Mail Envelope Properties (3899BE1F.CDF : 14 : 52731)

Subject: Appendix A to the SFP Consequence Assessment
Creation Date: Thu, Feb 3, 2000 12:42 PM
From: Jason Schaperow

Created By: TWFN_DO.TWF5_PO:JHS1

Recipients	**Action**	**Date & Time**
Post Office OWFN_DO.owf2_po	Delivered	02/03 12:43 PM
GTH (George Hubbard)		
TME (Tanya Eaton)		
Post Office TWFN_DO.twf5_po	Delivered	02/03 12:42 PM
CGT CC (Charles Tinkler)		

Domain.Post Office	**Delivered**	**Route**
OWFN_DO.owf2_po	02/03 12:43 PM	OWFN_DO.owf2_po
TWFN_DO.twf5_po	02/03 12:42 PM	TWFN_DO.twf5_po

Files	**Size**	**Date & Time**
append1.wpd	123095	Tuesday, July 6, 1999 11:29 AM
MESSAGE	552	Thursday, February 3, 2000 12:42 PM

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject: No
Security: Standard

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

c:\jaswp\store\store7\append1.wpd 7/6/99 4:29 p.m. (11:29 a.m.)

Appendix A

MACCS2 Input Files for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown

This appendix contains the MACCS2 input files for the Base Case with radionuclide inventories at 30 days following reactor shutdown. MACCS2 uses a total of five input files for each run. The first file (ATMOS.INP) contains the source term and atmospheric dispersion input. The second file (EARLY.INP) contains the input for emergency response and variables that are affected during the first week of the accident. The third file (CHRONC.INP) contains the input for variables that are affected after the first week of the accident. The fourth file (METSUR.INP) gives the meteorological data. For brevity, only the beginning and end of the METSUR.INP file are shown in this appendix. Finally, the fifth file (SURSIT.INP) gives the siting information, such as offsite population in each sector.

MACCS2 Input File for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown:

ATMOS.INP

```
* GENERAL DESCRIPTIVE TITLE DESCRIBING THIS "ATMOS" INPUT
*
RIATNAM1001 'IN1A.INP, Sample Problem A--Using Table-Lookup Sigmas, ATMOS input'
*******************************************************************************
* GEOMETRY DATA BLOCK, LOADED BY INPGEO, STORED IN /GEOM/
*
* NUMBER OF RADIAL SPATIAL ELEMENTS
*
GENUMRAD001  26
*
*  SURRY
*
GESPAEND001      .16       .52      1.21      1.61      2.13
GESPAEND002     3.22      4.02      4.83      5.63      8.05
GESPAEND003    11.27     16.09     20.92     25.75     32.19
GESPAEND004    40.23     48.28     64.37     80.47    112.65
GESPAEND005   160.93    241.14    321.87    563.27    804.67
GESPAEND006  1609.34
*******************************************************************************
* NUCLIDE DATA BLOCK, LOADED BY INPISO, STORED IN /ISOGRP/, /ISONAM/
*
* Number of pseudo-stable nuclides (used to truncate the decay chains)
*
ISNUMSTB001      27
*
* List of pseudo-stable nuclides
*
ISNAMSTB001     I-129    (daughter of Te-129 and Te-129m)
ISNAMSTB002     Xe-131m  (daughter of I-131)
ISNAMSTB003     Xe-133m  (daughter of I-133)
ISNAMSTB004     Xe-135m  (daughter of I-135)
ISNAMSTB005     Cs-135   (daughter of Xe-135 and Xe-135m)
ISNAMSTB006     Sm-147   (daughter of Pm-147)
ISNAMSTB007     U-234    (daughter of Pu-238)
ISNAMSTB008     U-235    (daughter of Pu-239)
ISNAMSTB009     U-236    (daughter of Pu-240)
ISNAMSTB010     U-237    (daughter of Pu-241)
ISNAMSTB011     Np-237   (daughter of Am-241)
ISNAMSTB012     Rb-87    (daughter of Kr-87)
ISNAMSTB013     Ba-137m  (daughter of Cs-137)
ISNAMSTB014     Rb-88    (daughter of Kr-88)
ISNAMSTB015     Y-91m    (daughter of Sr-91)
ISNAMSTB016     Zr-93    (daughter of Y-93)
ISNAMSTB017     Nb-93m   (daughter of Zr-93)
ISNAMSTB018     Nb-95m   (daughter of Zr-95)
ISNAMSTB019     Nb-97    (daughter of Zr-97 and Nb-97m)
ISNAMSTB020     Nb-97m   (daughter of Zr-97)
ISNAMSTB021     Tc-99    (daughter of Mo-99)
ISNAMSTB022     Rh-103m  (daughter of Ru-103)
ISNAMSTB023     Rh-106   (daughter of Ru-106)
ISNAMSTB024    Te-131    (daughter of Te-131m)
ISNAMSTB025     Pr-144   (daughter of Ce-144 and Pr-144m)
ISNAMSTB026     Pr-144m  (daughter of Ce-144)
ISNAMSTB027     Pm-147   (daughter of Nd-147)
*
* Number of radioactive nuclides to be considered
*
ISNUMISO001 60
*
* NUMBER OF NUCLIDE GROUPS
*
ISMAXGRP001  9
*
* WET AND DRY DEPOSITION FLAGS FOR EACH NUCLIDE GROUP
```

```
*
*               WETDEP      DRYDEP
*
ISDEPFLA001     .FALSE.     .FALSE.
ISDEPFLA002     .TRUE.      .TRUE.
ISDEPFLA003     .TRUE.      .TRUE.
ISDEPFLA004     .TRUE.      .TRUE.
ISDEPFLA005     .TRUE.      .TRUE.
ISDEPFLA006     .TRUE.      .TRUE.
ISDEPFLA007     .TRUE.      .TRUE.
ISDEPFLA008     .TRUE.      .TRUE.
ISDEPFLA009     .TRUE.      .TRUE.
*
* NUCLIDE GROUP DATA FOR 9 NUCLIDE GROUPS
*
*               NUCNAM      IGROUP
*
ISOTPGRP001     Co-58         6
ISOTPGRP002     Co-60         6
ISOTPGRP003     Kr-85         1
ISOTPGRP004     Kr-85m        1
ISOTPGRP005     Kr-87         1
ISOTPGRP006     Kr-88         1
ISOTPGRP007     Rb-86         3
ISOTPGRP008     Sr-89         5
ISOTPGRP009     Sr-90         5
ISOTPGRP010     Sr-91         5
ISOTPGRP011     Sr-92         5
ISOTPGRP012     Y-90          7
ISOTPGRP013     Y-91          7
ISOTPGRP014     Y-92          7
ISOTPGRP015     Y-93          7
ISOTPGRP016     Zr-95         7
ISOTPGRP017     Zr-97         7
ISOTPGRP018     Nb-95         7
ISOTPGRP019     Mo-99         6
ISOTPGRP020     Tc-99m        6
ISOTPGRP021     Ru-103        6
ISOTPGRP022     Ru-105        6
ISOTPGRP023     Ru-106        6
ISOTPGRP024     Rh-105        6
ISOTPGRP025     Sb-127        4
ISOTPGRP026     Sb-129        4
ISOTPGRP027     Te-127        4
ISOTPGRP028     Te-127m       4
ISOTPGRP029     Te-129        4
ISOTPGRP030     Te-129m       4
ISOTPGRP031     Te-131m       4
ISOTPGRP032     Te-132        4
ISOTPGRP033     I-131         2
ISOTPGRP034     I-132         2
ISOTPGRP035     I-133         2
ISOTPGRP036     I-134         2
ISOTPGRP037     I-135         2
ISOTPGRP038     Xe-133        1
ISOTPGRP039     Xe-135        1
ISOTPGRP040     Cs-134        3
ISOTPGRP041     Cs-136        3
ISOTPGRP042     Cs-137        3
ISOTPGRP043     Ba-139        9
ISOTPGRP044     Ba-140        9
ISOTPGRP045     La-140        7
ISOTPGRP046     La-141        7
ISOTPGRP047     La-142        7
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ISOTPGRP048     Ce-141        8
ISOTPGRP049     Ce-143        8
ISOTPGRP050     Ce-144        8
ISOTPGRP051     Pr-143        7
ISOTPGRP052     Nd-147        7
ISOTPGRP053     Np-239        8
ISOTPGRP054     Pu-238        8
ISOTPGRP055     Pu-239        8
ISOTPGRP056     Pu-240        8
ISOTPGRP057     Pu-241        8
ISOTPGRP058     Am-241        7
ISOTPGRP059     Cm-242        7
ISOTPGRP060     Cm-244        7
*******************************************************************************
* WET DEPOSITION DATA BLOCK, LOADED BY INPWET, STORED IN /WETCON/
*
* WASHOUT COEFFICIENT NUMBER ONE, LINEAR FACTOR
*
WDCWASH1001  9.5E-5    (JON HELTON AFTER JONES, 1986)
*
* WASHOUT COEFFICIENT NUMBER TWO, EXPONENTIAL FACTOR
*
WDCWASH2001  0.8       (JON HELTON AFTER JONES, 1986)
*******************************************************************************
* DRY DEPOSITION DATA BLOCK, LOADED BY INPDRY, STORED IN /DRYCON/
*
* NUMBER OF PARTICLE SIZE GROUPS
*
DDNPSGRP001   1
*
* DEPOSITION VELOCITY OF EACH PARTICLE SIZE GROUP (M/S)
*
DDVDEPOS001   0.01    (VALUE SELECTED BY S. ACHARYA, NRC)
*******************************************************************************
* DISPERSION PARAMETER DATA BLOCK, LOADED BY INPDIS, STORED IN /DISPY/, /DISPZ/
*
* # of distances in plume-size tables--which can be used as an alternative to the
power-law model:
* (to utilize the power-law model, set NUM_DIST to zero or delete the following data
card)
*
NUM_DIST001   50
*
* A-stability       Distance (m)   Sigma-y (m)     Sigma-z (m)
A-STB/DIS01         1.000E+00      3.6580E-01      2.5000E-04   Tadmor/Gur (0.5-5 km)
A-STB/DIS02         1.400E+00      4.9569E-01      5.1105E-04   Tadmor/Gur (0.5-5 km)
A-STB/DIS03         2.000E+00      6.8408E-01      1.0905E-03   Tadmor/Gur (0.5-5 km)
A-STB/DIS04         3.000E+00      9.8658E-01      2.5812E-03   Tadmor/Gur (0.5-5 km)
A-STB/DIS05         4.000E+00      1.2793E+00      4.7568E-03   Tadmor/Gur (0.5-5 km)
A-STB/DIS06         5.000E+00      1.5649E+00      7.6428E-03   Tadmor/Gur (0.5-5 km)
A-STB/DIS07         6.000E+00      1.8450E+00      1.1259E-02   Tadmor/Gur (0.5-5 km)
A-STB/DIS08         8.000E+00      2.3923E+00      2.0749E-02   Tadmor/Gur (0.5-5 km)
A-STB/DIS09         1.000E+01      2.9265E+00      3.3338E-02   Tadmor/Gur (0.5-5 km)
A-STB/DIS10         1.000E+02      2.3412E+01      4.4457E+00   Tadmor/Gur (0.5-5 km)
A-STB/DIS11         1.400E+02      3.1726E+01      9.0879E+00   Tadmor/Gur (0.5-5 km)
A-STB/DIS12         2.000E+02      4.3783E+01      1.9392E+01   Tadmor/Gur (0.5-5 km)
A-STB/DIS13         3.000E+02      6.3144E+01      4.5901E+01   Tadmor/Gur (0.5-5 km)
A-STB/DIS14         4.000E+02      8.1877E+01      8.4590E+01   Tadmor/Gur (0.5-5 km)
A-STB/DIS15         5.000E+02      1.0016E+02      1.3591E+02   Tadmor/Gur (0.5-5 km)
A-STB/DIS16         6.000E+02      1.1808E+02      2.0022E+02   Tadmor/Gur (0.5-5 km)
A-STB/DIS17         8.000E+02      1.5312E+02      3.6898E+02   Tadmor/Gur (0.5-5 km)
A-STB/DIS18         1.000E+03      1.8730E+02      5.9284E+02   Tadmor/Gur (0.5-5 km)
A-STB/DIS19         1.400E+03      2.5381E+02      1.2119E+03   Tadmor/Gur (0.5-5 km)
A-STB/DIS20         2.000E+03      3.5027E+02      2.5860E+03   Tadmor/Gur (0.5-5 km)
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A-STB/DIS21	3.000E+03	5.0516E+02	6.1210E+03	Tadmor/Gur (0.5-5 km)
A-STB/DIS22	4.000E+03	6.5503E+02	1.1280E+04	Tadmor/Gur (0.5-5 km)
A-STB/DIS23	5.000E+03	8.0128E+02	1.8124E+04	Tadmor/Gur (0.5-5 km)
A-STB/DIS24	6.000E+03	9.4470E+02	2.6700E+04	Tadmor/Gur (0.5-5 km)
A-STB/DIS25	8.000E+03	1.2250E+03	4.9205E+04	Tadmor/Gur (0.5-5 km)
A-STB/DIS26	1.000E+04	1.4985E+03	7.9057E+04	Tadmor/Gur (0.5-5 km)
A-STB/DIS27	1.400E+04	2.0305E+03	1.6161E+05	Tadmor/Gur (0.5-5 km)
A-STB/DIS28	2.000E+04	2.8022E+03	3.4485E+05	Tadmor/Gur (0.5-5 km)
A-STB/DIS29	3.000E+04	4.0414E+03	8.1625E+05	Tadmor/Gur (0.5-5 km)
A-STB/DIS30	4.000E+04	5.2404E+03	1.5042E+06	Tadmor/Gur (0.5-5 km)
A-STB/DIS31	5.000E+04	6.4104E+03	2.4169E+06	Tadmor/Gur (0.5-5 km)
A-STB/DIS32	6.000E+04	7.5577E+03	3.5605E+06	Tadmor/Gur (0.5-5 km)
A-STB/DIS33	8.000E+04	9.8000E+03	6.5615E+06	Tadmor/Gur (0.5-5 km)
A-STB/DIS34	1.000E+05	1.1988E+04	1.0542E+07	Tadmor/Gur (0.5-5 km)
A-STB/DIS35	1.400E+05	1.6245E+04	2.1551E+07	Tadmor/Gur (0.5-5 km)
A-STB/DIS36	2.000E+05	2.2418E+04	4.5986E+07	Tadmor/Gur (0.5-5 km)
A-STB/DIS37	3.000E+05	3.2332E+04	1.0885E+08	Tadmor/Gur (0.5-5 km)
A-STB/DIS38	4.000E+05	4.1924E+04	2.0059E+08	Tadmor/Gur (0.5-5 km)
A-STB/DIS39	5.000E+05	5.1284E+04	3.2229E+08	Tadmor/Gur (0.5-5 km)
A-STB/DIS40	6.000E+05	6.0463E+04	4.7480E+08	Tadmor/Gur (0.5-5 km)
A-STB/DIS41	8.000E+05	7.8401E+04	8.7500E+08	Tadmor/Gur (0.5-5 km)
A-STB/DIS42	1.000E+06	9.5906E+04	1.4059E+09	Tadmor/Gur (0.5-5 km)
A-STB/DIS43	1.400E+06	1.2996E+05	2.8738E+09	Tadmor/Gur (0.5-5 km)
A-STB/DIS44	2.000E+06	1.7935E+05	6.1324E+09	Tadmor/Gur (0.5-5 km)
A-STB/DIS45	3.000E+06	2.5866E+05	1.4515E+10	Tadmor/Gur (0.5-5 km)
A-STB/DIS46	4.000E+06	3.3540E+05	2.6750E+10	Tadmor/Gur (0.5-5 km)
A-STB/DIS47	5.000E+06	4.1028E+05	4.2979E+10	Tadmor/Gur (0.5-5 km)
A-STB/DIS48	6.000E+06	4.8372E+05	6.3316E+10	Tadmor/Gur (0.5-5 km)
A-STB/DIS49	8.000E+06	6.2723E+05	1.1668E+11	Tadmor/Gur (0.5-5 km)
A-STB/DIS50	1.000E+07	7.6726E+05	1.8747E+11	Tadmor/Gur (0.5-5 km)
*				
* B-stability	Distance (m)	Sigma-y (m)	Sigma-z (m)	
B-STB/DIS01	1.000E+00	2.7510E-01	1.9000E-03	Tadmor/Gur (0.5-5 km)
B-STB/DIS02	1.400E+00	3.7279E-01	3.2574E-03	Tadmor/Gur (0.5-5 km)
B-STB/DIS03	2.000E+00	5.1446E-01	5.7681E-03	Tadmor/Gur (0.5-5 km)
B-STB/DIS04	3.000E+00	7.4196E-01	1.1045E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS05	4.000E+00	9.6208E-01	1.7511E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS06	5.000E+00	1.1769E+00	2.5036E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS07	6.000E+00	1.3875E+00	3.3530E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS08	8.000E+00	1.7992E+00	5.3161E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS09	1.000E+01	2.2009E+00	7.6007E-02	Tadmor/Gur (0.5-5 km)
B-STB/DIS10	1.000E+02	1.7607E+01	3.0406E+00	Tadmor/Gur (0.5-5 km)
B-STB/DIS11	1.400E+02	2.3859E+01	5.2127E+00	Tadmor/Gur (0.5-5 km)
B-STB/DIS12	2.000E+02	3.2927E+01	9.2307E+00	Tadmor/Gur (0.5-5 km)
B-STB/DIS13	3.000E+02	4.7487E+01	1.7675E+01	Tadmor/Gur (0.5-5 km)
B-STB/DIS14	4.000E+02	6.1576E+01	2.8023E+01	Tadmor/Gur (0.5-5 km)
B-STB/DIS15	5.000E+02	7.5323E+01	4.0066E+01	Tadmor/Gur (0.5-5 km)
B-STB/DIS16	6.000E+02	8.8805E+01	5.3657E+01	Tadmor/Gur (0.5-5 km)
B-STB/DIS17	8.000E+02	1.1515E+02	8.5073E+01	Tadmor/Gur (0.5-5 km)
B-STB/DIS18	1.000E+03	1.4086E+02	1.2163E+02	Tadmor/Gur (0.5-5 km)
B-STB/DIS19	1.400E+03	1.9088E+02	2.0853E+02	Tadmor/Gur (0.5-5 km)
B-STB/DIS20	2.000E+03	2.6342E+02	3.6926E+02	Tadmor/Gur (0.5-5 km)
B-STB/DIS21	3.000E+03	3.7991E+02	7.0705E+02	Tadmor/Gur (0.5-5 km)
B-STB/DIS22	4.000E+03	4.9262E+02	1.1210E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS23	5.000E+03	6.0260E+02	1.6028E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS24	6.000E+03	7.1046E+02	2.1465E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS25	8.000E+03	9.2124E+02	3.4033E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS26	1.000E+04	1.1269E+03	4.8658E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS27	1.400E+04	1.5271E+03	8.3419E+03	Tadmor/Gur (0.5-5 km)
B-STB/DIS28	2.000E+04	2.1074E+03	1.4772E+04	Tadmor/Gur (0.5-5 km)
B-STB/DIS29	3.000E+04	3.0393E+03	2.8285E+04	Tadmor/Gur (0.5-5 km)
B-STB/DIS30	4.000E+04	3.9410E+03	4.4845E+04	Tadmor/Gur (0.5-5 km)
B-STB/DIS31	5.000E+04	4.8209E+03	6.4117E+04	Tadmor/Gur (0.5-5 km)
B-STB/DIS32	6.000E+04	5.6838E+03	8.5868E+04	Tadmor/Gur (0.5-5 km)

B-STB/DIS33	8.000E+04	7.3701E+03	1.3614E+05	Tadmor/Gur (0.5-5 km)
B-STB/DIS34	1.000E+05	9.0155E+03	1.9465E+05	Tadmor/Gur (0.5-5 km)
B-STB/DIS35	1.400E+05	1.2217E+04	3.3371E+05	Tadmor/Gur (0.5-5 km)
B-STB/DIS36	2.000E+05	1.6860E+04	5.9093E+05	Tadmor/Gur (0.5-5 km)
B-STB/DIS37	3.000E+05	2.4315E+04	1.1315E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS38	4.000E+05	3.1529E+04	1.7940E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS39	5.000E+05	3.8568E+04	2.5649E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS40	6.000E+05	4.5471E+04	3.4350E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS41	8.000E+05	5.8962E+04	5.4462E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS42	1.000E+06	7.2126E+04	7.7867E+06	Tadmor/Gur (0.5-5 km)
B-STB/DIS43	1.400E+06	9.7737E+04	1.3350E+07	Tadmor/Gur (0.5-5 km)
B-STB/DIS44	2.000E+06	1.3488E+05	2.3639E+07	Tadmor/Gur (0.5-5 km)
B-STB/DIS45	3.000E+06	1.9453E+05	4.5264E+07	Tadmor/Gur (0.5-5 km)
B-STB/DIS46	4.000E+06	2.5224E+05	7.1765E+07	Tadmor/Gur (0.5-5 km)
B-STB/DIS47	5.000E+06	3.0855E+05	1.0261E+08	Tadmor/Gur (0.5-5 km)
B-STB/DIS48	6.000E+06	3.6378E+05	1.3741E+08	Tadmor/Gur (0.5-5 km)
B-STB/DIS49	8.000E+06	4.7171E+05	2.1787E+08	Tadmor/Gur (0.5-5 km)
B-STB/DIS50	1.000E+07	5.7702E+05	3.1150E+08	Tadmor/Gur (0.5-5 km)
*				
* C-stability	Distance (m)	Sigma-y (m)	Sigma-z (m)	
C-STB/DIS01	1.000E+00	2.0890E-01	2.0000E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS02	1.400E+00	2.8308E-01	2.6660E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS03	2.000E+00	3.9066E-01	3.6158E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS04	3.000E+00	5.6341E-01	5.1125E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS05	4.000E+00	7.3056E-01	6.5369E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS06	5.000E+00	8.9367E-01	7.9097E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS07	6.000E+00	1.0536E+00	9.2428E-01	Tadmor/Gur (0.5-5 km)
C-STB/DIS08	8.000E+00	1.3662E+00	1.1818E+00	Tadmor/Gur (0.5-5 km)
C-STB/DIS09	1.000E+01	1.6712E+00	1.4300E+00	Tadmor/Gur (0.5-5 km)
C-STB/DIS10	1.000E+02	1.3370E+01	1.0224E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS11	1.400E+02	1.8118E+01	1.3629E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS12	2.000E+02	2.5003E+01	1.8484E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS13	3.000E+02	3.6060E+01	2.6136E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS14	4.000E+02	4.6758E+01	3.3417E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS15	5.000E+02	5.7198E+01	4.0435E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS16	6.000E+02	6.7435E+01	4.7250E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS17	8.000E+02	8.7442E+01	6.0414E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS18	1.000E+03	1.0696E+02	7.3102E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS19	1.400E+03	1.4495E+02	9.7447E+01	Tadmor/Gur (0.5-5 km)
C-STB/DIS20	2.000E+03	2.0003E+02	1.3216E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS21	3.000E+03	2.8849E+02	1.8687E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS22	4.000E+03	3.7408E+02	2.3893E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS23	5.000E+03	4.5759E+02	2.8911E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS24	6.000E+03	5.3949E+02	3.3784E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS25	8.000E+03	6.9955E+02	4.3196E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS26	1.000E+04	8.5573E+02	5.2267E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS27	1.400E+04	1.1596E+03	6.9673E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS28	2.000E+04	1.6003E+03	9.4493E+02	Tadmor/Gur (0.5-5 km)
C-STB/DIS29	3.000E+04	2.3080E+03	1.3361E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS30	4.000E+04	2.9927E+03	1.7083E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS31	5.000E+04	3.6608E+03	2.0671E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS32	6.000E+04	4.3161E+03	2.4155E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS33	8.000E+04	5.5965E+03	3.0884E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS34	1.000E+05	6.8460E+03	3.7371E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS35	1.400E+05	9.2770E+03	4.9816E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS36	2.000E+05	1.2803E+04	6.7562E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS37	3.000E+05	1.8464E+04	9.5529E+03	Tadmor/Gur (0.5-5 km)
C-STB/DIS38	4.000E+05	2.3942E+04	1.2214E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS39	5.000E+05	2.9287E+04	1.4780E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS40	6.000E+05	3.4529E+04	1.7270E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS41	8.000E+05	4.4773E+04	2.2082E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS42	1.000E+06	5.4769E+04	2.6720E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS43	1.400E+06	7.4218E+04	3.5618E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS44	2.000E+06	1.0242E+05	4.8306E+04	Tadmor/Gur (0.5-5 km)

C-STB/DIS45	3.000E+06	1.4772E+05	6.8302E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS46	4.000E+06	1.9154E+05	8.7331E+04	Tadmor/Gur (0.5-5 km)
C-STB/DIS47	5.000E+06	2.3430E+05	1.0567E+05	Tadmor/Gur (0.5-5 km)
C-STB/DIS48	6.000E+06	2.7624E+05	1.2348E+05	Tadmor/Gur (0.5-5 km)
C-STB/DIS49	8.000E+06	3.5819E+05	1.5788E+05	Tadmor/Gur (0.5-5 km)
C-STB/DIS50	1.000E+07	4.3817E+05	1.9104E+05	Tadmor/Gur (0.5-5 km)
*				
* D-stability	Distance (m)	Sigma-y (m)	Sigma-z (m)	
D-STB/DIS01	1.000E+00	1.4740E-01	3.0000E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS02	1.400E+00	1.9974E-01	3.7374E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS03	2.000E+00	2.7565E-01	4.7180E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS04	3.000E+00	3.9754E-01	6.1486E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS05	4.000E+00	5.1549E-01	7.4197E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS06	5.000E+00	6.3058E-01	8.5840E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS07	6.000E+00	7.4344E-01	9.6696E-01	Tadmor/Gur (0.5-5 km)
D-STB/DIS08	8.000E+00	9.6400E-01	1.1669E+00	Tadmor/Gur (0.5-5 km)
D-STB/DIS09	1.000E+01	1.1792E+00	1.3500E+00	Tadmor/Gur (0.5-5 km)
D-STB/DIS10	1.000E+02	9.4340E+00	6.0746E+00	Tadmor/Gur (0.5-5 km)
D-STB/DIS11	1.400E+02	1.2784E+01	7.5678E+00	Tadmor/Gur (0.5-5 km)
D-STB/DIS12	2.000E+02	1.7642E+01	9.5533E+00	Tadmor/Gur (0.5-5 km)
D-STB/DIS13	3.000E+02	2.5444E+01	1.2450E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS14	4.000E+02	3.2993E+01	1.5024E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS15	5.000E+02	4.0359E+01	1.7382E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS16	6.000E+02	4.7582E+01	1.9580E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS17	8.000E+02	6.1699E+01	2.3628E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS18	1.000E+03	7.5474E+01	2.7335E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS19	1.400E+03	1.0227E+02	3.4054E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS20	2.000E+03	1.4114E+02	4.2989E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS21	3.000E+03	2.0356E+02	5.6024E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS22	4.000E+03	2.6395E+02	6.7606E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS23	5.000E+03	3.2288E+02	7.8215E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS24	6.000E+03	3.8067E+02	8.8107E+01	Tadmor/Gur (0.5-5 km)
D-STB/DIS25	8.000E+03	4.9360E+02	1.0632E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS26	1.000E+04	6.0381E+02	1.2300E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS27	1.400E+04	8.1821E+02	1.5324E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS28	2.000E+04	1.1292E+03	1.9344E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS29	3.000E+04	1.6285E+03	2.5210E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS30	4.000E+04	2.1116E+03	3.0422E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS31	5.000E+04	2.5831E+03	3.5196E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS32	6.000E+04	3.0454E+03	3.9647E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS33	8.000E+04	3.9489E+03	4.7843E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS34	1.000E+05	4.8306E+03	5.5350E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS35	1.400E+05	6.5458E+03	6.8956E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS36	2.000E+05	9.0335E+03	8.7047E+02	Tadmor/Gur (0.5-5 km)
D-STB/DIS37	3.000E+05	1.3028E+04	1.1344E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS38	4.000E+05	1.6893E+04	1.3689E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS39	5.000E+05	2.0665E+04	1.5838E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS40	6.000E+05	2.4364E+04	1.7841E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS41	8.000E+05	3.1592E+04	2.1529E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS42	1.000E+06	3.8645E+04	2.4907E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS43	1.400E+06	5.2368E+04	3.1029E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS44	2.000E+06	7.2270E+04	3.9170E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS45	3.000E+06	1.0423E+05	5.1048E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS46	4.000E+06	1.3515E+05	6.1601E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS47	5.000E+06	1.6532E+05	7.1267E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS48	6.000E+06	1.9492E+05	8.0280E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS49	8.000E+06	2.5274E+05	9.6877E+03	Tadmor/Gur (0.5-5 km)
D-STB/DIS50	1.000E+07	3.0917E+05	1.1208E+04	Tadmor/Gur (0.5-5 km)
*				
* E-stability	Distance (m)	Sigma-y (m)	Sigma-z (m)	
E-STB/DIS01	1.000E+00	1.0460E-01	4.0000E-01	Tadmor/Gur (0.5-5 km)
E-STB/DIS02	1.400E+00	1.4174E-01	4.8983E-01	Tadmor/Gur (0.5-5 km)
E-STB/DIS03	2.000E+00	1.9561E-01	6.0717E-01	Tadmor/Gur (0.5-5 km)
E-STB/DIS04	3.000E+00	2.8211E-01	7.7506E-01	Tadmor/Gur (0.5-5 km)

E-STB/DIS05	4.000E+00	3.6581E-01	9.2164E-01	Tadmor/Gur (0.5-5 km)
E-STB/DIS06	5.000E+00	4.4748E-01	1.0542E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS07	6.000E+00	5.2757E-01	1.1765E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS08	8.000E+00	6.8409E-01	1.3990E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS09	1.000E+01	8.3682E-01	1.6001E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS10	1.000E+02	6.6947E+00	6.4012E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS11	1.400E+02	9.0719E+00	7.8387E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS12	2.000E+02	1.2520E+01	9.7165E+00	Tadmor/Gur (0.5-5 km)
E-STB/DIS13	3.000E+02	1.8056E+01	1.2403E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS14	4.000E+02	2.3413E+01	1.4749E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS15	5.000E+02	2.8640E+01	1.6870E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS16	6.000E+02	3.3766E+01	1.8827E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS17	8.000E+02	4.3784E+01	2.2388E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS18	1.000E+03	5.3559E+01	2.5607E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS19	1.400E+03	7.2577E+01	3.1358E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS20	2.000E+03	1.0016E+02	3.8870E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS21	3.000E+03	1.4445E+02	4.9617E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS22	4.000E+03	1.8731E+02	5.9001E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS23	5.000E+03	2.2912E+02	6.7485E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS24	6.000E+03	2.7013E+02	7.5316E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS25	8.000E+03	3.5028E+02	8.9559E+01	Tadmor/Gur (0.5-5 km)
E-STB/DIS26	1.000E+04	4.2848E+02	1.0244E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS27	1.400E+04	5.8063E+02	1.2544E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS28	2.000E+04	8.0129E+02	1.5549E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS29	3.000E+04	1.1556E+03	1.9849E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS30	4.000E+04	1.4985E+03	2.3603E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS31	5.000E+04	1.8330E+03	2.6997E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS32	6.000E+04	2.1611E+03	3.0129E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS33	8.000E+04	2.8023E+03	3.5827E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS34	1.000E+05	3.4279E+03	4.0979E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS35	1.400E+05	4.6452E+03	5.0182E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS36	2.000E+05	6.4105E+03	6.2203E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS37	3.000E+05	9.2453E+03	7.9403E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS38	4.000E+05	1.1988E+04	9.4419E+02	Tadmor/Gur (0.5-5 km)
E-STB/DIS39	5.000E+05	1.4665E+04	1.0800E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS40	6.000E+05	1.7289E+04	1.2053E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS41	8.000E+05	2.2419E+04	1.4332E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS42	1.000E+06	2.7424E+04	1.6393E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS43	1.400E+06	3.7162E+04	2.0074E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS44	2.000E+06	5.1285E+04	2.4883E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS45	3.000E+06	7.3964E+04	3.1764E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS46	4.000E+06	9.5907E+04	3.7771E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS47	5.000E+06	1.1732E+05	4.3203E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS48	6.000E+06	1.3832E+05	4.8215E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS49	8.000E+06	1.7935E+05	5.7334E+03	Tadmor/Gur (0.5-5 km)
E-STB/DIS50	1.000E+07	2.1940E+05	6.5578E+03	Tadmor/Gur (0.5-5 km)
*				
* F-stability	Distance (m)	Sigma-y (m)	Sigma-z (m)	
F-STB/DIS01	1.000E+00	7.2200E-02	2.0000E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS02	1.400E+00	9.7838E-02	2.4491E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS03	2.000E+00	1.3502E-01	3.0356E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS04	3.000E+00	1.9473E-01	3.8749E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS05	4.000E+00	2.5250E-01	4.6076E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS06	5.000E+00	3.0887E-01	5.2700E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS07	6.000E+00	3.6415E-01	5.8814E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS08	8.000E+00	4.7219E-01	6.9934E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS09	1.000E+01	5.7761E-01	7.9989E-01	Tadmor/Gur (0.5-5 km)
F-STB/DIS10	1.000E+02	4.6210E+00	3.1991E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS11	1.400E+02	6.2619E+00	3.9174E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS12	2.000E+02	8.6417E+00	4.8557E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS13	3.000E+02	1.2463E+01	6.1981E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS14	4.000E+02	1.6161E+01	7.3700E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS15	5.000E+02	1.9769E+01	8.4297E+00	Tadmor/Gur (0.5-5 km)
F-STB/DIS16	6.000E+02	2.3307E+01	9.4076E+00	Tadmor/Gur (0.5-5 km)

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F-STB/DIS17        8.000E+02     3.0222E+01     1.1186E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS18        1.000E+03     3.6969E+01     1.2795E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS19        1.400E+03     5.0096E+01     1.5667E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS20        2.000E+03     6.9135E+01     1.9420E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS21        3.000E+03     9.9707E+01     2.4789E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS22        4.000E+03     1.2929E+02     2.9476E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS23        5.000E+03     1.5815E+02     3.3714E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS24        6.000E+03     1.8646E+02     3.7625E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS25        8.000E+03     2.4178E+02     4.4739E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS26        1.000E+04     2.9576E+02     5.1172E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS27        1.400E+04     4.0078E+02     6.2661E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS28        2.000E+04     5.5309E+02     7.7669E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS29        3.000E+04     7.9767E+02     9.9142E+01  Tadmor/Gur (0.5-5 km)
F-STB/DIS30        4.000E+04     1.0343E+03     1.1789E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS31        5.000E+04     1.2653E+03     1.3484E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS32        6.000E+04     1.4917E+03     1.5048E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS33        8.000E+04     1.9343E+03     1.7893E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS34        1.000E+05     2.3661E+03     2.0466E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS35        1.400E+05     3.2063E+03     2.5061E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS36        2.000E+05     4.4248E+03     3.1063E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS37        3.000E+05     6.3815E+03     3.9651E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS38        4.000E+05     8.2748E+03     4.7149E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS39        5.000E+05     1.0122E+04     5.3927E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS40        6.000E+05     1.1934E+04     6.0183E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS41        8.000E+05     1.5475E+04     7.1563E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS42        1.000E+06     1.8929E+04     8.1852E+02  Tadmor/Gur (0.5-5 km)
F-STB/DIS43        1.400E+06     2.5651E+04     1.0023E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS44        2.000E+06     3.5400E+04     1.2424E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS45        3.000E+06     5.1053E+04     1.5858E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS46        4.000E+06     6.6200E+04     1.8857E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS47        5.000E+06     8.0980E+04     2.1568E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS48        6.000E+06     9.5474E+04     2.4070E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS49        8.000E+06     1.2380E+05     2.8621E+03  Tadmor/Gur (0.5-5 km)
F-STB/DIS50        1.000E+07     1.5144E+05     3.2736E+03  Tadmor/Gur (0.5-5 km)
*
*  LINEAR SCALING FACTOR FOR SIGMA-Y FUNCTION, NORMALLY 1
*
DPYSCALE001    1.
*
*  LINEAR SCALING FACTOR FOR SIGMA-Z FUNCTION,
*  NORMALLY USED FOR SURFACE ROUGHNESS LENGTH CORRECTION.
*  (Z1 / Z0) ** 0.2,   FROM CRAC2 WE HAVE  (10 CM / 3 CM) ** 0.2 = 1.27
*
DPZSCALE001    1.27
*************************************************************************** *
* EXPANSION FACTOR DATA BLOCK, LOADED BY INPEXP, STORED IN /EXPAND/
*
* TIME BASE FOR EXPANSION FACTOR (SECONDS)
*
PMTIMBAS001    600.   (10 MINUTES)
*
* BREAK POINT FOR FORMULA CHANGE (SECONDS)
*
PMBRKPNT001   3600.   (1 HOUR)
*
* EXPONENTIAL EXPANSION FACTOR NUMBER 1
*
PMXPFAC1001      0.2
*
* EXPONENTIAL EXPANSION FACTOR NUMBER 2
*
PMXPFAC2001      0.25
*************************************************************************
* PLUME RISE DATA BLOCK, LOADED BY INPLRS, STORED IN /PLUMRS/
```

```
*
* SCALING FACTOR FOR THE CRITICAL WIND SPEED FOR ENTRAINMENT OF A BOUYANT PLUME
* (USED BY FUNCTION CAUGHT)
*
PRSCLCRW001   1.
*
* SCALING FACTOR FOR THE A-D STABILITY PLUME RISE FORMULA
* (USED BY FUNCTION PLMRIS)
*
PRSCLADP001   1.
*
* SCALING FACTOR FOR THE E-F STABILITY PLUME RISE FORMULA
* (USED BY FUNCTION PLMRIS)
*
PRSCLEFP001   1.
*******************************************************************************
* RELEASE DATA BLOCK, LOADED BY INPREL, STORED IN /ATNAM2/, /MULREL/
*
RDATNAM2001 'SECOND DRAFT 1150, WORST CASE SOURCE TERM FOR EARLY FATALITIES'
*
* TIME AFTER ACCIDENT INITIATION WHEN THE ACCIDENT REACHES GENERAL EMERGENCY
* CONDITIONS (AS DEFINED IN NUREG-0654), OR WHEN PLANT PERSONNEL CAN RELIABLY
* PREDICT THAT GENERAL EMERGENCY CONDITIONS WILL BE ATTAINED
*
RDOALARM001      1300.
*
* NUMBER OF PLUME SEGMENTS THAT ARE RELEASED
*
RDNUMREL001          1
*
* SELECTION OF RISK DOMINANT PLUME
*
RDMAXRIS001          1
*
* REFERENCE TIME FOR DISPERSION AND RADIOACTIVE DECAY
*
RDREFTIM001       0.00
*
* HEAT CONTENT OF THE RELEASE SEGMENTS (W)
* A VALUE SPECIFIED FOR EACH OF THE RELEASE SEGMENTS
*
RDPLHEAT001     3.7E+6
*
* HEIGHT OF THE PLUME SEGMENTS AT RELEASE (M)
* A VALUE SPECIFIED FOR EACH OF THE RELEASE SEGMENTS
*
RDPLHITE001         0.
*
* DURATION OF THE PLUME SEGMENTS (S)
* A VALUE SPECIFIED FOR EACH OF THE RELEASE SEGMENTS
*
RDPLUDUR001      1800.
*
* TIME OF RELEASE FOR EACH PLUME (S AFTER SCRAM)
* A VALUE SPECIFIED FOR EACH OF THE RELEASE SEGMENTS
*
RDPDELAY001      3700.
*
* Initial value of sigma-y for each plume--Note: values required for each plume
*
SIGYINIT001  9.302  (initial sigma-y, calculated for 40 meter wide bldg.)
*
* Initial value of sigma-z for each plume--Note: values required for each plume
*
```

```
SIGZINIT001  23.26  (initial sigma-z, calculated for 50 meter high bldg.)
*
* Building height (meters)--Note: values required for each plume
*
WEBUILDH001   50.0  (Surry)
*
* PARTICLE SIZE DISTRIBUTION OF EACH NUCLIDE GROUP
* YOU MUST SPECIFY A COLUMN OF DATA FOR EACH OF THE PARTICLE SIZE GROUPS
*
RDPSDIST001      1.
RDPSDIST002      1.
RDPSDIST003      1.
RDPSDIST004      1.
RDPSDIST005      1.
RDPSDIST006      1.
RDPSDIST007      1.
RDPSDIST008      1.
RDPSDIST009      1.
*
* Millstone 1 spent fuel pool inventory
* - spent fuel pool contains 11 batches of spent fuel plus rest of last core
* - inventory reflects 30 days of radioactive decay since last batch
*   was put in pool
* - inventory is based on inventories in NUREG/CR-4982, July 1987
* - Millstone 1 has a power of 2011 MWt
*
*               NUCNAM        CORINV (Bq)
*
RDCORINV001     Co-58         2.430E+15
RDCORINV002     Co-60         1.690E+16
RDCORINV003     Kr-85         6.300E+16
RDCORINV004     Kr-85m        0.000E+00
RDCORINV005     Kr-87         0.000E+00
RDCORINV006     Kr-88         0.000E+00
RDCORINV007     Rb-86         7.570E+14
RDCORINV008     Sr-89         1.150E+18
RDCORINV009     Sr-90         6.110E+17
RDCORINV010     Sr-91         0.000E+00
RDCORINV011     Sr-92         0.000E+00
RDCORINV012     Y-90          6.190E+17
RDCORINV013     Y-91          1.570E+18
RDCORINV014     Y-92          0.000E+00
RDCORINV015     Y-93          0.000E+00
RDCORINV016     Zr-95         2.330E+18
RDCORINV017     Zr-97         0.000E+00
RDCORINV018     Nb-95         2.390E+18
RDCORINV019     Mo-99         1.470E+15
RDCORINV020     Tc-99m        1.290E+15
RDCORINV021     Ru-103        1.530E+18
RDCORINV022     Ru-105        0.000E+00
RDCORINV023     Ru-106        1.090E+18
RDCORINV024     Rh-105        0.000E+00
RDCORINV025     Sb-127        7.740E+14
RDCORINV026     Sb-129        0.000E+00
RDCORINV027     Te-127        2.050E+16
RDCORINV028     Te-127m       2.050E+16
RDCORINV029     Te-129        4.480E+16
RDCORINV030     Te-129m       4.460E+16
RDCORINV031     Te-131m       0.000E+00
RDCORINV032     Te-132        3.750E+15
RDCORINV033     I-131         1.300E+17
RDCORINV034     I-132         3.810E+15
RDCORINV035     I-133         0.000E+00
RDCORINV036     I-134         0.000E+00
```

```
RDCORINV037     I-135          0.000E+00
RDCORINV038     Xe-133         6.600E+16
RDCORINV039     Xe-135         0.000E+00
RDCORINV040     Cs-134         3.810E+17
RDCORINV041     Cs-136         1.610E+16
RDCORINV042     Cs-137         8.580E+17
RDCORINV043     Ba-139         0.000E+00
RDCORINV044     Ba-140         6.100E+17
RDCORINV045     La-140         6.230E+17
RDCORINV046     La-141         0.000E+00
RDCORINV047     La-142         0.000E+00
RDCORINV048     Ce-141         1.550E+18
RDCORINV049     Ce-143         0.000E+00
RDCORINV050     Ce-144         2.350E+18
RDCORINV051     Pr-143         5.910E+17
RDCORINV052     Nd-147         1.770E+17
RDCORINV053     Np-239         6.470E+15
RDCORINV054     Pu-238         1.760E+16
RDCORINV055     Pu-239         3.870E+15
RDCORINV056     Pu-240         5.400E+15
RDCORINV057     Pu-241         9.470E+17
RDCORINV058     Am-241         1.080E+16
RDCORINV059     Cm-242         7.320E+16
RDCORINV060     Cm-244         8.700E+15
*
*  SCALING FACTOR TO ADJUST THE CORE INVENTORY FOR POWER LEVEL
*
RDCORSCA001   1.711  *  convert from Millstone to Susquehanna
*                       by multiplying by ratio of powers
*                       (3441MWt/2011MWt)
*
*
RDAPLFRC001   PARENT      (apply rel fracs the same as prior versions)
*
* RELEASE FRACTIONS FOR ISOTOPE GROUPS IN RELEASE
*
*  ISOTOPE GROUPS:
*
*            XE/KR    I     CS     TE     SR     RU     LA     CE     BA
*
RDRELFRC001 1.0E+0 1.0E+0 1.0E+0 2.0E-2 2.0E-3 2.0E-5 1.0E-6 1.0E-6 2.0E-3
*******************************************************************************
* OUTPUT CONTROL DATA BLOCK, LOADED BY INPOPT, STORED IN /STOPME/, /ATMOPT/
*
* FLAG TO INDICATE THAT THIS IS THE LAST PROGRAM IN THE SERIES TO BE RUN
*
OCENDAT1001  .FALSE. (SET THIS VALUE TO .TRUE. TO SKIP EARLY AND CHRONC)
*
OCIDEBUG001  0
*
* NAME OF THE NUCLIDE TO BE LISTED ON THE DISPERSION LISTINGS
*
OCNUCOUT001  Cs-137
*
*              NUM0
TYPE0NUMBER      2
*
*              INDREL   INDRAD
TYPE0OUT001       1        9
TYPE0OUT002       1       10         XCCDF
*******************************************************************************
* METEOROLOGICAL SAMPLING DATA BLOCK
*
* METEOROLOGICAL SAMPLING OPTION CODE:
```

```
*
* METCOD = 1, USER SPECIFIED DAY AND HOUR IN THE YEAR (FROM MET FILE),
*          2, WEATHER CATEGORY BIN SAMPLING,
*          3, 120 HOURS OF WEATHER SPECIFIED ON THE ATMOS USER INPUT FILE,
*          4, CONSTANT MET (BOUNDARY WEATHER USED FROM THE START),
*          5, STRATIFIED RANDOM SAMPLES FOR EACH DAY OF THE YEAR.
*
M1METCOD001  2
*
* LAST SPATIAL INTERVAL FOR MEASURED WEATHER
*
M2LIMSPA001  25
*
* BOUNDARY WEATHER MIXING LAYER HEIGHT
*
M2BNDMXH001  1000.  (METERS)
*
* BOUNDARY WEATHER STABILITY CLASS INDEX
*
M2IBDSTB001  4      (D-STABILITY)
*
* BOUNDARY WEATHER RAIN RATE
*
M2BNDRAN001  5.     (MM/HR)
*
* BOUNDARY WEATHER WIND SPEED
*
M2BNDWND001  5.     (M/S)
*
* NUMBER OF RAIN DISTANCE INTERVALS FOR BINNING
*
M4NRNINT001  5
*
* ENDPOINTS OF THE RAIN DISTANCE INTERVALS (KILOMETERS)
*
* NOTE: THESE MUST BE CHOSEN TO MATCH THE SPATIAL ENDPOINT DISTANCES
*       SPECIFIED FOR THE ARRAY SPAEND (10 % ERROR IS ALLOWED).
*
M4RNDSTS001  3.22  5.63  11.27  20.92  32.19
*
* NUMBER OF RAIN INTENSITIY BREAKPOINTS
*
M4NRINTN001   3
*
* RAIN INTENSITY BREAKPOINTS FOR WEATHER BINNING (MILLIMETERS PER HOUR)
*
M4RNRATE001   2.  4.  6.
*
* NUMBER OF SAMPLES PER BIN
*
M4NSMPLS001  4  (THIS NUMBER SHOULD BE SET TO 4 FOR RISK ASSESSMENT)
*
* INITIAL SEED FOR RANDOM NUMBER GENERATOR
*
M4IRSEED001   79
.
*
*
*****************************************************************
* 4/14/99: J. Schaperow commented out source term number 2 of 2.*
*****************************************************************
*
*
********************* RELEASE DATA BLOCK *************
```

```
* SOURCE TERM NUMBER 2 OF 2
*
*RDATNAM2001 'RELEASE FRACTIONS OF SOURCE TERM 1 REDUCED BY A FACTOR OF TEN'
*
*            XE/KR     I      CS      TE      SR      RU      LA      CE      BA
*
*RDRELFRC001 1.0E-1 6.8E-2 6.4E-2 1.7E-2 4.2E-4 2.3E-4 1.6E-5 4.0E-5 6.3E-4
*RDRELFRC002 4.3E-4 9.5E-4 2.4E-4 1.4E-2 6.8E-3 4.7E-5 6.8E-4 7.1E-4 5.4E-3
*.
```

MACCS2 Input File for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown:

EARLY.INP

```
* GENERAL DESCRIPTIVE TITLE DESCRIBING THIS "EARLY" INPUT FILE
*
MIEANAM1001 'IN2A.INP, Sample Problem A of NUREG/CR-4691, Vol. 1, EARLY input'
DCF_FILE001 'DOSDATA.INP'  (DCF file of MACCS 1.5.11.1)
*
*             ORGNAM          ORGFLG
*
MIORGDEF001  'A-SKIN'         .TRUE.
MIORGDEF002  'A-RED MARR'     .TRUE.
MIORGDEF003  'A-LUNGS'        .TRUE.
MIORGDEF004  'A-THYROIDH'     .TRUE.
MIORGDEF005  'A-STOMACH'      .TRUE.
MIORGDEF006  'A-LOWER LI'     .FALSE.  (does not contribute to early fatalities)
MIORGDEF007  'L-EDEWBODY'     .TRUE.
MIORGDEF008  'L-RED MARR'     .TRUE.
MIORGDEF009  'L-BONE SUR'     .TRUE.
MIORGDEF010  'L-BREAST'       .TRUE.
MIORGDEF011  'L-LUNGS'        .TRUE.
MIORGDEF012  'L-THYROID'      .TRUE.
MIORGDEF013  'L-LOWER LI'     .TRUE.
MIORGDEF014  'L-BLAD WAL'     .TRUE.
MIORGDEF015  'L-LIVER'        .FALSE.
MIORGDEF016  'L-THYROIDH'     .TRUE.
*
* FLAG TO INDICATE THAT THIS IS THE LAST PROGRAM IN THE SERIES TO BE RUN
*
MIENDAT2001  .FALSE.    (SET THIS VALUE TO .TRUE. TO SKIP CHRONC)
*
* DISPERSION MODEL OPTION CODE:  1  *  STRAIGHT LINE
*                                2  *  WIND-SHIFT WITH ROTATION
*                                3  *  WIND-SHIFT WITHOUT ROTATION
*
MIIPLUME001  2
*
* NUMBER OF FINE GRID SUBDIVISIONS USED BY THE MODEL
*
MINUMFIN001  7    (3, 5 OR 7 ALLOWED)
*
* LEVEL OF DEBUG OUTPUT REQUIRED, NORMAL RUNS SHOULD SPECIFY ZERO
*
MIIPRINT001  0
*
* LOGICAL FLAG SIGNIFYING THAT THE BREAKDOWN OF RISK BY WEATHER CATEGORY
* BIN ARE TO BE PRESENTED TO SHOW THEIR RELATIVE CONTRIBUTION TO THE MEAN
*
*             RISBIN
*
MIRISCAT001   .FALSE.
*
* FLAG INDICATING IF WIND-ROSES FROM ATMOS ARE TO BE OVERRIDDEN
*
MIOVRRID001  .FALSE.  (USE THE WIND ROSE CALCULATED FOR EACH WEATHER BIN)
*****************************************************************************
* POPULATION DISTRIBUTION DATA BLOCK, LOADED BY INPOPU, STORED IN /POPDAT/
*
PDPOPFLG001  FILE
*
*PDPOPFLG001  UNIFORM
*PDIBEGIN001  1   (SPATIAL INTERVAL AT WHICH POPULATION BEGINS)
*PDPOPDEN001  50. (POPULATION DENSITY (PEOPLE PER SQUARE KILOMETER))
*****************************************************************************
* SHIELDING AND EXPOSURE FACTORS, LOADED BY INDFAC, STORED IN /EADFAC/
*
* THREE VALUES OF EACH PROTECTION FACTOR ARE SUPPLIED,
```

```
* ONE FOR EACH TYPE OF ACTIVTY:
*
* ACTIVITY TYPE:
*      1 - EVACUEES WHILE MOVING
*      2 - NORMAL ACTIVITY IN SHELTERING AND EVACUATION ZONE
*      3 - SHELTERED ACTIVITY
*
* CLOUD SHIELDING FACTOR
*
*     SITE         GG    PB    SEQ   SUR   ZION
*     SHELTERING   0.7   0.5   0.65  0.6   0.5
*
*             EVACUEES   NORMAL   SHELTER
*
SECSFACT001       1.       0.75      0.6    *  SURRY SHELTERING VALUE
*
* PROTECTION FACTOR FOR INHALATION
*
SEPROTIN001       1.       0.41       0.33  * VALUES FOR NORMAL ACTIVITY AND
*                                              SHELTERING SELECTED BY NRC STAFF
*
* BREATHING RATE (CUBIC METERS PER SECOND)
*
SEBRRATE001  2.66E-4  2.66E-4  2.66E-4
*
* SKIN PROTECTION FACTOR
*
SESKPFAC001  1.0       0.41      0.33     * VALUES FOR NORMAL ACTIVITY AND
*                                            SHELTERING SELECTED BY NRC STAFF
*
* GROUND SHIELDING FACTOR
*
*     SITE         GG    PB    SEQ   SUR   ZION
*     SHELTERING   0.25  0.1   0.2   0.2   0.1
*
SEGSHFAC001       0.5     0.33     0.2    * VALUE FOR NORMAL ACTIVITY SELECTED BY
*                                            NRC STAFF
*
* RESUSPENSION INHALATION MODEL CONCENTRATION COEFFICIENT (/METER)
*
*    RESCON = 1.E-4 IS APPROPRIATE FOR MECHANICAL RESUSPENSION BY VEHICLES.
*    RESHAF = 2.11 DAYS CAUSES 1.E-4 TO DECAY IN ONE WEEK TO 1.E-5, THE VALUE
*    OF RESCON USED IN THE FIRST TERM OF THE LONG-TERM RESUSPENSION EQUATION
*    USED IN CHRONC.
*
SERESCON001    1.E-4      (RESUSPENSION IS TURNED ON)
*
* RESUSPENSION CONCENTRATION COEFFICIENT HALF-LIFE (SEC)
*
SERESHAF001    1.82E5     (2.11 DAYS)
*******************************************************************************
* EVACUATION ZONE DATA BLOCK, LOADED BY EVNETW, STORED IN /NETWOR/, /EOPTIO/
*
* SPECIFIC DESCRIPTION OF THE EMERGENCY RESPONSE SCENARIO BEING USED
*
EZEANAM2001  'EVACUATION WITHIN 10 MILES, RELOCATION MODELS APPLY ELSEWHERE'
*
* THE TYPE OF WEIGHTING TO BE APPLIED TO THE EMERGENCY RESPONSE SCENARIOS
* YOU MUST SUPPLY A VALUE OF 'TIME' OR 'PEOPLE'
*
EZWTNAME001  'PEOPLE'
*
* WEIGHTING FRACTION APPLICABLE TO THIS SCENARIO
*
```

```
EZWTFRAC001  0.995
*
* LAST RING IN THE MOVEMENT ZONE
*
EZLASMOV001     15    (EVACUEES DISAPPEAR AFTER TRAVELING TO 20 MILES)
*
*  Flag defining the time at which evacuees "enter" the destination element
*
*TRAVELPOINT   'CENTERPOINT' (new option implemented at MACCS2 v. 1.11f)
TRAVELPOINT   'BOUNDARY'    (functionality derived from MACCS circa 1984)
*
* RADIAL EVACUATION SPEED (M/S)
*
EZESPEED001    1.8   1.8    1.8          (SURRY)
EZEVATYP001     'RADIAL'
EZDURBEG001    86400.0
EZDURMID001    0.0
EZREFPNT001     'ALARM'
EZNUMEVA001     12
EZDLTSHL001   7200.  7200.  7200.  7200.  7200.  7200.
EZDLTSHL002   7200.  7200.  7200.  7200.  7200.  7200.
EZDLTEVA001      0.     0.     0.     0.     0.     0.
EZDLTEVA002      0.     0.     0.     0.     0.     0.
*************************************************************************
* SHELTER AND RELOCATION ZONE DATA BLOCK, LOADED BY INPEMR,
*                                        STORED IN /INPSRZ/, /RELOCA/
*
* DURATION OF THE EMERGENCY PHASE (SECONDS FROM PLUME ARRIVAL)
*
SRENDEMP001  604800.    (ONE WEEK)
*
* CRITICAL ORGAN FOR RELOCATION DECISIONS
*
SRCRIORG001 'L-EDEWBODY'
*
* HOT SPOT RELOCATION TIME (SECONDS FROM PLUME ARRIVAL)
*
SRTIMHOT001  43200.     (ONE-HALF DAY)
*
* NORMAL RELOCATION TIME (SECONDS FROM PLUME ARRIVAL)
*
SRTIMNRM001  86400.     (ONE DAY)
*
* HOT SPOT RELOCATION DOSE CRITERION THRESHOLD (SIEVERTS)
*
SRDOSHOT001  0.5     (50 REM DOSE TO WHOLE BODY IN 1 WEEK TRIGGERS RELOCATION)
*
* NORMAL RELOCATION DOSE CRITERION THRESHOLD (SIEVERTS)
*
SRDOSNRM001  0.25    (25 REM DOSE TO WHOLE BODY IN 1 WEEK TRIGGERS RELOCATION)
*************************************************************************
* EARLY FATALITY MODEL PARAMETERS, LOADED BY INEFAT, STORED IN /EFATAL/
*
* NUMBER OF EARLY FATALITY EFFECTS
*
EFNUMEFA001   2
*
*            ORGNAM        EFFACA   EFFACB   EFFTHR
*
EFATAGRP001 'A-RED MARR'      3.8      5.0    1.5
EFATAGRP002 'A-LUNGS'        10.0      7.0    5.0
*************************************************************************
* EARLY INJURY MODEL PARAMETERS, LOADED BY INEINJ, STORED IN /EINJUR/
*
```

```
* NUMBER OF EARLY INJURY EFFECTS
*
EINUMEIN001  7
*
*            EINAME            ORGNAM    EISUSC EITHRE EIFACA EIFACB
*
EINJUGRP001 'PRODROMAL VOMIT' 'A-STOMACH' 1.      .5     2.     3.
EINJUGRP002 'DIARRHEA'        'A-STOMACH' 1.      1.     3.     2.5
EINJUGRP003 'PNEUMONITIS'     'A-LUNGS'   1.      5.    10.     7.
EINJUGRP004 'SKIN ERYTHEMA'   'A-SKIN'    1.      3.     6.     5.
EINJUGRP005 'TRANSEPIDERMAL'  'A-SKIN'    1.     10.    20.     5.
EINJUGRP006 'THYROIDITIS'     'A-THYROIDH' 1.     40.   240.     2.
EINJUGRP007 'HYPOTHYROIDISM'  'A-THYROIDH' 1.      2.    60.     1.3
*******************************************************************************
* ACUTE EXPOSURE CANCER PARAMETERS, LOADED BY INACAN STORED IN /ACANCR/.
*
* NUMBER OF ACUTE EXPOSURE CANCER EFFECTS
*
LCNUMACA001   7
*
* THRESHOLD DOSE FOR APPLYING THE DOSE DEPENDENT REDUCTION FACTOR
*
LCDDTHRE001   0.2  (LOWEST DOSE FOR WHICH DDREFA WILL BE APPLIED)
*
* DOSE THRESHOLD FOR LINEAR DOSE RESPONSE (Sv)
*
LCACTHRE001   0.0  (LINEAR-QUADRATIC MODEL IS NOT BEING USED)
*
*            ACNAME     ORGNAM  ACSUSC DOSEFA DOSEFB CFRISK   CIRISK  DDREFA
*
LCANCERS001 'LEUKEMIA' 'L-RED MARR' 1.0   1.0   0.0   9.70E-3  0.0     2.0
LCANCERS002 'BONE'     'L-BONE SUR' 1.0   1.0   0.0   9.00E-4  0.0     2.0
LCANCERS003 'BREAST'   'L-BREAST'   1.0   1.0   0.0   5.40E-3  1.7E-2  1.0
LCANCERS004 'LUNG'     'L-LUNGS'    1.0   1.0   0.0   1.55E-2  0.0     2.0
LCANCERS005 'THYROID'  'L-THYROIDH' 1.0   1.0   0.0   7.20E-4  7.2E-3  1.0
LCANCERS006 'GI'       'L-LOWER LI' 1.0   1.0   0.0   3.36E-2  0.0     2.0
LCANCERS007 'OTHER'    'L-EDEWBODY' 1.0   1.0   0.0   2.76E-2  0.0     2.0
*******************************************************************************
* RESULT 1 OPTIONS BLOCK, LOADED BY INOUT1, STORED IN /INOUT1/
* TOTAL NUMBER OF A GIVEN EFFECT (LATENT CANCER, EARLY DEATH, EARLY INJURY)
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE1NUMBER    32
*
TYPE1OUT001    'ERL FAT/TOTAL'                1  26  NOCCDF (0 TO 1000 MILES)
TYPE1OUT002    'ERL INJ/PRODROMAL VOMIT'      1  26  NOCCDF
TYPE1OUT003    'ERL INJ/DIARRHEA'             1  26
TYPE1OUT004    'ERL INJ/PNEUMONITIS'          1  26
TYPE1OUT005    'ERL INJ/THYROIDITIS'          1  26
TYPE1OUT006    'ERL INJ/HYPOTHYROIDISM'       1  26
TYPE1OUT007    'ERL INJ/SKIN ERYTHEMA'        1  26
TYPE1OUT008    'ERL INJ/TRANSEPIDERMAL'       1  26
TYPE1OUT009    'CAN FAT/TOTAL'                1  26  NOCCDF
TYPE1OUT010    'CAN FAT/LUNG'                 1  26
TYPE1OUT011    'CAN FAT/THYROID'              1  26
TYPE1OUT012    'CAN FAT/BREAST'               1  26
TYPE1OUT013    'CAN FAT/GI'                   1  26
TYPE1OUT014    'CAN FAT/LEUKEMIA'             1  26
TYPE1OUT015    'CAN FAT/BONE'                 1  26
TYPE1OUT016    'CAN FAT/OTHER'                1  26
TYPE1OUT017    'CAN INJ/THYROID'              1  26
TYPE1OUT018    'CAN INJ/BREAST'               1  26
TYPE1OUT019    'CAN FAT/TOTAL'                1  19  CCDF  (0 TO 50 MILES)
```

```
TYPE1OUT020     'ERL FAT/TOTAL'                 1  12        (0 TO 10 MILES)
TYPE1OUT021     'ERL INJ/PRODROMAL VOMIT'       1  12
TYPE1OUT022     'ERL INJ/DIARRHEA'              1  12
TYPE1OUT023     'ERL INJ/PNEUMONITIS'           1  12
TYPE1OUT024     'ERL INJ/THYROIDITIS'           1  12
TYPE1OUT025     'ERL INJ/HYPOTHYROIDISM'        1  12
TYPE1OUT026     'ERL INJ/SKIN ERYTHEMA'         1  12
TYPE1OUT027     'ERL INJ/TRANSEPIDERMAL'        1  12
TYPE1OUT028     'CAN FAT/TOTAL'                 1  12
TYPE1OUT029     'ERL FAT/TOTAL'                 1  21        (0 TO 100 MILES)
TYPE1OUT030     'ERL FAT/TOTAL'                 1  25        (0 TO 500 MILES)
TYPE1OUT031     'CAN FAT/TOTAL'                 1  21        (0 TO 100 MILES)
TYPE1OUT032     'CAN FAT/TOTAL'                 1  25        (0 TO 500 MILES)
*****************************************************************************
* RESULT 2 OPTIONS BLOCK, LOADED BY INOUT2, STORED IN /INOUT2/
* FURTHEST DISTANCE AT WHICH A GIVEN RISK OF EARLY DEATH IS EXCEEDED.
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE2NUMBER  1
*
*            FATALITY RISK THRESHOLD
*
TYPE2OUT001  0.
*****************************************************************************
* RESULT 3 OPTIONS BLOCK, LOADED BY INOUT3, STORED IN /INOUT3/
* NUMBER OF PEOPLE WHOSE DOSE TO A GIVEN ORGAN EXCEEDS A GIVEN THRESHOLD.
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE3NUMBER  3
*
*               ORGAN NAME   DOSE THRESHOLD (Sv)
*
TYPE3OUT001     'A-RED MARR'        1.5
TYPE3OUT002     'A-LUNGS'           5.0
TYPE3OUT003     'L-EDEWBODY'        0.05
*****************************************************************************
* RESULT 4 OPTIONS BLOCK, LOADED BY INOUT4, STORED IN /INOUT4/
* 360 DEGREE AVERAGE RISK OF A GIVEN EFFECT AT A GIVEN DISTANCE.
*
* POSSIBLE TYPES OF EFFECTS ARE:
*
*    'ERL FAT/TOTAL'
*    'ERL INJ/INJURY NAME'
*    'CAN FAT/CANCER NAME'
*    'CAN FAT/TOTAL'
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE4NUMBER  5
*
*            RADIAL INDEX   TYPE OF EFFECT
*
TYPE4OUT001       1          'ERL FAT/TOTAL'
TYPE4OUT002       2          'ERL FAT/TOTAL'
TYPE4OUT003       3          'ERL FAT/TOTAL'
TYPE4OUT004       4          'ERL FAT/TOTAL'
TYPE4OUT005       5          'ERL FAT/TOTAL'
*****************************************************************************
* RESULT 5 OPTIONS BLOCK, LOADED BY INOUT5, STORED IN /INOUT5/
*
* TOTAL POPULATION DOSE TO A GIVEN ORGAN BETWEEN TWO DISTANCES.
*
```

```
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE5NUMBER     5
*
*             ORGAN       I1DIS5      I2DIS5
*
TYPE5OUT001 'L-EDEWBODY'       1          12          (0-10 MILES)
TYPE5OUT002 'L-EDEWBODY'       1          19     NOCCDF  (0-50 MILES)
TYPE5OUT003 'L-EDEWBODY'       1          26     NOCCDF  (0-1000 MILES)
TYPE5OUT004 'L-EDEWBODY'       1          21          (0-100 MILES)
TYPE5OUT005 'L-EDEWBODY'       1          25          (0-500 MILES)
*******************************************************************************
* RESULT 6 OPTIONS BLOCK, LOADED BY INOUT6, STORED IN /INOUT6/
*
* CENTERLINE DOSE TO AN ORGAN VS DIST BY PATHWAY, PATHWAY NAMES ARE AS FOLLOWS:
*
*  PATHWAY NAME:
*    'CLD'      - CLOUDSHINE
*    'GRD'      - GROUNDSHINE
*    'INH ACU'  - "ACUTE DOSE EQUIVALENT" FROM DIRECT INHALATION OF THE CLOUD
*    'INH LIF'  - "LIFETIME DOSE COMMITMENT" FROM DIRECT INHALATION OF THE CLOUD
*    'RES ACU'  - "ACUTE DOSE EQUIVALENT" FROM RESUSPENSION INHALATION
*    'RES LIF'  - "LIFETIME DOSE COMMITMENT" FROM RESUSPENSION INHALATION
*    'TOT ACU'  - "ACUTE DOSE EQUIVALENT" FROM ALL PATHWAYS
*    'TOT LIF'  - "LIFETIME DOSE COMMITMENT" FROM ALL PATHWAYS
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE6NUMBER     0
*
*             ORGNAM        PATHNM      I1DIS6   I2DIS6
*
*TYPE6OUT001  'A-RED MARR'    'TOT ACU'      1       19     (0-50 MILES)
*TYPE6OUT002  'A-LUNGS'       'TOT ACU'      1       19     (0-50 MILES)
*TYPE6OUT003  'L-EDEWBODY'    'TOT LIF'      1       26     (0-1000 MILES)
*******************************************************************************
* RESULT 7 OPTIONS BLOCK, LOADED BY INOUT7, STORED IN /INOUT7/
*
* CENTERLINE RISK OF A GIVEN EFFECT VS DISTANCE
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE7NUMBER   0
*
*                    NAME           I1DIS7       I2DIS7
*
*TYPE7OUT001     'ERL FAT/TOTAL'        1           19       (0-50 MILES)
*TYPE7OUT002     'CAN FAT/TOTAL'        1           26       (0-1000 MILES)
*******************************************************************************
* RESULT 8 OPTIONS BLOCK, LOADED BY INOUT8, STORED IN /INOUT8/
*
* POPULATION WEIGHTED FATALITY RISK BETWEEN 2 DISTANCES
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE8NUMBER   2
*
*                NAME       I1DIS8   I2DIS8
*
TYPE8OUT001 'ERL FAT/TOTAL'   1        5     NOCCDF  (0-EXCL ZONE + 1 MI)
TYPE8OUT002 'CAN FAT/TOTAL'   1       12     NOCCDF  (0-10 MILES)
*******************************************************************************
* RESULT A OPTIONS BLOCK, LOADED BY INOUTA, STORED IN /INOUTA/
*
```

```
* peak dose to a given organ
*
*            NUMA
TYPEANUMBER   1
*
*              ORGNAM     I1DISA  I2DISA
TYPEAOUT001 'L-EDEWBODY'  1       26
.
*******************************************************************************
* EMERGENCY RESPONSE SCENARIO NUMBER 2
*******************************************************************************
* EVACUATION ZONE DATA BLOCK, LOADED BY EVNETW, STORED IN /NETWOR/, /EOPTIO/
*
* SPECIFIC DESCRIPTION OF THE EMERGENCY RESPONSE SCENARIO BEING USED
*
EZEANAM2001  'NO EVACUATION, RELOCATION MODELS APPLY EVERYWHERE'
*
* WEIGHTING FRACTION APPLICABLE TO THIS SCENARIO
*
EZWTFRAC001  0.005
*
* LAST RING IN THE MOVEMENT ZONE
*
EZLASMOV001     0    (A ZERO TURNS OFF THE EVACUATION MODEL)
.
```

MACCS2 Input File for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown:

CHRONC.INP

```
* GENERAL DESCRIPTIVE TITLE DESCRIBING THIS "CHRONC" INPUT FILE
*
CHCHNAME001 'IN3A_N.INP, Sample Problem A, "New" COMIDA2-Based Food Model'
*******************************************************************************
* EMERGENCY RESPONSE COST DATA BLOCK
*
* DAILY COST FOR A PERSON WHO IS EVACUATED (DOLLARS/PERSON-DAY)
*
CHEVACST001  27.00   (INCLUDES FOOD AND HOUSING COSTS BUT NOT LOST INCOME)
*
* DAILY COST FOR A PERSON WHO IS RELOCATED (DOLLARS/PERSON-DAY)
*
CHRELCST001  27.00   (INCLUDES FOOD AND HOUSING COSTS BUT NOT LOST INCOME)
*******************************************************************************
* LONG TERM PROTECTIVE ACTION DATA BLOCK
*
* Duration of the intermediate phase period--at version 1.11c TMIPND is no
* longer processed.  The new input variable DUR_INTPHAS is the period's
* duration, not the time after plume arrival at which the period ends.
*
DUR_INTPHAS   0.0    (in seconds)   (no intermediate phase)
*
* LONG-TERM PHASE DOSE PROJECTION PERIOD, THE DURATION OF THE EXPOSURE
* PERIOD OVER WHICH THE LONG-TERM DOSE CRITERION IS EVALUATED (SECONDS)
*
CHTMPACT001   1.58E8              (5 YEARS)
*
* DOSE CRITERION FOR INTERMEDIATE PHASE RELOCATION (Sv)
*
CHDSCRTI001   1.0E5               (NO INTERMEDIATE PHASE RELOCATION)
*
* DOSE CRITERION FOR LONG-TERM PHASE RELOCATION (Sv)
*
CHDSCRLT001    0.04
*
* CRITICAL ORGAN NAME FOR LONG-TERM ACTIONS
*
CHCRTOCR001 'L-EDEWBODY'
*
* Long Term Exposure Period    Previously permanently set to:
*    one million years = 3.15 E13 seconds
*    MACCS2 allowable range is 3.15E7 to 1.E10
*
CHEXPTIM001    1.E10
*******************************************************************************
* DECONTAMINATION PLAN DATA BLOCK
*
* NUMBER OF LEVELS OF DECONTAMINATION
*
CHLVLDEC001  2
*
* DECONTAMINATION TIMES CORRESPONDING TO THE LVLDEC LEVELS OF DECONTAMINATION
*  (SECONDS)
*
CHTIMDEC001   5.184E6  1.0368E7    (60, 120 DAYS)
*
* DOSE REDUCTION FACTORS CORRESPONDING TO THE LVLDEC LEVELS OF DECONTAMINATION
*
CHDSRFCT001   3.      15.
*
* COST OF FARM DECONTAMINATION PER FARMLAND UNIT AREA (DOLLARS/HECTARE)
*  FOR THE VARIOUS LEVELS OF DECONTAMINATION
*
CHCDFRM0001   562.5   1250.
```

```
*
* COST OF NONFARM DECONTAMINATION PER RESIDENT PERSON (DOLLARS/PERSON)
*  FOR THE VARIOUS LEVELS OF DECONTAMINATION
*
CHCDNFRM001   3000.   8000.
*
* FRACTION OF FARMLAND DECONTAMINATION COST DUE TO LABOR
*  FOR THE VARIOUS DECONTAMINATION LEVELS
*
CHFRFDL0001  .3       .35
*
* FRACTION OF NON-FARM DECONTAMINATION COST DUE TO LABOR
*  FOR THE VARIOUS DECONTAMINATION LEVELS
*
CHFRNFDL001  .7       .5
*
* FRACTION OF TIME WORKERS IN FARM AREAS SPEND IN CONTAMINATED AREAS
*  FOR THE VARIOUS DECONTAMINATION LEVELS
*
CHTFWKF0001  .10      .33
*
* FRACTION OF TIME WORKERS IN NON-FARM AREAS SPEND IN CONTAMINATED AREAS
*  FOR THE VARIOUS DECONTAMINATION LEVELS
*
CHTFWKNF001  .33      .33
*
* AVERAGE COST OF DECONTAMINATION LABOR (DOLLARS/MAN-YEAR)
*
CHDLBCST001   35000.
*************************************************************************
* INTERDICTION COST DATA BLOCK
*
* DEPRECIATION (DETERIORATION) RATE DURING INTERDICTION PERIOD (PER YEAR)
*
CHDPRATE001     .20   (VALUE OBTAINED FROM WASH-1400, APPENDIX 6)
*
* INVESTMENT INCOME RETURN (DISCOUNT RATE) DURING INTERDICTION PERIOD (PER YEAR)
* THIS VALUE SHOULD BE DERIVED AS A REAL RETURN RATE ADJUSTED FOR INFLATION
*
CHDSRATE001     .12   (VALUE OBTAINED FROM WASH-1400, APPENDIX 6)
*
* POPULATION RELOCATION COST (DOLLARS/PERSON):
*  ALTERNATIVE HOUSING, MOVING COSTS, AND LOST INCOME FOR PEOPLE IN
*  AREAS WHICH REQUIRE DECONTAMINATION, INTERDICTION, OR CONDEMNATION
*
CHPOPCST001   5000.
*************************************************************************
* GROUNDSHINE WEATHERING DEFINITION DATA BLOCK
*
* NUMBER OF TERMS IN THE GROUNDSHINE WEATHERING RELATIONSHIP (EITHER 1 OR 2)
*
CHNGWTRM001   2
*
* GROUNDSHINE WEATHERING COEFFICIENTS
*
CHGWCOEF001   0.5    0.5            (JON HELTON)
*
* HALF LIVES CORRESPONDING TO THE GROUNDSHINE WEATHERING COEFFICIENTS (S)
*
CHTGWHLF001   1.6E7  2.8E9          (JON HELTON)
*************************************************************************
* RESUSPENSION WEATHERING DEFINITION DATA BLOCK
*
* NUMBER OF TERMS IN THE RESUSPENSION WEATHERING RELATIONSHIP
```

```
*
CHNRWTRM001    3
*
* RESUSPENSION CONCENTRATION COEFFICIENTS   (/ METER)
*  RELATIONSHIP BETWEEN GROUND CONCENTRATION AND INSTANTANEOUS AIR CONC.
*
CHRWCOEF001  1.0E-5   1.0E-7   1.0E-9  (VALUES HERE SELECTED BY JON HELTON)
*
* HALF-LIVES CORRESPONDING TO THE RESUSPENSION CONCENTRATION COEFFICIENTS (S)
*
CHTRWHLF001  1.6E7    1.6E8    1.6E9   (6 MONTHS, 5 YEARS, 50 YEARS)
*******************************************************************************
* SITE REGION DESCRIPTION DATA BLOCK
*
* FRACTION OF AREA THAT IS LAND IN THE REGION
*
CHFRACLD001   0.95   (ROUGH GUESS VALUE, SITE FILE OVERRIDES THIS VALUE)
*
* FRACTION OF LAND DEVOTED TO FARMING IN THE REGION
*
CHFRCFRM001   0.382  (VIRGINIA STATE VALUE, SITE FILE OVERRIDES THIS VALUE)
*
* AVERAGE VALUE OF ANNUAL FARM PRODUCTION IN THE REGION (DOLLARS/HECTARE)
*  (CASH RECEIPTS FROM FARMING PLUS VALUE OF HOME CONSUMPTION)/(LAND IN FARMS)
*
CHFRMPRD001   371.0  (VIRGINIA STATE VALUE, SITE FILE OVERRIDES THIS VALUE)
*
* FRACTION OF FARM PRODUCTION RESULTING FROM DAIRY PRODUCTION IN THE REGION
*  (VALUE OF MILK PRODUCED)/(CASH RECEIPTS FROM FARMING PLUS HOME CONSUMPTION)
*
CHDPFRCT001   0.198  (VIRGINIA STATE VALUE, SITE FILE OVERRIDES THIS VALUE)
*
* VALUE OF FARM WEALTH (DOLLARS/HECTARE)
*  (AVERAGE VALUE PER HECTARE OF FARM LAND AND BUILDINGS TO 100 MILES)
*
CHVALWF0001   2613.  *  SURRY
*
* FRACTION OF FARM WEALTH IN IMPROVEMENTS FOR THE REGION
*
CHFRFIM0001   0.25  *  SURRY
*
* NON-FARM WEALTH, PROPERTY AND IMPROVEMENTS FOR THE REGION (DOLLARS/PERSON)
*  THE VALUE OF ALL RESIDENTIAL, BUSINESS, AND PUBLIC ASSETS WHICH WOULD BE
*  LOST IN THE EVENT OF PERMANENT INTERDICTION (CONDEMNATION) OF THE AREA
*
CHVALWNF001   84000.  *  SURRY
*
* FRACTION OF NON-FARM WEALTH IN IMPROVEMENTS FOR THE REGION
*
CHFRNFIM001   0.8
*******************************************************************************
CHFDPATH001 'NEW'
*
* name of the COMIDA2 binary output file
*
BIN_FILE001 'SAMP_A.BIN'   (revised data file of 8/12/95)
*
* Dose limits triggering first year crop disposal of the separate
* milk and non-milk components of the diet, corresponding in purpose,
* more or less, to the MACCS 1.5 input variables PSCMLK and PSCOTH
*
* For NUREG-1150 calculations, the maximum allowable ground concentrations for
* production of milk and non-milk crops contaminated by an accident occurring
* in the growing season were derived based on an assumed maximum allowable
```

```
* dose of 5 rem effective or 15 rem thyroid, per the 1982 FDA guidance that's
* reprinted in the 1992 EPA PAG Manual.  For purposes of comparison against
* the prior results, it is being assumed, for simplicity, that milk and
* non-milk crops contribute equally to the first year dose.  Thus, the 5 rem
* effective dose limit used in NUREG-1150 is equally split between milk and
* non-milk crops, with 2.5 rem allowed for each.  Similarly, the 15 rem
* thyroid limit is split into 7.5 and 7.5 rem for the milk and non-milk
* portions of the diet.
*
*             effective     thyroid  (doses in sieverts)
DOSEMILK001    0.025          0.075
DOSEOTHR001    0.025          0.075
*
* Annual dose limits for the subsequent year's (i.e., after the first year)
* interdiction of BOTH the milk and non-milk (combined) components of the diet
*
* Note: the long-term food critera, GCMAXR, used for NUREG-1150 wre based on
* an ingestion dose integrated from zero to infinity.  It is not possible to
* translate those parameter values into corresponding annual dose limits, as is
* required by the COMIDA2-based food model.  The "total" dose limits used in
* NUREG-1150 for "root uptake", 0.5 rem effective and 1.5 rem thyroid, are used
* here as annual dose limits for interdiction of food production in years the
* years subsequent to the accident.
*
*             effective     thyroid  (doses in sieverts)
DOSELONG001    0.005          0.015
*
* NUMBER OF NUCLIDES IN THE WATER INGESTION PATHWAY MODEL
*
CHNUMWPI001    4
*
* TABLE OF NUCLIDE DEFINITIONS IN THE WATER INGESTION PATHWAY MODEL
*
* IF A SITE DATA FILE IS DEFINED, THE DATA DEFINING THE WATERSHED INGESTION
*  FACTOR IS SUPERSEDED BY THE CORRESPONDING DATA IN THE SITE DATA FILE
*
*                          INITIAL      ANNUAL     INGESTION FACTOR
*             WATER        WASHOFF      WASHOFF     ((Bq INGESTED)/
*            NUCLIDE       FRACTION      RATE        (Bq IN WATER))
*
*             NAMWPI        WSHFRI       WSHRTA          WINGF
CHWTRISO001   Sr-89          0.01         0.004          5.0E-6
CHWTRISO002   Sr-90          0.01         0.004          5.0E-6
CHWTRISO003   Cs-134         0.005        0.001          5.0E-6
CHWTRISO004   Cs-137         0.005        0.001          5.0E-6
*******************************************************************************
* SPECIAL OPTIONS DATA BLOCK
*
* DETAILED PRINT OPTION CONTROL SWITCHES, LOOK AT THE CODE BEFORE TURNING ON!!
*          KSWDSC
*
CHKSWTCH001   0
*******************************************************************************
* DEFINE THE TYPE 9 RESULTS
*
* LONG-TERM POPULATION DOSE IN A GIVEN REGION BROKEN DOWN BY THE 12 PATHWAYS
*
* NUMBER OF RESULTS OF THIS TYPE THAT ARE BEING REQUESTED
* FOR EACH RESULT YOU REQUEST, THE CODE WILL PRODUCE A SET OF 12
*
TYPE9NUMBER   2       (UP TO 10 ALLOWED)
*
*              ORGNAM         INNER       OUTER
*
```

```
TYPE9OUT001   'L-EDEWBODY'        1          26    (0-1000 MILES)
TYPE9OUT002   'L-EDEWBODY'        1          19    (0-50 MILES)
*******************************************************************************
* ECONOMIC COST RESULTS IN A REGION BROKEN DOWN BY 12 TYPES OF COSTS
*
* NUMBER OF RESULTS OF THIS TYPE THAT ARE BEING REQUESTED
* FOR EACH RESULT YOU REQUEST, THE CODE WILL PRODUCE A SET OF 12
*
TYP10NUMBER   2       (UP TO 10 ALLOWED)
*
*              INNER      OUTER
*
TYP10OUT001      1          26    (0-1000 MILES)
TYP10OUT002      1          19    (0-50 MILES)
*******************************************************************************
* DEFINE A FLAG THAT CONTROLS THE PRODUCTION OF THE ACTION DISTANCE RESULTS
*
* SPECIFYING A VALUE OF .TRUE. TURNS ON ALL 8 OF THE ACTION DISTANCE RESULTS,
* A VALUE OF .FALSE. WILL ELIMINATE THE ACTION DISTANCE RESULTS FROM THE OUTPUT.
*
TYP11FLAG11   .TRUE.
*******************************************************************************
* IMPACTED AREA/POPULATION RESULTS IN A REGION BROKEN DOWN BY 6 TYPES OF IMPACTS
*
* NUMBER OF RESULTS OF THIS TYPE THAT ARE BEING REQUESTED
* FOR EACH RESULT YOU REQUEST, THE CODE WILL PRODUCE A SET OF 8
*
TYP12NUMBER   2       (UP TO 10 ALLOWED)
*
*              INNER      OUTER
*
TYP12OUT001      1          26    (0-1000 MILES)
TYP12OUT002      1          19    (0-50 MILES)
*******************************************************************************
* Maximal annual food ingestion dose to an individual, requested by IXOT13
*
* This result is calculated after accounting for temporary or
* permanent interdiction.  It is only available for the "new" food model.
*
* NUMBER OF RESULTS OF THIS TYPE THAT ARE BEING REQUESTED
*
TYP13NUMBER   20    (UP TO 10 ALLOWED)
*
* IRAD13 is the radial spatial interval at which results are requested
*
* ORGN13 is the name of the organ for which results are requested
*  (allowable values for ORGN13 are 'EFFECTIVE' or 'THYROID')
*
*          IRAD13    ORGN13
*
TYP13OUT001    2     EFFECTIVE
TYP13OUT002    4     EFFECTIVE
TYP13OUT003    6     EFFECTIVE
TYP13OUT004    8     EFFECTIVE
TYP13OUT005   10     EFFECTIVE
TYP13OUT006   12     EFFECTIVE
TYP13OUT007   14     EFFECTIVE
TYP13OUT008   16     EFFECTIVE
TYP13OUT009   18     EFFECTIVE
TYP13OUT010   20     EFFECTIVE
TYP13OUT011    2     THYROID
TYP13OUT012    4     THYROID
TYP13OUT013    6     THYROID
TYP13OUT014    8     THYROID
```

```
TYP13OUT015   10     THYROID
TYP13OUT016   12     THYROID
TYP13OUT017   14     THYROID
TYP13OUT018   16     THYROID
TYP13OUT019   18     THYROID
TYP13OUT020   20     THYROID
.
```

MACCS2 Input File for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown:

METSUR.INP

```
SURRY MET, NRC-12/12/88, CREATED 12/22/88
 MACCS FORMAT--NUREG-1150
   1  1 16 146  0
   1  2  1 146  0
   1  3 16 126  0
   1  4  1  96  0
   1  5  4 146  0
   1  6  4 126  0
   1  7 16  86  0
   1  8  1 126  0
   1  9  2 126  0
   1 10  4 154  0
   1 11  1 194  0
   1 12 13 245  0
   1 13 13 254  0
   1 14 15 251  0
   1 15 15 241  0
   1 16 15 173  0
   1 17 15 135  0
   1 18 15  96  0
   1 19 14 146  0
   1 20 15 156  0
   1 21 16 136  0
   1 22 16 146  0
   1 23 16 156  0
   1 24  1 146  0
   2  1 16 146  0
   2  2  1 146  0
   2  3 16 126  0
   2  4  1  96  0
   2  5  4 146  0
   2  6  4 126  0
   2  7 16  86  0
   2  8  1 126  0
   2  9  2 126  0
   2 10  4 154  0
   2 11  1 194  0
   2 12 13 245  0
   2 13 13 254  0
   2 14 15 251  0
   2 15 15 241  0
   2 16 15 173  0
   2 17 15 135  0
   2 18 15  96  0
   2 19 14 146  0
   2 20 15 156  0
   2 21 16 136  0
   2 22 16 146  0
   2 23 16 156  0
   2 24  1 146  0
   3  1 16 176  0
   3  2 16 146  0
.
.
.
 362  2 10 265  0
 362  3 10 265  0
 362  4  9 235  0
 362  5  8 245  0
 362  6  9 255  0
 362  7  8 245  0
 362  8  8 265  0
 362  9  8 304  0
 362 10  9 342  0
```

```
362 11  9 451  0
362 12  9 421  0
362 13  9 381  0
362 14  9 351  0
362 15  8 301  0
362 16  9 283  0
362 17  9 225  0
362 18  9 255  0
362 19  9 265  0
362 20  9 215  0
362 21  9 155  0
362 22  9 145  0
362 23  9 146  0
362 24  9 146  0
363  1  9 136  0
363  2  9 146  0
363  3  9 136  0
363  4  8 116  0
363  5  7 126  0
363  6  9  86  0
363  7  9  86  0
363  8  9 136  0
363  9  9  95  0
363 10  9 114  0
363 11 10 173  0
363 12 13 162  0
363 13 10 153  0
363 14 13 114  0
363 15 11 124  0
363 16 13  84  0
363 17 14  55  0
363 18 14  76  0
363 19 14  86  0
363 20 14  66  0
363 21 14  76  0
363 22 14  56  0
363 23 13  56  0
363 24 12  56  0
364  1 12  56  0
364  2 11  56  0
364  3  6  96  0
364  4  7  96  0
364  5  8  96  0
364  6  5 116  0
364  7  7 195  0
364  8  6 195  0
364  9  8 184  0
364 10  7 222  0
364 11  6 271  0
364 12  6 291  0
364 13  6 331  0
364 14  6 321  0
364 15  6 381  0
364 16  7 384  0
364 17  6 404  0
364 18  7 414  0
364 19  7 324  0
364 20  7 235  0
364 21  6 165  0
364 22  7 195  0
364 23  7 265  0
364 24  8 385  0
365  1  8 385  0
365  2  8 325  0
```

365	3	7	185	0
365	4	7	195	0
365	5	6	185	0
365	6	4	156	0
365	7	5	126	0
365	8	5	156	0
365	9	5	175	0
365	10	7	302	0
365	11	8	321	0
365	12	9	461	0
365	13	9	361	0
365	14	9	331	0
365	15	7	164	0
365	16	4	94	0
365	17	8	55	0
365	18	13	165	0
365	19	13	155	0
365	20	14	86	0
365	21	14	56	0
365	22	12	96	0
365	23	13	96	0
365	24	13	96	0

10.54 18.90 19.24 14.12

MACCS2 Input File for the Base Case with Radionuclide Inventories at 30 Days Following Reactor Shutdown:

SURSIT.INP

```
MACCS SITE DATA FILE FOR SURRY (JLS, 11/10/88)
SECPOP POP DISTRIBUTION FROM 1980 CENSUS DATA ALTERED USING 0-10 MI NRC DATA
 26 SPATIAL INTERVALS
 16 WIND DIRECTIONS
  7 CROP CATEGORIES
  4 WATER PATHWAY ISOTOPES
  2 WATERSHEDS
 59 ECONOMIC REGIONS
SPATIAL DISTANCES
     0.16      0.52      1.21      1.61      2.13      3.22      4.02      4.83
     5.63      8.05     11.27     16.09     20.92     25.75     32.19     40.23
    48.28     64.37     80.47    112.65    160.93    241.14    321.87    563.27
   804.67   1609.34
POPULATION
       0.        0.        0.        0.        0.        0.        4.        5.
       6.       25.     3341.     7107.     2173.        0.     1305.      474.
    2252.     2945.     5403.    20169.   112004.  3431358.  1355700.  2742710.
 2487346.   104331.
       0.        0.        0.        0.        1.        2.        9.       13.
      15.       63.     1667.     3550.     1330.     1072.     3198.     2425.
     515.     9469.     5317.     7120.    13586.   198785.  1058744. 20508438.
 3290082.   830354.
       0.        0.        0.        0.        0.        0.        5.        6.
       8.       31.      822.     1752.     4543.     1713.     1597.     2296.
    6535.     1775.        0.     8555.    48596.   119411.   233382.  3003954.
 7620063.  1169436.
       0.        0.        0.        0.        0.        0.        1.        1.
       2.       11.      543.     1157.     3820.     1621.     3364.        0.
       0.      129.     6679.    11858.        0.        0.        0.        0.
       0.        0.
       0.        0.        0.        0.        0.        0.        0.        0.
       0.        0.     4798.    10202.    10348.    10480.     9570.        0.
       0.     2317.     1756.        0.        0.        0.        0.        0.
       0.        0.
       0.        0.        0.        0.        0.        0.        1.        1.
       1.        7.     8316.    17684.    16340.    30419.    39474.    74998.
   24195.    80412.    57477.        0.        0.        0.        0.        0.
       0.        0.
       0.        0.        0.        0.        0.        0.        0.        0.
       0.        0.        0.        0.     1722.     6433.    36763.    20632.
  126203.   372471.    68327.     8599.     6339.     1057.        0.        0.
       0.        0.
       0.        0.        0.        0.        0.        0.        2.        2.
       3.       13.      127.      273.     1649.     4571.     3441.     7838.
   11747.    19019.     3360.    36387.    10447.    12402.        0.        0.
       0.        0.
       0.        0.        5.        4.        8.       23.       14.       20.
      23.       93.      301.      650.        0.        0.     1264.     4065.
    1106.    14665.     4071.    18006.    37417.    89072.    81626.        0.
       0.        0.
       0.        0.        0.        0.        0.        0.       19.       25.
      29.      117.       45.      105.        0.      510.      951.     1521.
    1223.    17636.     4926.    30765.    53265.   289674.   216165.   479431.
  280809.  8801784.
       0.        0.        0.        0.        1.        2.       14.       20.
      23.       93.      155.      338.      125.     1079.        0.     1355.
    2765.      154.     5296.    21409.    62228.   523803.   479588.  1538059.
 1526840.  3099458.
       0.        0.        0.        0.        1.        2.       14.       20.
      23.       93.      110.      240.     1056.        0.       50.     1396.
     915.     3153.     4132.    16295.    35596.   239712.   709522.  2845970.
 3957581. 10560254.
       0.        0.        0.        0.        0.        0.       25.       33.
      38.      154.       30.       70.      450.        0.      980.      517.
```

```
     155.     66531.     40902.      9557.     44818.    194801.    376828.   1492286.
 2250273. 12145932.
       0.         0.         0.         0.         0.         0.         7.         9.
      12.        47.        31.        69.         0.       380.       281.       445.
    1986.     32459.    183133.    193630.     30369.    203275.     94113.   1328987.
 5086913. 19537940.
       0.         0.         0.         0.         0.         0.         0.         0.
       0.         0.       223.       477.         0.      1026.       609.      2575.
    2794.      6593.     96857.    107328.     47585.    156826.    101785.   4175263.
 7535605.  9667977.
       0.         0.         0.         0.         0.         0.        15.        20.
      23.        92.      2503.      5326.      3508.      1826.      1884.       275.
    3965.      2084.      6270.     10765.    103787.    970659.    472558.   1396088.
 1969210.     73968.
LAND FRACTION
1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.80 1.00 1.00 0.95 0.75 0.70 0.85
1.00 0.85 0.70 0.75 0.55 0.70 0.60 1.00 1.00 0.95
1.00 1.00 1.00 1.00 0.90 0.70 0.40 0.00 0.00 0.45 1.00 0.95 0.40 0.60 1.00 1.00
0.90 0.45 0.60 0.20 0.50 0.50 0.30 0.25 0.50 0.60
1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.05 1.00 1.00 0.20 1.00 0.70 0.30
0.85 0.20 0.00 0.20 0.00 0.00 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 0.80 0.10 0.00 0.00 0.00 1.00 1.00 0.75 0.30 0.40 0.00
0.15 0.00 0.45 0.30 0.00 0.00 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 0.60 0.00 0.00 0.00 0.00 0.95 1.00 1.00 0.70 0.40 0.10
0.00 0.50 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 0.70 0.00 0.00 0.00 0.80 0.90 0.75 0.85 1.00 1.00 0.70
0.15 0.25 0.25 0.00 0.00 0.00 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 1.00 0.55 0.50 0.25 0.15 0.00 0.10 0.00 0.10 0.50 0.60
0.85 1.00 1.00 0.40 0.40 0.05 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.90 0.35 0.40 0.80 1.00 1.00 1.00
1.00 1.00 1.00 1.00 0.95 0.20 0.00 0.00 0.00 0.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 1.00 0.80 0.40 0.00 0.00 0.20
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.75 0.50 0.40
1.00 1.00 0.70 0.40 0.20 0.75 0.95 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 0.95 1.00 1.00 1.00 1.00 0.80
1.00 1.00 0.00 0.00 0.00 0.00 0.05 0.70 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 0.95 0.90 1.00 1.00 1.00 1.00
1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.15 0.70 0.90 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.20 0.50 0.40 0.30 0.25 0.75 0.80 0.85
0.85 0.95 1.00 1.00 1.00 1.00 1.00 1.00 0.90 0.85
1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.15 0.80 0.75 0.80 0.85 0.95 1.00 1.00 1.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.50 0.45
1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.90 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 0.95 0.80 0.85 1.00 1.00 0.55 0.95
REGION INDEX
44445050505050504444444444444444444444441818 7283054
44444444444445050444444444444444444444418 728301917
44444444444450505044444444444444444445044185050505050
44444444444445050504444444445045044444505050505050
44444444444450505050444444444445044505050505050505050
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44444444444444444444444444444444444444431313131315050 8
44444444444444444444444444444444444444431313131313138 9 8
44444444444444444444444444444444444444444444431313138 9 1
44445050505044444444444444444444444444444444444314040
44445050505050444444444444444444444444444444444461511
44445050505050504444444444444444444444444444444463347
44445050505050444444444444444444444444444444444365320
44445050505050505044444444444444444444444441818363053
```

```
WATERSHED INDEX
1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 2 2 2 2 1 1 2 1 1 1 1 1 1 2 2 2 2 2 2 1
1 1 1 1 1 1 2 2 2 2 1 1 2 1 1 2 1 2 2 2 2 2 2 2 2 2
1 1 1 1 1 1 2 2 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2
1 1 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2
1 1 1 1 1 1 2 2 2 2 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2
1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 1 1 1 1 2 2 2 2 2 2 2
1 1 1 1 1 1 1 1 1 1 2 2 1 1 1 1 1 1 1 1 2 2 2 2 2 2
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2
1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CROP SEASON AND SHARE
  1 PASTURE                90. 270.   0.41
  2 STORED FORAGE         150. 240.   0.13
  3 GRAINS                150. 240.   0.21
  4 GRN LEAFY VEGETABLES  150. 240.   0.002
  5 OTHER FOOD CROPS      150. 240.   0.004
  6 LEGUMES AND SEEDS     150. 240.   0.15
  7 ROOTS AND TUBERS      150. 240.   0.003
WATERSHED DEFINITION          1111111111222222222233333333334444444444
  1 Sr-89                          5.0E-6    0.0
  2 Sr-90                          5.0E-6    0.0
  3 Cs-134                         5.0E-6    0.0
  4 Cs-137                         5.0E-6    0.0
REGIONAL ECONOMIC DATA
  1 ALA              .354 .040      459.     1824.    62000.
  2 ARIZ             .516 .104      110.      682.    74000.
  3 ARK              .483 .041      466.     2049.    61000.
  4 CALIF            .330 .144     1022.     4394.    93000.
  5 COLO             .522 .048      211.      971.    83000.
  6 CONN             .160 .294     1605.     4980.   107000.
  7 DEL              .534 .042     1723.     3428.    82000.
  8 FLA              .375 .080      832.     3341.    80000.
  9 GA               .363 .060      613.     1885.    73000.
 10 IDAHO            .279 .144      343.     1562.    61000.
 11 ILL              .806 .044      709.     3900.    86000.
 12 IND              .713 .079      611.     3283.    72000.
 13 IOWA             .938 .060      695.     3133.    73000.
 14 KANS             .917 .035      281.     1204.    81000.
 15 KY               .571 .112      482.     1838.    61000.
 16 LA               .354 .074      459.     3284.    61000.
 17 MAINE            .079 .260      662.     1133.    70000.
 18 MD               .429 .216      956.     4489.    93000.
 19 MASS             .136 .249     1349.     2563.    97000.
 20 MICH             .313 .247      658.     2187.    81000.
 21 MINN             .597 .223      516.     2111.    82000.
 22 MISS             .470 .054      403.     2084.    53000.
 23 MO               .703 .102      322.     1647.    76000.
 24 MONT             .657 .030       61.      563.    65000.
 25 NEBR             .962 .031      318.     1148.    75000.
 26 NEV              .127 .139       63.      601.    84000.
 27 N.H.             .096 .482      518.     2018.    87000.
 28 N.J.             .203 .129     1399.     6477.   102000.
 29 N.MEX            .590 .144       53.      473.    63000.
 30 N.Y.             .310 .589      711.     1378.    94000.
 31 N.C.             .352 .065      860.     2658.    68000.
 32 N.DAK            .924 .048      164.      948.    69000.
 33 OHIO             .602 .175      581.     2686.    76000.
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 34 OKLA          .751 .060     204.     1508.    67000.
 35 OREG          .292 .111     236.     1203.    73000.
 36 PA            .303 .447     855.     2534.    78000.
 37 R.I.          .108 .213    1062.     6438.    80000.
 38 S.C.          .290 .084     472.     1843.    62000.
 39 S.DAK         .915 .091     145.      587.    65000.
 40 TENN          .509 .153     360.     1850.    66000.
 41 TEX           .816 .064     164.     1492.    74000.
 42 UTAH          .225 .259     123.     1286.    60000.
 43 VT            .286 .789     628.     1472.    73000.
 44 VA            .382 .198     371.     2075.    84000.
 45 WASH          .377 .154     476.     1948.    82000.
 46 W.VA          .246 .224     150.     1728.    58000.
 47 WIS           .517 .591     723.     1751.    76000.
 48 WYO           .561 .028      43.      380.    70000.
 49 BRIT COL      .377 .154     476.     1948.    60000.
 50 OCEAN         .000 .000       0.        0.        0.
 51 SASKAT        .657 .030      61.      563.    60000.
 52 MANITOBA      .924 .048     164.      948.    60000.
 53 ONTARIO       .597 .223     516.     2111.    60000.
 54 QUEBEC        .310 .589     711.     1378.    60000.
 55 NOVA SCOT     .079 .260     662.     1133.    60000.
 56 BAJA CAL      .330 .144    1022.     4394.    10000.
 57 SONORA        .516 .104     110.      682.    10000.
 58 CHIHUAHUA     .590 .144      53.      473.    10000.
 59 COAHUILA      .816 .064     164.     1492.    10000.
END
```