANCOCK	N	I70 X1	MD	152.6	2:37	03/29/07	15:54
69.2	I68		KEYSERS RIDGE		I68 X14	MD	221.8	3:42	03/29/07	16:59
13.6	I68		crossing state border MD/WV			BD	235.4	3:55	03/29/07	17:12
			Rest 30 minutes							
31.6	I68		MORGANTOWN	SW	I68 I79	WV	267.0	4:52	03/29/07	18:09
6.0	I79		STAR CITY	W	I79 X155	WV	273.1	4:57	03/29/07	18:14
5.7	I79		crossing state border PA/WV			BD	278.7	5:02	03/29/07	18:19
34.0	I79		LABORATORY	NE	I70 I79	PA	312.7	5:34	03/29/07	18:51
3.5	I70	I79	WASHINGTON	N	I70 I79	PA	316.2	5:38	03/29/07	18:55
41.1	I79		MARS	W	I79 X76	PA	357.4	6:19	03/29/07	19:36
0.7	S228		WARRENDALE	W	I76 X28	PA	358.1	6:20	03/29/07	19:37
17.9	I76 $		BIG BEAVER	NE	I76 X10	PA	376.0	6:37	03/29/07	19:54
10.0	I76 $		crossing state border OH/PA			BD	386.0	6:47	03/29/07	20:04
22.2	I76 $		NORTH JACKSON	NE	I76 I80	OH	408.2	7:12	03/29/07	20:29
			Rest 30 minutes							
76.0	I80 $		ELYRIA	NW	I80 I90	OH	484.2	9:04	03/29/07	22:21
128.7	I80 $	I90 $	WEST JEFFERSON	N	I80 X13	OH	612.9	11:25	03/30/07	00:42
13.1	I80 $	I90 $	crossing state border IN/OH			BD	625.9	11:39	03/30/07	00:56
			Rest 30 minutes							
135.4	I80 $	I90 $	PORTAGE	W	I80 I90	IN	761.3	14:25	03/30/07	02:42
0.5	I80		LAKE STATION	NE	I80 I94	IN	761.8	14:25	03/30/07	02:42
14.5	I80	I94	HAMMOND	W	I80 X1	IN	776.3	14:41	03/30/07	02:58
0.9	I80	I94	crossing state border IL/IN			BD	777.2	14:42	03/30/07	02:59
3.0	I80	I94	LANSING	W	I294I94	IL	780.1	14:45	03/30/07	03:02
4.9	I294$	I80 $	HOMEWOOD	NW	I294I80	IL	785.1	14:50	03/30/07	03:07
			Rest 30 minutes							
154.4	I80		RAPIDS CITY	W	I80 X1	IL	939.5	18:09	03/30/07	06:26
0.3	I80		crossing state border IA/IL			BD	939.8	18:09	03/30/07	06:26
168.0	I80		DES MOINES	N	I235I35	IA	1107.7	20:45	03/30/07	09:02
14.2	I35	I80	DES MOINES	W	I235I35	IA	1121.9	20:59	03/30/07	09:16
			Rest 30 minutes							
95.7	I80		MINDEN	NW	I680I80	IA	1217.6	22:57	03/30/07	11:14
16.5	I680		LOVELAND	SW	I29 I680	IA	1234.1	23:12	03/30/07	11:29
9.7	I29	I680	CRESCENT	W	I29 I680	IA	1243.8	23:21	03/30/07	11:38
3.0	I680		crossing state border IA/NE			BD	1246.8	23:24	03/30/07	11:41
13.4	I680		OMAHA	SW	I680I80	NE	1260.2	23:39	03/30/07	11:56
			Rest 30 minutes							
422.7	I80		KIMBALL	S	I80 X20	NE	1682.9	29:48	03/30/07	17:05
20.6	I80		crossing state border NE/WY			BD	1703.4	30:05	03/30/07	17:22

		Rest 30 minutes							
		Rest 30 minutes							
382.4	I80	EVANSTON	NE	I80 X18	WY	2085.8	36:11	03/30/07	23:28
18.2	I80	crossing state border UT/WY			BD	2104.0	36:25	03/30/07	23:42
68.4	I80	HOLLADAY	N	I215I80	UT	2172.3	37:20	03/31/07	00:37
10.2	I215	MIDVALE		I15 I215	UT	2182.6	37:29	03/31/07	00:46
		Rest 30 minutes							
294.2	I15	SGU AIRPORT		I15 X6	UT	2476.8	41:58	03/31/07	05:15
6.4	I15	crossing state border AZ/UT			BD	2483.2	42:03	03/31/07	05:20
20.6	I15	LITTLEFIELD		I15 X8	AZ	2503.8	42:20	03/31/07	05:37
8.6	I15	crossing state border AZ/NV			BD	2512.5	42:27	03/31/07	05:44
		Rest 30 minutes							
73.6	I15	N LAS VEGAS	NE	I15 S215	NV	2586.0	43:57	03/31/07	06:14
14.8	C215	LAS VEGAS	NW	U95 C215	NV	2600.8	44:26	03/31/07	06:43
46.1	U95	MERCURY	S	U95 LOCL	NV	2646.9	45:12	03/31/07	07:29
33.1	LOCAL	YUCCA MOUNTAIN			NV	2679.9	46:27	03/31/07	08:44

Total elapsed time: 46:27 Total trip mileage: 2679.9 Impedance: 5984.1

Mileage by State :

AZ:	29.2	IA:	307.1	IL:	162.6	IN:	151.2	MD:	235.4	NE:	456.6
NV:	167.5	OH:	239.9	PA:	107.3	UT:	379.2	WV:	43.3	WY:	400.5

Mileage by Sign Type:
1-INTERSTATE: 2541.8 2-US: 46.1 3-STATE: 42.9 5-COUNTY: 14.8
6-LOCAL: 34.4

Mileage by Lane Type:
1-Multi-Lane Controlled Access: 2548.0 3-Multi-Lane Divided Highway: 96.9
5-Principle Road: 0.7 7-Other: 34.4

Mileage by Tribal Lands:
Total Outside Tribal Lands : 2666.0
Total Inside Tribal Lands : 13.9

Las Vegas Colony : 2.8 Moapa River Reservation : 9.2
Paiute (UT) Reservation : 1.9

[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800
[ROUTEINFO]
From CITY=CALVERT CLIFFS NP
From STATE=MD
From SUBNET=
To CITY=YUCCA MOUNTAIN
To STATE=NV
To SUBNET=
[AZ]
Rural - KM= 46.8
Suburban - KM= 0.3
Urban - KM= 0.0
Total - KM= 47.1
Rural Pop Density= 3.2
Suburban Pop Density= 135.8

```
Urban Pop Density=   0.0
[IL]
Rural - KM= 178.4
Suburban - KM=  73.0
Urban - KM=  10.2
Total - KM= 261.7
Rural Pop Density=  14.4
Suburban Pop Density= 323.6
Urban Pop Density=2379.1
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[IA]
Rural - KM= 393.8
Suburban - KM=  95.4
Urban - KM=   5.1
Total - KM= 494.1
Rural Pop Density=  15.7
Suburban Pop Density= 268.0
Urban Pop Density=2185.2
[MD]
Rural - KM= 190.6
Suburban - KM= 155.6
Urban - KM=  32.7
Total - KM= 378.8
Rural Pop Density=  19.5
Suburban Pop Density= 364.4
Urban Pop Density=2501.5
[NE]
Rural - KM= 652.2
Suburban - KM=  75.6
Urban - KM=   7.0
Total - KM= 734.8
Rural Pop Density=  10.0
Suburban Pop Density= 268.5
Urban Pop Density=2401.8
[NV]
Rural - KM= 252.6
Suburban - KM=  15.5
Urban - KM=   1.5
Total - KM= 269.5
Rural Pop Density=   4.8
Suburban Pop Density= 267.6
Urban Pop Density=2318.5
[OH]
Rural - KM= 220.0
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
Urban Pop Density=2179.6
```

```
[PA]
Rural - KM=  80.2
Suburban - KM=  85.3
Urban - KM=   7.2
Total - KM= 172.6
Rural Pop Density=  21.1
Suburban Pop Density= 325.8
Urban Pop Density=2259.4
[UT]
Rural - KM= 471.6
Suburban - KM= 106.5
Urban - KM=  32.2
Total - KM= 610.3
Rural Pop Density=   9.9
Suburban Pop Density= 362.6
Urban Pop Density=2472.3
[WV]
Rural - KM=  45.2
Suburban - KM=  24.1
Urban - KM=   0.5
Total - KM=  69.7
Rural Pop Density=  19.3
Suburban Pop Density= 214.1
Urban Pop Density=1764.7
[WY]
Rural - KM= 607.2
Suburban - KM=  33.9
Urban - KM=   3.4
Total - KM= 644.6
Rural Pop Density=   4.9
Suburban Pop Density= 399.4
Urban Pop Density=1966.6
[Total]
Rural - KM=3275.2
Suburban - KM= 914.0
Urban - KM= 123.8
Total - KM=4312.8
Rural Pop Density=  11.5
Suburban Pop Density= 315.5
Urban Pop Density=2381.8
```

TRAGIS CCNPP CASE: RADIOACTIVE WASTE

TRAGIS Routing Engine Version 1.5.4 -- Highway Data Network 4.0

FROM: CALVERT CLIFFS NP MD Leaving : 05/29/07 08:39
TO : HANFORD RPSTRY WA Arriving : 05/31/07 06:02

Routing parameters used to calculate the route-

Routing type: Commercial with 2 driver(s)
Time bias: 0.70 Mile bias: 0.30, Toll bias: 1.00

Constraints used on route:
Prohibit use of links prohibiting truck use
Prohibit use of ferry crossing

Miles	Hwy Sign		City	Dir	Junction	State	Dist	Time	Date	Hour	Impedance
0.0			CALVERT CLIFFS	NP		MD	0.0	0:00	05/29/07	08:39	
1.3	LOCAL		LUSBY	N	S2 LOCL	MD	1.3	0:03	05/29/07	08:42	3.1
10.6	S2	S4	PRINC FREDERCK		S2 S231	MD	11.9	0:15	05/29/07	08:54	11.3
9.2	S2	S4	SUNDERLAND	S	S2 S4	MD	21.1	0:25	05/29/07	09:04	9.8
14.5	S4		UPPER MARLBORO	E	U301S4	MD	35.6	0:42	05/29/07	09:21	16.6
6.2	S4		ADW AIRPORT			MD	41.8	0:50	05/29/07	09:29	7.1
1.7	S4		FORESTVILLE	SE	I95 X11	MD	43.5	0:52	05/29/07	09:31	2.1
7.9	I495	I95	NEW CARROLLTON	SE	I95 X19	MD	51.3	1:01	05/29/07	09:40	8.4
1.1	I495	I95	LANHAM		I95 X20	MD	52.4	1:02	05/29/07	09:41	1.1
2.5	I495	I95	GREENBELT	SE	I95 X22	MD	54.9	1:05	05/29/07	09:44	2.7
3.1	I495	I95	BELTSVILLE	SW	I95 X25	MD	58.0	1:08	05/29/07	09:47	3.3
1.3	I495	I95	COLLEGE PARK	NW	I495I95	MD	59.3	1:09	05/29/07	09:48	1.4
1.5	I495		KNOLLWOOD	SW	I495X28	MD	60.8	1:11	05/29/07	09:50	1.6
2.2	I495		FOUR CORNERS	SW	I495X30	MD	63.0	1:13	05/29/07	09:52	2.3
1.4	I495		WHEATON	S	I495X31	MD	64.4	1:15	05/29/07	09:54	1.5
2.2	I495		CHEVY CHASE	N	I495X33	MD	66.6	1:17	05/29/07	09:56	2.3
1.5	I495		KENSINGTON	SW	I495X34	MD	68.1	1:19	05/29/07	09:58	1.6
0.2	I495		GARRETT PARK	S	I270I495	MD	68.4	1:19	05/29/07	09:58	0.2
2.7	I270		ROCKVILLE	S	I270I270	MD	71.0	1:22	05/29/07	10:01	2.9
8.8	I270		GAITHERSBURG		I270X11	MD	79.8	1:30	05/29/07	10:09	8.3
3.3	I270		GERMANTOWN	NE	I270X15	MD	83.1	1:33	05/29/07	10:12	3.1
17.9	I270		FREDERICK	S	I270I70	MD	101.0	1:50	05/29/07	10:29	16.9
0.9	I70		FREDERICK	SW	I70 X52	MD	101.9	1:51	05/29/07	10:30	0.8
20.4	I70		FUNKSTOWN	SE	I70 X32	MD	122.3	2:09	05/29/07	10:48	19.3
5.9	I70		HALFWAY	W	I70 I81	MD	128.2	2:15	05/29/07	10:54	5.6
24.5	I70		HANCOCK	N	I70 X1	MD	152.6	2:37	05/29/07	11:16	23.1
1.1	I70		crossing state border MD/PA			BD	153.8	2:39	05/29/07	11:18	1.1
2.6	I70		WARFORDSBURG	N	I70 X168	PA	156.3	2:41	05/29/07	11:20	2.4
20.8	I70		BREEZEWOOD		I70 U30	PA	177.2	3:00	05/29/07	11:39	19.7
0.3	U30		BREEZEWOOD	E	I70 X147	PA	177.5	3:01	05/29/07	11:40	0.6
1.8	I70 $		BREEZEWOOD	SW	I70 I76	PA	179.3	3:04	05/29/07	11:43	2.5
15.7	I70 $	I76 $	WOLFSBURG	E	I70 X146	PA	195.1	3:18	05/29/07	11:57	14.9
35.5	I70 $	I76 $	SOMERSET	N	I77 X110	PA	230.6	3:51	05/29/07	12:30	33.6
19.8	I70 $	I76 $	DONEGAL		I70 X91	PA	250.4	4:09	05/29/07	12:48	18.7
			Rest 30 minutes								
15.1	I70 $	I76 $	NEW STANTON	N	I70 I76	PA	265.4	4:53	05/29/07	13:32	14.2
8.6	I76 $		IRWIN	SE	I76 X67	PA	274.0	5:02	05/29/07	13:41	8.6
10.8	I76 $		MONROEVILLE		I376I76	PA	284.8	5:12	05/29/07	13:51	10.8
8.9	I76 $		CHESWICK	W	I76 X48	PA	293.6	5:21	05/29/07	14:00	8.9
8.5	I76 $		BAKERSTOWN	S	I76 X39	PA	302.1	5:30	05/29/07	14:09	8.5
11.1	I76 $		WARRENDALE	W	I76 X28	PA	313.2	5:41	05/29/07	14:20	11.1
15.1	I76 $		HOMEWOOD	N	I76 X13	PA	328.3	5:56	05/29/07	14:35	15.0
2.8	I76 $		BIG BEAVER	NE	I76 X10	PA	331.1	5:58	05/29/07	14:37	2.8
10.0	I76 $		crossing state border OH/PA			BD	341.1	6:08	05/29/07	14:47	10.0
7.1	I76 $		NORTH LIMA	E	I680I76	OH	348.2	6:16	05/29/07	14:55	7.6
1.5	I76 $		NORTH LIMA	N	I76 X232	OH	349.7	6:18	05/29/07	14:57	1.6
13.6	I76 $		NORTH JACKSON	NE	I76 I80	OH	363.3	6:33	05/29/07	15:12	14.4

9.5	I80 $		NEWTON FALLS	NE	I80 X209	OH	372.8	6:43	05/29/07	15:22	10.1
15.3	I80 $		SHALERSVILLE	N	I80 X193	OH	388.1	7:00	05/29/07	15:39	16.3
7.3	I80 $		STREETSBORO	NW	I480I80	OH	395.4	7:08	05/29/07	15:47	7.8
6.8	I80 $		BOSTON HTS		I80 X180	OH	402.2	7:15	05/29/07	15:54	7.2
6.8	I80 $		BRECKSVILLE	S	I80 X173	OH	408.9	7:22	05/29/07	16:01	7.2
11.1	I80 $		STRONGSVILLE	NE	I71 I80	OH	420.0	7:35	05/29/07	16:14	11.8
10.2	I80 $		N RIDGEVILLE	S	I480I80	OH	430.2	7:46	05/29/07	16:25	10.9
6.6	I80 $		ELYRIA	N	I80 X145	OH	436.8	7:53	05/29/07	16:32	7.0
2.5	I80 $		ELYRIA	NW	I80 I90	OH	439.3	7:56	05/29/07	16:35	2.6
24.4	I80 $	I90 $	AVERY	S	I80 X118	OH	463.6	8:22	05/29/07	17:01	25.9
			Rest 30 minutes								
7.5	I80 $	I90 $	PARKERTOWN	E	I80 X110	OH	471.1	9:00	05/29/07	17:39	8.0
18.4	I80 $	I90 $	FREMONT	N	I80 X91	OH	489.6	9:20	05/29/07	17:59	19.6
11.0	I80 $	I90 $	ELMORE	S	I80 X81	OH	500.6	9:32	05/29/07	18:11	11.7
9.5	I80 $	I90 $	LEMOYNE	NE	I280I80	OH	510.1	9:43	05/29/07	18:22	10.1
6.9	I80 $	I90 $	PERRYSBURG	NE	I75 I80	OH	517.0	9:50	05/29/07	18:29	7.3
11.6	I80 $	I90 $	TOLEDO	W	I80 X52	OH	528.5	10:03	05/29/07	18:42	12.3
18.2	I80 $	I90 $	WAUSEON	N	I80 X34	OH	546.8	10:23	05/29/07	19:02	19.4
21.2	I80 $	I90 $	WEST JEFFERSON	N	I80 X13	OH	568.0	10:46	05/29/07	19:25	22.6
13.1	I80 $	I90 $	crossing state border IN/OH			BD	581.0	11:00	05/29/07	19:39	13.9
13.2	I80 $	I90 $	JAMESTOWN	SE	I69 I80	IN	594.2	11:13	05/29/07	18:52	13.2
22.9	I80 $	I90 $	HOWE	N	I80 X121	IN	617.1	11:36	05/29/07	19:15	22.9
13.3	I80 $	I90 $	VISTULA	E	I80 X107	IN	630.4	11:49	05/29/07	19:28	13.3
15.5	I80 $	I90 $	ELKHART	N	I80 X92	IN	645.9	12:05	05/29/07	19:44	15.5
15.0	I80 $	I90 $	SOUTH BEND	N	I80 X77	IN	660.9	12:20	05/29/07	19:59	15.0
4.5	I80 $	I90 $	SOUTH BEND	NW	I80 X72	IN	665.4	12:25	05/29/07	20:04	4.5
23.1	I80 $	I90 $	SPRINGVILLE	S	I80 X49	IN	688.5	12:48	05/29/07	20:27	23.1
			Rest 30 minutes								
9.9	I80 $	I90 $	OTIS	SE	I80 X39	IN	698.3	13:27	05/29/07	21:06	9.9
7.9	I80 $	I90 $	TRATEBAS MILL	W	I80 X31	IN	706.2	13:35	05/29/07	21:14	7.9
10.2	I80 $	I90 $	PORTAGE	W	I80 I90	IN	716.4	13:46	05/29/07	21:25	10.2
0.5	I80		LAKE STATION	NE	I80 I94	IN	716.9	13:46	05/29/07	21:25	0.5
0.5	I80	I94	EAST GARY	E	I80 X16	IN	717.4	13:47	05/29/07	21:26	0.5
3.3	I80	I94	GARY	SE	I65 I80	IN	720.6	13:50	05/29/07	21:29	3.3
9.3	I80	I94	HAMMOND		I80 X2	IN	730.0	14:00	05/29/07	21:39	9.9
1.5	I80	I94	HAMMOND	W	I80 X1	IN	731.4	14:02	05/29/07	21:41	1.6
0.9	I80	I94	crossing state border IL/IN			BD	732.3	14:03	05/29/07	21:42	0.9
3.0	I80	I94	LANSING	W	I294I94	IL	735.2	14:06	05/29/07	21:45	3.1
4.9	I294$	I80 $	HOMEWOOD	NW	I294I80	IL	740.2	14:11	05/29/07	21:50	5.3
1.5	I294$		MARKHAM	E	I294U6	IL	741.7	14:13	05/29/07	21:52	1.6
5.7	I294$		ALSIP		I294S50	IL	747.4	14:19	05/29/07	21:58	6.0
5.5	I294$		OAK LAWN	W	I294U12	IL	752.9	14:25	05/29/07	22:04	5.9
5.6	I294$		BURR RIDGE	E	I294I55	IL	758.5	14:31	05/29/07	22:10	5.9
1.0	I294$		BURR RIDGE	E	I294R55	IL	759.5	14:32	05/29/07	22:11	1.1
3.4	I294$		HINSDALE		I294U34	IL	762.9	14:36	05/29/07	22:15	3.6
3.6	I294$		HILLSIDE	SW	I294I88	IL	766.5	14:40	05/29/07	22:19	3.8
0.6	I294$		HILLSIDE	NW	I290I294	IL	767.1	14:41	05/29/07	22:20	0.6
2.0	I290		ELMHURST		I290X13	IL	769.1	14:43	05/29/07	22:22	2.2
2.8	I290		WOOD DALE	S	I290X10	IL	771.9	14:46	05/29/07	22:25	2.9
3.9	I290		ITASCA	SW	I290I355	IL	775.8	14:50	05/29/07	22:29	4.1
1.8	I290		ITASCA	NW	I290EOEX	IL	777.6	14:52	05/29/07	22:31	1.9
5.1	I290		ROLLING MDWS	S	I290I90	IL	782.7	14:58	05/29/07	22:37	5.4
8.5	I90 $		HOFFMAN ESTATS	W	I90 S59	IL	791.2	15:07	05/29/07	22:46	9.0
5.0	I90 $		ELGIN	N	I90 S31	IL	796.2	15:12	05/29/07	22:51	5.3
8.2	I90 $		HUNTLEY	S	I90 S47	IL	804.4	15:21	05/29/07	23:00	8.7
4.5	I90 $		HARMONY	SE	I90 LOCL	IL	808.8	15:26	05/29/07	23:05	4.8
16.5	I90 $		BELVIDERE	SE	I90 LOCL	IL	825.4	15:44	05/29/07	23:23	17.6
7.9	I90 $		CHERRY VALLEY	NE	I39 I90	IL	833.2	15:53	05/29/07	23:32	8.4
17.2	I39 $	I90 $	SOUTH BELOIT	E	I90 S75	IL	850.5	16:12	05/29/07	23:51	18.3
0.3	I39	I90	crossing state border IL/WI			BD	850.8	16:12	05/29/07	23:51	0.3
2.5	I39	I90	BELOIT	NE	I43 I90	WI	853.2	16:14	05/29/07	23:53	2.5
10.0	I39	I90	JANESVILLE	E	I90 X175	WI	863.3	16:24	05/30/07	00:03	9.5
3.2	I39	I90	JANESVILLE	NE	I90 X172	WI	866.4	16:27	05/30/07	00:06	3.2
0.8	I39	I90	JANESVILLE	N	I90 X171	WI	867.2	16:28	05/30/07	00:07	0.8
26.9	I39	I90	OLD IRB			WI	894.2	16:52	05/30/07	00:31	25.5
			Entering Ho-Chunk Reservation tribal lands								
2.2	I39	I90	MADISON	SE	I90 X142	WI	896.4	16:55	05/30/07	00:34	2.1
			Exiting Ho-Chunk Reservation tribal lands								
1.1	I39	I90	OLD IRB			WI	897.5	16:56	05/30/07	00:35	1.2
			Rest 30 minutes								
2.9	I39	I90	MADISON	E	I90 I94	WI	900.4	17:29	05/30/07	01:08	3.1
2.4	I39	I90	MADISON	NE	I90 X135	WI	902.8	17:32	05/30/07	01:11	2.6

27.2	I39	I90	PORTAGE	S	I39 I90		WI	930.0	17:57	05/30/07	01:36	25.7
15.9	I90	I94	LAKE DELTON	SE	I90 X92		WI	945.9	18:11	05/30/07	01:50	15.1
4.9	I90	I94	WISC DELLS	W	I90 X87		WI	950.8	18:16	05/30/07	01:55	4.6
25.8	I90	I94	NEW LISBON	NE	I90 X61		WI	976.7	18:40	05/30/07	02:19	24.4
6.4	I90	I94	VOK AIRPORT		I90 X55		WI	983.1	18:46	05/30/07	02:25	6.0
10.0	I90	I94	TOMAH	E	I90 I94		WI	993.0	18:55	05/30/07	02:34	9.4
20.3	I90		SPARTA	S	I90 X25		WI	1013.3	19:14	05/30/07	02:53	19.2
20.3	I90		ONALASKA	SE	I90 X4		WI	1033.7	19:32	05/30/07	03:11	19.3
1.5	I90		ONALASKA	S	I90 X3		WI	1035.2	19:34	05/30/07	03:13	1.4
1.0	I90		LSE AIRPORT		I90 X2		WI	1036.2	19:35	05/30/07	03:14	0.9
2.2	I90		crossing state border MN/WI				BD	1038.3	19:37	05/30/07	03:16	2.1
0.3	I90		LA CRESCENT	N	I90 X275		MN	1038.6	19:37	05/30/07	03:16	0.3
5.1	I90		DAKOTA		I90 X270		MN	1043.7	19:41	05/30/07	03:20	4.6
18.2	I90		WILSON		I90 X252		MN	1061.9	19:57	05/30/07	03:36	16.4
19.7	I90		ST CHARLES	S	I90 X233		MN	1081.6	20:14	05/30/07	03:53	17.7
14.6	I90		MARION	W	I90 X218		MN	1096.2	20:26	05/30/07	04:05	13.2
8.3	I90		STEWARTVILLE	N	I90 X209		MN	1104.6	20:33	05/30/07	04:12	7.5
16.3	I90		DEXTER	S	I90 X193		MN	1120.9	20:47	05/30/07	04:26	14.6
9.4	I90		BROWNSDALE	S	I90 X183		MN	1130.3	20:55	05/30/07	04:34	8.5
3.5	I90		AUSTIN	E	I90 X180		MN	1133.8	20:58	05/30/07	04:37	3.2
2.8	I90		AUSTIN	N	I90 X177		MN	1136.7	21:01	05/30/07	04:40	2.6
17.4	I90		ALBERT LEA	NE	I35 I90		MN	1154.1	21:16	05/30/07	04:55	15.7
5.0	I90		ALBERT LEA	NW	I90 X154		MN	1159.1	21:20	05/30/07	04:59	4.5
34.7	I90		BLUE EARTH	N	I90 X119		MN	1193.8	21:50	05/30/07	05:29	31.2
			Rest 30 minutes									
17.8	I90		FAIRMONT	N	I90 X102		MN	1211.6	22:35	05/30/07	06:14	16.0
28.2	I90		JACKSON	N	I90 X73		MN	1239.8	22:59	05/30/07	06:38	25.4
28.5	I90		WORTHINGTON	E	I90 X45		MN	1268.3	23:24	05/30/07	07:03	25.7
1.4	I90		WORTHINGTON	N	I90 X43		MN	1269.7	23:25	05/30/07	07:04	1.3
31.1	I90		LUVERNE	S	I90 X12		MN	1300.8	23:52	05/30/07	07:31	28.0
11.4	I90		BEAVER CREEK	W	I90 X1		MN	1312.2	24:01	05/30/07	07:40	10.2
1.0	I90		crossing state border MN/SD				BD	1313.2	24:02	05/30/07	07:41	0.9
11.9	I90		SIOUX FALLS	NE	I229I90		SD	1325.1	24:12	05/30/07	07:51	10.2
1.1	I90		SIOUX FALLS	N	I90 X399		SD	1326.2	24:13	05/30/07	07:52	1.0
3.0	I90		SIOUX FALLS	NW	I29 I90		SD	1329.2	24:16	05/30/07	07:55	2.8
32.4	I90		SALEM	S	I90 X363		SD	1361.6	24:41	05/30/07	08:20	27.8
19.9	I90		ALEXANDRIA		I90 X344		SD	1381.4	24:57	05/30/07	08:36	17.1
11.8	I90		MITCHELL	SE	I90 X332		SD	1393.3	25:07	05/30/07	08:46	10.2
21.6	I90		PLANKINTON		I90 X310		SD	1414.8	25:24	05/30/07	09:03	18.6
21.2	I90		KIMBALL	E	I90 X289		SD	1436.0	25:41	05/30/07	09:20	18.2
5.2	I90		KIMBALL		I90 X284		SD	1441.2	25:45	05/30/07	09:24	4.4
18.1	I90		CHAMBERLAIN	S	I90 X265		SD	1459.3	26:00	05/30/07	09:39	15.6
			Rest 30 minutes									
39.3	I90		PRESHO		I90 X226		SD	1498.6	27:01	05/30/07	10:40	33.8
13.5	I90		VIVIAN	SW	I90 X212		SD	1512.1	27:12	05/30/07	10:51	11.6
20.1	I90		MURDO		I90 X192		SD	1532.3	27:28	05/30/07	10:07	17.3
42.3	I90		KADOKA		I90 X150		SD	1574.6	28:02	05/30/07	10:41	36.4
6.9	I90		PHILIP	S	I90 X143		SD	1581.5	28:07	05/30/07	10:46	5.9
12.0	I90		CACTUS FLAT		I90 X131		SD	1593.4	28:17	05/30/07	10:56	10.3
19.2	I90		WALL	E	I90 X112		SD	1612.6	28:32	05/30/07	11:11	16.5
46.1	I90		ELLSWORTH AFB		I90 X66		SD	1658.7	29:09	05/30/07	11:48	39.6
5.6	I90		RAPID CITY	NE	I90 X60		SD	1664.3	29:14	05/30/07	11:53	4.8
2.8	I90		RAPID CITY	N	I190I90		SD	1667.2	29:16	05/30/07	11:55	2.7
27.6	I90		STURGIS	W	I90 X30		SD	1694.8	29:38	05/30/07	12:17	23.8
6.5	I90		WHITEWOOD		I90 X24		SD	1701.3	29:44	05/30/07	12:23	5.6
5.6	I90		ST ONGE	S	I90 X18		SD	1706.9	29:48	05/30/07	12:27	4.8
7.8	I90		SPEARFISH	N	I90 X10		SD	1714.7	29:54	05/30/07	12:33	6.7
10.1	I90		crossing state border SD/WY				BD	1724.8	30:02	05/30/07	12:41	8.7
19.8	I90		SUNDANCE	SE	I90 X187		WY	1744.6	30:18	05/30/07	12:57	17.0
			Rest 30 minutes									
34.1	I90		MOORCROFT	W	I90 X153		WY	1778.7	31:16	05/30/07	13:55	29.4
27.1	I90		GILLETTE	S	I90 X126		WY	1805.8	31:37	05/30/07	14:16	23.3
2.1	I90		GILLETTE	W	I90 X124		WY	1808.0	31:39	05/30/07	14:18	1.8
65.4	I90		BUFFALO	E	I90 X58		WY	1873.4	32:31	05/30/07	15:10	56.3
2.0	I90		BUFFALO	N	I25 I90		WY	1875.4	32:33	05/30/07	15:12	1.7
31.4	I90		SHERIDAN	SE	I90 X25		WY	1906.8	32:58	05/30/07	15:37	27.0
4.4	I90		SHERIDAN	N	I90 X20		WY	1911.2	33:01	05/30/07	15:40	3.8
7.3	I90		RANCHESTER	E	I90 X9		WY	1918.5	33:07	05/30/07	15:46	6.3
15.6	I90		OLD IRB				WY	1934.1	33:20	05/30/07	15:59	13.4
			Entering Crow Reservation tribal lands									
0.0	I90		IRB				MT	1934.1	33:20	05/30/07	15:59	0.0
41.7	I90		CROW AGENCY	S	I90 X510		MT	1975.8	33:58	05/30/07	16:37	39.5

13.9	I90		OLD IRB				MT	1989.7	34:11	05/30/07	16:50	13.1
			Exiting Crow Reservation tribal lands									
1.0	I90		HARDIN	N	I90	X495	MT	1990.7	34:12	05/30/07	16:51	1.0
39.4	I90		BILLINGS	NE	I90	I94	MT	2030.0	34:48	05/30/07	17:27	37.2
			Rest 30 minutes									
3.7	I90		BILLINGS	E	I90	X452	MT	2033.8	35:22	05/30/07	18:01	4.0
2.8	I90		BILLINGS	SE	I90	X450	MT	2036.5	35:25	05/30/07	18:04	2.9
16.0	I90		LAUREL	S	I90	X434	MT	2052.5	35:40	05/30/07	18:19	15.1
25.2	I90		COLUMBUS	N	I90	X408	MT	2077.8	36:04	05/30/07	18:43	23.9
41.4	I90		BIG TIMBER	SW	I90	X367	MT	2119.2	36:42	05/30/07	19:21	39.2
27.2	I90		LIVINGSTON	NE	I90	X340	MT	2146.4	37:07	05/30/07	19:46	25.7
7.5	I90		LIVINGSTON	S	I90	X332	MT	2153.9	37:14	05/30/07	19:53	7.1
23.2	I90		BOZEMAN	E	I90	X309	MT	2177.0	37:35	05/30/07	20:14	21.9
11.0	I90		BELGRADE	S	I90	X298	MT	2188.0	37:45	05/30/07	20:24	10.4
23.4	I90		THREE FORKS	NW	I90	X274	MT	2211.4	38:07	05/30/07	20:46	22.2
18.5	I90		CARDWELL	N	I90	X256	MT	2229.9	38:24	05/30/07	21:03	17.5
4.1	I90		WHITEHALL	N	I90	X249	MT	2234.0	38:28	05/30/07	21:07	3.9
24.9	I90		BUTTE	E	I15	I90	MT	2258.9	38:51	05/30/07	21:30	23.6
			Rest 30 minutes									
1.6	I15	I90	BUTTE		I15	X127	MT	2260.5	39:22	05/30/07	22:01	1.7
6.9	I15	I90	BUTTE	W	I15	I90	MT	2267.4	39:30	05/30/07	22:09	7.3
10.8	I90		OPPORTUNITY	SE	I90	X208	MT	2278.2	39:42	05/30/07	22:21	11.5
32.5	I90		GARRISON		I90	X175	MT	2310.7	40:12	05/30/07	22:51	30.8
21.2	I90		DRUMMOND	N	I90	X153	MT	2331.9	40:31	05/30/07	23:10	20.0
46.4	I90		MILLTOWN	W	I90	X109	MT	2378.3	41:14	05/30/07	23:53	43.9
2.5	I90		MISSOULA	N	I90	X105	MT	2380.8	41:17	05/30/07	23:56	2.5
8.4	I90		FRENCHTOWN	E	I90	X96	MT	2389.3	41:24	05/31/07	00:03	8.0
96.9	I90		crossing state border ID/MT				BD	2486.2	43:01	05/31/07	01:40	96.9
			Rest 30 minutes									
23.5	I90		KELLOGG		I90	X50	ID	2509.6	43:53	05/31/07	01:32	22.2
14.4	I90		OLD IRB				ID	2524.1	44:06	05/31/07	01:45	13.6
0.0	I90		OLD IRB				ID	2524.1	44:06	05/31/07	01:45	0.0
0.5	I90		OLD IRB				ID	2524.5	44:07	05/31/07	01:46	0.4
0.0	I90		OLD IRB				ID	2524.5	44:07	05/31/07	01:46	0.0
0.3	I90		OLD IRB				ID	2524.9	44:07	05/31/07	01:46	0.3
0.2	I90		OLD IRB				ID	2525.1	44:07	05/31/07	01:46	0.2
0.2	I90		OLD IRB				ID	2525.2	44:07	05/31/07	01:46	0.1
0.0	I90		OLD IRB				ID	2525.2	44:07	05/31/07	01:46	0.0
0.7	I90		OLD IRB				ID	2525.9	44:08	05/31/07	01:47	0.7
0.2	I90		ROSE LAKE	NE	I90	X34	ID	2526.1	44:08	05/31/07	01:47	0.2
7.4	I90		OLD IRB				ID	2533.5	44:15	05/31/07	01:54	7.0
0.0	I90		OLD IRB				ID	2533.5	44:15	05/31/07	01:54	0.0
0.2	I90		OLD IRB				ID	2533.7	44:15	05/31/07	01:54	0.2
0.0	I90		OLD IRB				ID	2533.7	44:15	05/31/07	01:54	0.0
0.6	I90		OLD IRB				ID	2534.3	44:16	05/31/07	01:55	0.5
0.1	I90		OLD IRB				ID	2534.4	44:16	05/31/07	01:55	0.1
0.1	I90		OLD IRB				ID	2534.5	44:16	05/31/07	01:55	0.1
3.7	I90		WOLF LODGE		I90	X22	ID	2538.2	44:19	05/31/07	01:58	3.5
8.9	I90		COEUR D'ALENE	N	I90	X12	ID	2547.1	44:28	05/31/07	02:07	8.4
11.5	I90		crossing state border ID/WA				BD	2558.6	44:38	05/31/07	02:17	10.9
18.9	I90		SPOKANE		I90	X281	WA	2577.5	44:57	05/31/07	02:36	18.9
2.0	I90		SPOKANE	W	I90	X279	WA	2579.5	44:59	05/31/07	02:38	2.0
1.6	I90		SPOKANE	SW	I90	X277	WA	2581.1	45:01	05/31/07	02:40	1.6
55.8	I90		RITZVILLE		I90	X221	WA	2636.9	45:57	05/31/07	03:36	55.8
			Rest 30 minutes									
1.1	I90		RITZVILLE	SW	I90	X220	WA	2638.0	46:28	05/31/07	04:07	1.1
29.8	U395		HATTON	E	U395	S26	WA	2667.8	47:03	05/31/07	04:42	33.9
18.6	S26		OTHELLO	SE	S17	S26	WA	2686.3	47:26	05/31/07	05:05	21.2
2.0	S26		OTHELLO	S	S24	S26	WA	2688.4	47:28	05/31/07	05:07	2.3
5.1	S24		OTHELLO	S	S24	LOCL	WA	2693.4	47:34	05/31/07	05:13	5.8
30.4	S24		VERNITA	NE	S24	S243	WA	2723.8	48:11	05/31/07	05:50	34.6
5.4	S24		VERNITA	SE	S24	S240	WA	2729.1	48:17	05/31/07	05:56	6.1
4.4	S240		HANFORD RPSTRY.				WA	2733.5	48:23	05/31/07	06:02	5.4

Total elapsed time: 48:23 Total trip mileage: 2733.5 Impedance: 2621.4

Mileage by State :

ID:	72.4	IL:	118.5	IN:	151.2	MD:	153.8	MN:	274.9	MT:	552.1
OH:	239.9	PA:	187.4	SD:	411.6	WA:	174.9	WI:	187.6	WY:	209.2

```
Mileage by Sign Type:
1-INTERSTATE: 2594.2          2-US:   30.1       3-STATE:  107.9       6-LOCAL:    1.3


Mileage by Lane Type:
  1-Multi-Lane Controlled Access:  2600.4       3-Multi-Lane Divided Highway:    36.0
                5-Principle Road:    39.8                      6-Through Road:    56.0
                         7-Other:     1.3

Mileage by Tribal Lands:
  Total Outside Tribal Lands     :  2675.7
  Total Inside Tribal Lands      :    57.8

Crow Reservation                    : 55.6   Ho-Chunk Reservation                : 2.2
```

```
[TRAGIS]
TRAGIS Version=1.5.4
Mode=H
Network Version=4.0
Census Data=2000
Buffer Zone=800
[ROUTEINFO]
From CITY=CALVERT CLIFFS NP
From STATE=MD
From SUBNET=
To CITY=HANFORD RPSTRY
To STATE=WA
To SUBNET=
[ID]
Rural - KM=  74.8
Suburban - KM=  37.0
Urban - KM=   4.8
Total - KM= 116.6
Rural Pop Density=   8.7
Suburban Pop Density= 371.3
Urban Pop Density=2100.2
[IL]
Rural - KM=  76.0
Suburban - KM=  86.6
Urban - KM=  28.2
Total - KM= 190.7
Rural Pop Density=  21.1
Suburban Pop Density= 455.8
Urban Pop Density=2518.0
[IN]
Rural - KM= 136.7
Suburban - KM=  97.3
Urban - KM=   9.4
Total - KM= 243.4
Rural Pop Density=  19.9
Suburban Pop Density= 276.3
Urban Pop Density=2354.7
[MD]
Rural - KM=  90.3
Suburban - KM= 127.2
Urban - KM=  29.8
Total - KM= 247.4
Rural Pop Density=  23.9
```

```
Suburban Pop Density= 386.0
Urban Pop Density=2531.7
[MN]
Rural - KM= 392.0
Suburban - KM=  49.3
Urban - KM=   1.1
Total - KM= 442.4
Rural Pop Density=  14.2
Suburban Pop Density= 210.2
Urban Pop Density=2268.5
[MT]
Rural - KM= 777.0
Suburban - KM= 103.0
Urban - KM=   8.6
Total - KM= 888.5
Rural Pop Density=   8.4
Suburban Pop Density= 299.3
Urban Pop Density=2220.9
[OH]
Rural - KM= 220.0
Suburban - KM= 151.4
Urban - KM=  14.7
Total - KM= 386.1
Rural Pop Density=  19.8
Suburban Pop Density= 303.4
Urban Pop Density=2179.6
[PA]
Rural - KM= 174.1
Suburban - KM= 119.6
Urban - KM=   7.7
Total - KM= 301.5
Rural Pop Density=  17.0
Suburban Pop Density= 303.9
Urban Pop Density=2123.7
[SD]
Rural - KM= 602.7
Suburban - KM=  57.3
Urban - KM=   2.5
Total - KM= 662.4
Rural Pop Density=   7.9
Suburban Pop Density= 254.0
Urban Pop Density=2364.5
[WA]
Rural - KM= 235.9
Suburban - KM=  36.9
Urban - KM=   8.7
Total - KM= 281.5
Rural Pop Density=   6.0
Suburban Pop Density= 418.4
Urban Pop Density=2170.5
[WI]
Rural - KM= 220.6
Suburban - KM=  75.8
Urban - KM=   5.5
Total - KM= 301.9
Rural Pop Density=  18.7
Suburban Pop Density= 253.1
```

```
Urban Pop Density=2145.2
[WY]
Rural - KM= 320.5
Suburban - KM=  14.0
Urban - KM=   2.2
Total - KM= 336.7
Rural Pop Density=   5.7
Suburban Pop Density= 439.1
Urban Pop Density=1902.3
[Total]
Rural - KM=3320.5
Suburban - KM= 955.5
Urban - KM= 123.2
Total - KM=4399.1
Rural Pop Density=  11.6
Suburban Pop Density= 322.4
```
Urban Pop Density=2349.5

Supporting RADTRAN Output for ER Section 7.4 for CCNPP Unit 3:

RADTRAN CCNPP CASE: IRRADIATED FUEL

```
                    RUN DATE: [ 04-APR-07 AT 16:06:25 ]            PAGE    1

 RRRR    AAA   DDDD   TTTTT  RRRR    AAA   N   N  55555         6
 R   R  A   A  D   D    T    R   R  A   A  NN  N  5             6
 R   R  A   A  D   D    T    R   R  A   A  N N N  5             6
 RRRR   A   A  D   D    T    RRRR   A   A  N  NN  5555          6666
 R R    AAAAA  D   D    T    R R    AAAAA  N   N      5         6   6
 R  R   A   A  D   D    T    R  R   A   A  N   N  5   5         6   6
 R   R  A   A  DDDD     T    R   R  A   A  N   N  5555      *    666

                        RADTRAN 5.6   February 20, 2006

                                INPUT ECHO
                                ----------


 && test
 TITLE Irradiated Fuel Truck from CCNPP to Yucca Mt.
 INPUT STANDARD
STD: 0 10 18                              && DIMEN=NSEV NRAD NAREAS
STD: 1 3 3 0                              && PARM=IRNKC IANA ISEN IPSQSB
STD: .TRUE. .FALSE.                       && FORM = UNIT, SI-UNITS?
STD: 2.3E12                               && NEVAL FOR CF252
STD: 9.25E5 5.77E6 1.27E6                 && RPCTHY FOR I125, I129, I131
STD: 0.0 0.0 0.0 0.0 0.0                  && TRANSFER GAMMA
STD: 7.42E-3 2.02E-2 6.17E-5 3.17E-8 0.0  && TRANSFER NEUTRON
STD: 30  24                               && MITDDIST  MITDVEL
STD: 1  2   .0018                         && ITRAIN FMINCL DDRWEF
STD:    33    68    105   244   369               && CENTER LINE
STD:   561  1018   1628  2308  4269               && DISTANCES
STD:  5468 11136  13097 21334 40502               && FOR AVERAGE
STD: 69986 89860 120878 0 0 0 0 0 0 0 0 0 0 0 0   && US CLOUD
STD: 4.59E+02 1.53E+03 3.94E+03 1.25E+04 3.04E+04 6.85E+04 1.76E+05 4.45E+05
STD: 8.59E+05 2.55E+06 4.45E+06 1.03E+07 2.16E+07 5.52E+07 1.77E+08 4.89E+08
STD: 8.12E+08 1.35E+09 0 0 0 0 0 0 0 0 0 0 0 0     && AREADA
STD: 3.42E-03 1.72E-03 8.58E-04 3.42E-04 1.72E-04 8.58E-05 3.42E-05 1.72E-05
STD:  8.58E-06 3.42E-06 1.72E-06 8.58E-07 3.42E-07 1.72E-07 8.58E-08 5.42E-08
STD:  4.30E-08 3.42E-08 0 0 0 0 0 0 0 0 0 0 0 0     && DFLEV
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0 && RADIST
STD: 0.5                                  && SMLPKG
STD: 1.0  0.87  0.018                     && SHIELDING FACTORS RR  RS  RU
STD:  30  30  800                         && OFFLINK {FREEWAY}
STD:  27  30  800                         && OFFLINK {NON-FREEWAY}
STD:   5   8  800                         && OFFLINK {CITY STREETS}
STD:  30  30  800                         && OFFLINK {RAILWAY}
STD: 200 200 1000                         && OFFLINK {WATERWAY}
STD: 15  3  3  3  4                       && ONLINK {FWAY NONFWY STREET RAIL ADJ}
STD: 6.0  4  40.0                         && RPD FNOATT INTERDICT
STD: 0.05   0.2   3.3E-4                  && BDF CULVL BRATE
STD: 0.9   0.1                            && UBF USWF
STD: 1.0  10.0 1.0                        && EVACUATION SURVEY CAMPAIGN
```

Irradiated Fuel Truck from CCNPP to Yucca Mt.

```
STD: 0.0  0.0     1.5E-8  5.3E-8      && HIGHWAY - RURAL - NONRAD
STD: 0.0  0.0     3.7E-9  1.3E-8      && HIGHWAY - SUBURBAN - NONRAD
STD: 0.0  0.0     2.1E-9  7.5E-9      && HIGHWAY - URBAN - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - R - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - S - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - U - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - R - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - S - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - U - NONRAD
STD: 0.0 0.0 0.0 0.0 0.0 0.0          && PSPROB
STD: 0.67  0.67  0.42                 && TIMENDE NON-DISPERSAL EVAC TIME (LCF&EARLY)
STD: 2 2 1                            && FLAGS=IUOPT IACC REGCHECK
STD: 5E-4, 4E-4, 1.0E-4               && LCFCON(1), LCFCON(2), GECON
STD: R5INGEST.BIN                     && INGESTION FILE
 OUTPUT BQ_SV
 FORM UNIT
 DIMEN 19 10 18
 PARM 1 2 1 0
 SEVERITY
    NPOP=1
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
    NPOP=2
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
    NPOP=3
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
 RELEASE
    GROUP=Part
       RFRAC
          6.0E-7
  1.0E-7 1.3E-7 3.8E-6 3.2E-7 3.7E-7
  2.1E-6 6.1E-7 6.7E-7 6.8E-7 6.1E-7
  6.7E-7 6.8E-7 1.8E-5 9.0E-6 6.8E-7
  6.8E-7 6.7E-8 0.0
       AERSOL
```


Irradiated Fuel Truck from CCNPP to Yucca Mt.

```
          1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0
```

```
     RESP
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     LOS
        0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
     DEPVEL 0.01
  GROUP=Cs
     RFRAC
        2.4E-8
4.1E-9 5.4E-9 3.6E-5 1.3E-8 1.5E-8
2.7E-5 2.4E-8 2.7E-8 5.9E-6 2.4E-8
2.7E-8 5.9E-6 9.6E-5 5.5E-5 5.9E-6
5.9E-6 1.7E-5 0.0
     AERSOL
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     RESP
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     LOS
        0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
     DEPVEL 0.01
  GROUP=Ru
     RFRAC
        6.0E-7
1.0E-7 1.3E-7 3.8E-6 3.2E-7 3.7E-7
2.1E-6 6.1E-7 6.7E-7 6.8E-7 6.1E-7
6.7E-7 6.8E-7 8.4E-5 5.0E-5 6.4E-6
6.4E-6 6.7E-8 0.0
     AERSOL
        1.0
```



```
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     RESP
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     LOS
```

```
          0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0
       DEPVEL 0.01
    GROUP=Gas
       RFRAC
          0.8
  0.14 0.18 0.84 0.43 0.49
  0.85 0.82 0.89 0.91 0.82
  0.89 0.91 0.84 0.85 0.91
  0.91 0.84 0.0
       AERSOL
          1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0
       RESP
          1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0
       LOS
          0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0
       DEPVEL 0.0
    GROUP=Cor
       RFRAC
          0.0020
  0.0014 0.0018 0.0032 0.0018 0.0021
  0.0031 0.02 0.0022 0.0025 0.0020
  0.0022 0.0025 0.0064 0.0059 0.0033
  0.0033 0.0025 0.0
       AERSOL
          1.0
  1.0 1.0 1.0 1.0 1.0
```



```
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0
       RESP
          1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0 1.0 1.0
  1.0 1.0 1.0
       LOS
          0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0 0.0 0.0
  0.0 0.0 0.0
       DEPVEL 0.01
PACKAGE PACKAGE_1 14.0 1.0 0.0 5.2
```

```
   AM242M 23.9 Part
   AM243 32.2 Part
   CE144 15200.0 Part
   CM242 43.6 Part
   CM243 32.0 Part
   CM244 4830.0 Part
   CM245 0.618 Part
   EU154 11700.0 Part
   EU155 5730.0 Part
   PM147 35500.0 Part
   PU238 6940.0 Part
   PU239 423.0 Part
   PU240 724.0 Part
   PU241 117000.0 Part
   PU242 2.28 Part
   SR90 103000.0 Part
   Y90 103000.0 Part
   SB125 5350.0 Part
   AM241 1250.0 Part
   CS134 58400.0 Cs
   CS137 142000.0 Cs
   I129 0.0465 Cs
   RU106 20500.0 Ru
   KR85 10500.0 Gas
   CO60 76.0 Cor
END
VEHICLE -1 VEHICLE_1 1.40E01 1.0 0.0 5.2 1.0 2.0 5.45 1.0 1.0
      PACKAGE_1 1.0
FLAGS
   IACC 2
   IUOPT 2
   REGCHECK 1
MODSTD
   DISTOFF FREEWAY 3.00E01 3.00E01 8.00E02
   DISTOFF SECONDARY 2.70E01 3.00E01 8.00E02
   DISTOFF STREET 5.00E00 8.00E00 8.00E02
```



```
   DISTON
      FREEWAY 1.50E01
      SECONDARY 3.00E00
      STREET 3.00E00
      ADJACENT 4.00E00
   BDF 5.00E-02
   BRATE 3.30E-04
   CULVL 2.00E-01
   EVACUATION 6.70E-01
   GECON 1.00E-04
   INTERDICT 8.00E00
   LCFCON 5.00E-04 4.00E-04
   SURVEY 1.00E01
   UBF 1.00E-01
   USWF 9.00E-01
   CAMPAIGN 2.01E03
   MITDDIST 3.00E01
   MITDVEL 2.40E01
   RPD 6.00E00
   RR 1.00E00
   RU 1.80E-02
   RS 8.70E-01
   SMALLPKG 5.00E-01
```

```
   RPCTHYROID
      I129   1.27E06
EOF
LINK LINK_1 VEHICLE_1 3275.2 88.49 1.5 11.5 530.0 3.36E-7 0.0293 R 1 1.0
LINK LINK_2 VEHICLE_1 914.0 88.49 1.5 315.5 760.0 3.36E-7 0.0293 S 1 1.0
LINK LINK_3 VEHICLE_1 123.8 88.49 1.5 2381.8 2400.0 3.36E-7 0.0293 U 1 1.0

STOP STOP_1 VEHICLE_1 30000.0 1.0 10.0 1.0 5.0
STOP STOP_2 VEHICLE_1 340.0 10.0 800.0 0.2 5.0

HANDLING HANDLE_1 VEHICLE_1 5.0 1.0 0.5

EOF
```

RUN DATE: [04-APR-07 AT 16:06:25] PAGE 7

Irradiated Fuel Truck from CCNPP to Yucca Mt.

NON-RADIOLOGICAL DATA (ACCIDENTS and FATALITIES)
****

HIGHWAY

	ACCIDENT RATE	ACCIDENTS	FATALITIES
LINK_1	3.36E-07	1.10E-03	3.22E-05
LINK_2	3.36E-07	3.07E-04	9.00E-06
LINK_3	3.36E-07	4.16E-05	1.22E-06
TOTALS:	1.01E-06	1.45E-03	4.25E-05

RUN DATE: [04-APR-07 AT 16:06:25] PAGE 8

Irradiated Fuel Truck from CCNPP to Yucca Mt.

CALCULATIONAL INFORMATION

FOR VEHICLE_1 AREAS WITH TOTAL CONTAMINATION RATIO GREATER THAN 8.000
(THE AREAS MARKED WITH AN 'X' ARE INTERDICTED AND HAVE
NO 50 YEAR GROUNDSHINE DOSE AND NO INGESTION DOSE.)

AREA/SEVERITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
3	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
4	-	-	-	X	-	-	X	X	-	X	-	-	X	X	X	X	X	X	-
5	-	-	-	X	-	-	X	X	-	X	-	-	X	X	X	X	X	X	-
6	-	-	-	X	-	-	X	-	-	-	-	-	-	X	X	-	-	X	-
7	-	-	-	X	-	-	X	-	-	-	-	-	-	X	X	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Irradiated Fuel Truck from CCNPP to Yucca Mt.

ACCIDENT SUMMARY
******** *******

EXPECTED VALUES OF POPULATION RISK IN PERSON-SV

	GROUND	INHALED	RESUSPD	CLOUDSH	TOTAL
LINK_1	9.45E-10	6.19E-11	6.41E-14	1.23E-12	1.01E-09
LINK_2	7.24E-09	4.74E-10	4.91E-13	9.41E-12	7.72E-09
LINK_3	4.00E-08	2.62E-09	2.71E-12	5.20E-11	4.27E-08
RURAL	9.45E-10	6.19E-11	6.41E-14	1.23E-12	1.01E-09
SUBURB	7.24E-09	4.74E-10	4.91E-13	9.41E-12	7.72E-09
URBAN	4.00E-08	2.62E-09	2.71E-12	5.20E-11	4.27E-08
TOTALS:	4.82E-08	3.15E-09	3.27E-12	6.26E-11	5.14E-08

Irradiated Fuel Truck from CCNPP to Yucca Mt.

SOCIETAL INGESTION RISK - PERSON-SV

LINK	GONADS	EFFECTIVE
LINK_1	2.01E-09	2.03E-09
TOTAL	2.01E-09	2.03E-09

SOCIETAL INGESTION RISK BY ORGAN - PERSON-SV

LINK	BREAST	LUNGS	RED MARR	BONE SUR	THYROID	REMAINDER
LINK_1	1.71E-09	1.74E-09	2.16E-09	3.27E-09	1.73E-09	2.18E-09
TOTAL	1.71E-09	1.74E-09	2.16E-09	3.27E-09	1.73E-09	2.18E-09

EXPECTED RISK VALUES - OTHER

LINK	EARLY FATALITY	EARLY MORBIDITY
LINK_1	0.00E+00	0.00E+00
LINK_2	0.00E+00	0.00E+00
LINK_3	0.00E+00	0.00E+00
TOTAL	0.00E+00	0.00E+00

EOI
END OF RUN
SUCCESSFUL COMPLETION

RADTRAN CCNPP CASE: RADIOACTIVE WASTE

```
                                        RUN DATE: [ 07-FEB-08 AT 09:41:40 ]
PAGE    1


  RRRR    AAA   DDDD   TTTTT  RRRR    AAA   N   N  55555         6
  R   R  A   A  D   D    T    R   R  A   A  NN  N  5             6
  R   R  A   A  D   D    T    R   R  A   A  N N N  5             6
  RRRR   A   A  D   D    T    RRRR   A   A  N  NN  5555          6666
  R R    AAAAA  D   D    T    R R    AAAAA  N   N      5         6   6
  R  R   A   A  D   D    T    R  R   A   A  N   N  5   5         6   6
  R   R  A   A  DDDD     T    R   R  A   A  N   N  5555      *    666

                          RADTRAN 5.6   February 20, 2006

                                  INPUT ECHO
                                  ----------


 && R002
 TITLE Radwaste Annual Activity from CCNPP to Hanford, WA
 INPUT STANDARD
STD: 0 10 18                              && DIMEN=NSEV NRAD NAREAS
STD: 1 3 3 0                              && PARM=IRNKC IANA ISEN IPSQSB
STD: .TRUE. .FALSE.                       && FORM = UNIT, SI-UNITS?
STD: 2.3E12                               && NEVAL FOR CF252
STD: 9.25E5 5.77E6 1.27E6                 && RPCTHY FOR I125, I129, I131
STD: 0.0 0.0 0.0 0.0 0.0                  && TRANSFER GAMMA
STD: 7.42E-3 2.02E-2 6.17E-5 3.17E-8 0.0  && TRANSFER NEUTRON
STD: 30  24                               && MITDDIST  MITDVEL
STD: 1  2   .0018                         && ITRAIN FMINCL DDRWEF
STD:    33    68    105   244   369               && CENTER LINE
STD:   561  1018   1628  2308  4269               && DISTANCES
STD:  5468 11136  13097 21334 40502               && FOR AVERAGE
STD: 69986 89860 120878 0 0 0 0 0 0 0 0 0 0 0 0   && US CLOUD
STD: 4.59E+02 1.53E+03 3.94E+03 1.25E+04 3.04E+04 6.85E+04 1.76E+05 4.45E+05
STD: 8.59E+05 2.55E+06 4.45E+06 1.03E+07 2.16E+07 5.52E+07 1.77E+08 4.89E+08
STD: 8.12E+08 1.35E+09 0 0 0 0 0 0 0 0 0 0 0 0     && AREADA
STD: 3.42E-03 1.72E-03 8.58E-04 3.42E-04 1.72E-04 8.58E-05 3.42E-05 1.72E-05
STD:  8.58E-06 3.42E-06 1.72E-06 8.58E-07 3.42E-07 1.72E-07 8.58E-08 5.42E-
08
STD:  4.30E-08 3.42E-08 0 0 0 0 0 0 0 0 0 0 0 0     && DFLEV
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0
STD: 3 6 9 12 15 30 61 91 152 305 0 0 0 0 0 && RADIST
STD: 0.5                              && SMLPKG
STD: 1.0  0.87  0.018                 && SHIELDING FACTORS RR  RS  RU
STD:  30  30  800                     && OFFLINK {FREEWAY}
STD:  27  30  800                     && OFFLINK {NON-FREEWAY}
STD:   5   8  800                     && OFFLINK {CITY STREETS}
STD:  30  30  800                     && OFFLINK {RAILWAY}
STD: 200 200 1000                     && OFFLINK {WATERWAY}
STD: 15  3  3  3  4                   && ONLINK {FWAY NONFWY STREET RAIL
ADJ}
STD: 6.0  4  40.0                     && RPD FNOATT INTERDICT
STD: 0.05   0.2   3.3E-4              && BDF CULVL BRATE
```

```
STD: 0.9   0.1                          && UBF USWF
STD: 1.0  10.0 1.0                      && EVACUATION SURVEY CAMPAIGN
```


Radwaste Annual Activity from CCNPP to Hanford, WA

```
STD: 0.0  0.0     1.5E-8  5.3E-8      && HIGHWAY - RURAL - NONRAD
STD: 0.0  0.0     3.7E-9  1.3E-8      && HIGHWAY - SUBURBAN - NONRAD
STD: 0.0  0.0     2.1E-9  7.5E-9      && HIGHWAY - URBAN - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - R - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - S - NONRAD
STD: 0.0  0.0    1.81E-9  2.64E-8     && GENERAL FREIGHT - U - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - R - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - S - NONRAD
STD: 0.0  0.0    1.27E-7  1.85E-6     && DEDICATED RAIL - U - NONRAD
STD: 0.0 0.0 0.0 0.0 0.0 0.0          && PSPROB
STD: 0.67  0.67  0.42                 && TIMENDE NON-DISPERSAL EVAC TIME
(LCF&EARLY)
STD: 2 2 1                            && FLAGS=IUOPT IACC REGCHECK
STD: 5E-4, 4E-4, 1.0E-4               && LCFCON(1), LCFCON(2), GECON
STD: R5INGEST.BIN                     && INGESTION FILE
 OUTPUT BQ_SV
 FORM UNIT
 DIMEN 19 10 18
 PARM 1 2 1 0
 SEVERITY
    NPOP=1
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
    NPOP=2
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
    NPOP=3
       NMODE=1
        1.53E-8
  5.88E-5 1.81E-6 7.49E-8 4.65E-7 3.31E-9
  0.0 1.13E-8 8.03E-11 0.0 1.44E-10
  1.02E-12 0.0 7.49E-11 0.0 0.0
  0.0 5.86E-6 0.99993
 RELEASE
    GROUP=Part
       RFRAC
          6.0E-7
  1.0E-7 1.3E-7 3.8E-6 3.2E-7 3.7E-7
  2.1E-6 6.1E-7 6.7E-7 6.8E-7 6.1E-7
  6.7E-7 6.8E-7 1.8E-5 9.0E-6 6.8E-7
  6.8E-7 6.7E-8 0.0
       AERSOL
```

Radwaste Annual Activity from CCNPP to Hanford, WA

```
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     RESP
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     LOS
        0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
     DEPVEL 0.01
  GROUP=Cs
     RFRAC
        2.4E-8
4.1E-9 5.4E-9 3.6E-5 1.3E-8 1.5E-8
2.7E-5 2.4E-8 2.7E-8 5.9E-6 2.4E-8
2.7E-8 5.9E-6 9.6E-5 5.5E-5 5.9E-6
5.9E-6 1.7E-5 0.0
     AERSOL
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     RESP
        1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0 1.0 1.0
1.0 1.0 1.0
     LOS
        0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
     DEPVEL 0.01
  GROUP=Ru
     RFRAC
        6.0E-7
1.0E-7 1.3E-7 3.8E-6 3.2E-7 3.7E-7
2.1E-6 6.1E-7 6.7E-7 6.8E-7 6.1E-7
6.7E-7 6.8E-7 8.4E-5 5.0E-5 6.4E-6
6.4E-6 6.7E-8 0.0
     AERSOL
```

```
        1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0
      RESP
         1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0
      LOS
         0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0
      DEPVEL 0.01
   GROUP=Cor
      RFRAC
         0.0020
 0.0014 0.0018 0.0032 0.0018 0.0021
 0.0031 0.02 0.0022 0.0025 0.0020
 0.0022 0.0025 0.0064 0.0059 0.0033
 0.0033 0.0025 0.0
      AERSOL
         1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0
      RESP
         1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0 1.0 1.0
 1.0 1.0 1.0
      LOS
         0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0 0.0 0.0
 0.0 0.0 0.0
      DEPVEL 0.01
PACKAGE PACKAGE_1 14.0 1.0 0.0 5.2
   CE144 0.775 Part
   PU241 0.339 Part
   SB124 0.0114 Part
   SB125 0.0374 Part
   SR89 0.0133 Part
   SR90 2.64 Part
   Y90 2.55 Part
```

```
   CS134 184.0 Cs
   CS137 349.0 Cs
```



```
   I129 9.06E-4 Cs
   I131 0.00916 Cs
   RU106 28.0 Ru
   RU103 12.5 Ru
   CO60 237.0 Cor
   CO58 114.0 Cor
   FE55 473.0 Cor
   MN54 360.0 Cor
   ZN65 93.4 Cor
END
VEHICLE -1 VEHICLE_1 1.40E01 1.0 0.0 5.2 1.0 2.0 5.45 1.0 1.0
      PACKAGE_1 1.0
FLAGS
   IACC 2
   IUOPT 2
   REGCHECK 1
MODSTD
   DISTOFF FREEWAY 3.00E01 3.00E01 8.00E02
   DISTOFF SECONDARY 2.70E01 3.00E01 8.00E02
   DISTOFF STREET 5.00E00 8.00E00 8.00E02
   DISTON
     FREEWAY 1.50E01
     SECONDARY 3.00E00
     STREET 3.00E00
     ADJACENT 4.00E00
   BDF 5.00E-02
   BRATE 3.30E-04
   CULVL 2.00E-01
   EVACUATION 6.70E-01
   GECON 1.00E-04
   INTERDICT 8.00E00
   LCFCON 5.00E-04 4.00E-04
   SURVEY 1.00E01
   UBF 1.00E-01
   USWF 9.00E-01
   CAMPAIGN 2.01E03
   MITDDIST 3.00E01
   MITDVEL 2.40E01
   RPD 6.00E00
   RR 1.00E00
   RU 1.80E-02
   RS 8.70E-01
   SMALLPKG 5.00E-01
   RPCTHYROID
     I129  1.27E06
EOF
LINK LINK_1 VEHICLE_1 3320.5 88.49 1.5 11.6 530.0 3.87E-7 0.0207 R 1 1.0
LINK LINK_2 VEHICLE_1 955.5 88.49 1.5 322.4 760.0 3.87E-7 0.0207 S 1 1.0
LINK LINK_3 VEHICLE_1 123.2 88.49 1.5 2349.5 2400.0 3.87E-7 0.0207 U 1 1.0
```

```
STOP STOP_1 VEHICLE_1 30000.0 1.0 10.0 1.0 5.5
STOP STOP_2 VEHICLE_1 340.0 10.0 800.0 0.2 5.5

HANDLING HANDLE_1 VEHICLE_1 5.0 1.0 0.5

EOF
```


Radwaste Annual Activity from CCNPP to Hanford, WA

NON-RADIOLOGICAL DATA (ACCIDENTS and FATALITIES)
****

HIGHWAY

	ACCIDENT RATE	ACCIDENTS	FATALITIES
LINK_1	3.87E-07	1.29E-03	2.66E-05
LINK_2	3.87E-07	3.70E-04	7.65E-06
LINK_3	3.87E-07	4.77E-05	9.87E-07
TOTALS:	1.16E-06	1.70E-03	3.52E-05

Radwaste Annual Activity from CCNPP to Hanford, WA

CALCULATIONAL INFORMATION

FOR VEHICLE_1 AREAS WITH TOTAL CONTAMINATION RATIO GREATER THAN 8.000

(THE AREAS MARKED WITH AN 'X' ARE INTERDICTED AND HAVE NO 50 YEAR GROUNDSHINE DOSE AND NO INGESTION DOSE.)

AREA/SEVERITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
6	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
7	-	-	-	-	-	-	-	X	-	-	-	-	-	X	X	-	-	-	-
8	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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RUN DATE: [07-FEB-08 AT 09:41:40] PAGE 8

Radwaste Annual Activity from CCNPP to Hanford, WA

ACCIDENT SUMMARY
******** *******

EXPECTED VALUES OF POPULATION RISK IN PERSON-SV

	GROUND	INHALED	RESUSPD	CLOUDSH	TOTAL
LINK_1	1.47E-09	5.11E-12	4.89E-16	2.38E-13	1.47E-09
LINK_2	1.17E-08	4.09E-11	3.91E-15	1.90E-12	1.18E-08
LINK_3	5.95E-08	2.08E-10	1.99E-14	9.67E-12	5.98E-08
RURAL	1.47E-09	5.11E-12	4.89E-16	2.38E-13	1.47E-09
SUBURB	1.17E-08	4.09E-11	3.91E-15	1.90E-12	1.18E-08
URBAN	5.95E-08	2.08E-10	1.99E-14	9.67E-12	5.98E-08
TOTALS:	7.27E-08	2.54E-10	2.43E-14	1.18E-11	7.30E-08

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Radwaste Annual Activity from CCNPP to Hanford, WA

SOCIETAL INGESTION RISK - PERSON-SV

LINK	GONADS	EFFECTIVE
LINK_1	6.38E-10	6.46E-10
TOTAL	6.38E-10	6.46E-10

SOCIETAL INGESTION RISK BY ORGAN - PERSON-SV

LINK	BREAST	LUNGS	RED MARR	BONE SUR	THYROID	REMAINDER
LINK_1	4.45E-10	4.06E-10	5.93E-10	5.67E-10	4.13E-10	9.01E-10
TOTAL	4.45E-10	4.06E-10	5.93E-10	5.67E-10	4.13E-10	9.01E-10

EXPECTED RISK VALUES - OTHER

LINK	EARLY FATALITY	EARLY MORBIDITY
LINK_1	0.00E+00	0.00E+00
LINK_2	0.00E+00	0.00E+00
LINK_3	0.00E+00	0.00E+00
TOTAL	0.00E+00	0.00E+00

EOI
END OF RUN
SUCCESSFUL COMPLETION