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*****
* FILE NAME:   VEARLY.INP
*
* DESCRIPTIVE TITLE DESCRIBING THIS "EARLY" INPUT FILE
*
MIEANAM1001  'SNC AP1000 EARLY FILE - 95% Evacuation'
DCF_FILE001  'C:\MACCS2\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  1 * URD used 1
*
* 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 INPOP, STORED IN /POPDAT/

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*
PDPOPFLG001  FILE
*
*****
* SHIELDING AND EXPOSURE FACTORS, LOADED BY INDFAC, STORED IN /EADFAC/
*
* THREE VALUES OF EACH PROTECTION FACTOR ARE SUPPLIED,
* ONE FOR EACH TYPE OF ACTIVITY:
*
* 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      0.75      0.75      0.75  * use URD values
*
* PROTECTION FACTOR FOR INHALATION
*
SEPROTIN001      0.4      0.4      0.4  * URD Values*
*
* BREATHING RATE (CUBIC METERS PER SECOND)
*
SEBRRATE001  3.3E-4  3.3E-4  3.3E-4 *URD values
*
* 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      0.33      0.33      0.33  * URD values
*
*
* 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)
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* EVACUATION ZONE DATA BLOCK, LOADED BY EVNETW, STORED IN /NETWOR/, /EOPTIO/
*
* SPECIFIC DESCRIPTION OF THE EMERGENCY RESPONSE SCENARIO BEING USED
*
EZEANAM2001  '95% EVACUATION WITHIN 10 MILES- 24-HOUR RELOCATION'
*
* 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  0.95 *95% of people evacuated
*
* LAST RING IN THE MOVEMENT ZONE
*
EZLASMOV001      6      (10 miles)
*
* Flag defining the time at which evacuees "enter" the destination element
*
TRAVELPOINT      'CENTERPOINT' (new option implemented at MACCS2 v. 1.11f)
*TRAVELPOINT      'BOUNDARY'    (Westinghouse used BOUNDARY)
*
* RADIAL EVACUATION SPEED (M/S) = speed to exit EPZ, 30 min after alarm
*
EZESPEED001      2.20 2.20 2.20 *(based on 125-42 min for all zones to clear EPZ,
*                                in 2010, extrapolated for 2040 population)
EZEVATYP001      'RADIAL'
EZDURBEG001      86400.0
EZDURMID001      0.0
EZREFPNT001      'ALARM'
EZNUMEVA001      6
EZDLTSHL001      2520. 2520. 2520. 2520. 2520. 2520. (42 MINUTES DELAY, 95%
MOBILIZATION)
EZDLTEVA001      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)
*

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* 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  0
*
*          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  1
*
* 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  'OTHER'          'L-EDEWBODY' 1.0    1.0    0.0    0.12   0.16    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

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*
TYPE1NUMBER      5
*
TYPE1OUT001      'CAN FAT/TOTAL'          1  10      (0 to 50 miles)
TYPE1OUT002      'CAN FAT/TOTAL'          1   6      (0 to 10 miles)
TYPE1OUT003      'ERL FAT/TOTAL'          1  10      (0 to 50 miles)
TYPE1OUT004      'ERL FAT/TOTAL'          1   2      (0 to  2 miles)
TYPE1OUT005      'ERL FAT/TOTAL'          1   1      (0 to  1 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      0
*
* 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      0
*
* 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      2
*
* RADIAL INDEX    TYPE OF EFFECT
*
TYPE4OUT001      1      'ERL FAT/TOTAL'
TYPE4OUT002      2      'ERL FAT/TOTAL'
*TYPE4OUT003      6      'ERL FAT/TOTAL'
*TYPE4OUT004      1      'CAN FAT/TOTAL'
*TYPE4OUT005      2      'CAN FAT/TOTAL'
*TYPE4OUT006      6      'CAN FAT/TOTAL'
*****
* RESULT 5 OPTIONS BLOCK, LOADED BY INOUT5, STORED IN /INOUT5/

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*
* TOTAL POPULATION DOSE TO A GIVEN ORGAN BETWEEN TWO DISTANCES.
*
* NUMBER OF DESIRED RESULTS OF THIS TYPE
*
TYPE5NUMBER      2
*
*           ORGAN      I1DIS5      I2DIS5
*
TYPE5OUT001 'L-EDEWBODY'      1          6      (0-10 MILES)
TYPE5OUT002 'L-EDEWBODY'      1         10      (0-50 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          10      (0-50 MILES)
*TYPE7OUT002 'CAN FAT/TOTAL'      1          10      (0-50 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      6
*

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*          NAME          I1DIS8  I2DIS8
*
TYPE8OUT001 'ERL FAT/TOTAL'  1      10      NOCCDF  (0-50 MILES)
TYPE8OUT002 'ERL FAT/TOTAL'  1       2      NOCCDF  (0- 2 MILES)
TYPE8OUT003 'ERL FAT/TOTAL'  1       1      NOCCDF  (0- 1 MILES)
TYPE8OUT004 'ERL FAT/TOTAL'  3       3      NOCCDF  (2- 3 MILES)
TYPE8OUT005 'CAN FAT/TOTAL'  1      10      NOCCDF  (0-50 MILES)
TYPE8OUT006 'CAN FAT/TOTAL'  1       6      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       1      CCDF
*
*          NUMB
TYPEBNUMBER  0
*
*****
* 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'
*
* WEIGHTING FRACTION APPLICABLE TO THIS SCENARIO
*
EZWTFRAC001  0.05 *5% of people relocated but not evacuated
*
* LAST RING IN THE MOVEMENT ZONE
*
EZLASMOV001  0      (A ZERO TURNS OFF THE EVACUATION MODEL)
*

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