5/13/99

1. 'ERL FAT/TOTAL' 1 25 (0 TO 500 MILES)
'ERL FAT/TOTAL' 1 21 (0 TO 100 MILES)

TYPE 1 OUT 029
TYPE 1 OUT 030

~~TYPE 1 NUMBER 30~~

TYPE 1 OUT 032 'CAN FAT/TOTAL' 1 25 (0 TO 500 MILES)

TYPE 1 OUT 031 'CAN FAT/TOTAL' 1 21 (0 TO 100 MILES)

TYPE 1 NUMBER 32

TYPE 5 NUMBER 5

TYPE 5 OUT 004 'L-EDEW BODY' 1 21 (0 TO 100 MILES)
TYPE 5 OUT 005 'L-EDEW DUDY' 1 25 (0 TO 500 MILES)

Change EARLY1.INP to report results at 100 miles and 500 miles

EARLY2.INP
atmos6a.inp
chrnc1_n.inp
METSUR.INP
SURSIT.INP
} 1.OUT (a#1.wpd)

C/S 0

2. Change to 100 persons/mile²

$$\frac{100 \text{ persons}}{\text{mile}^2} \cdot \frac{1 \text{ mile}^2}{2.59 \text{ km}^2} = 38.61 \frac{\text{people}}{\text{km}^2}$$

POPFLG UNIFORM
IBEGIN 1
POPDEN 38.61 (100 PEOPLE PER SQUARE MILE)

→ EARLY3.INP
atmos69.inp
chrnc1_n.inp
METSUR.INP
" "

} 2.OUT

3. Put the rest of the core into the spent fuel pool

Millstone 1 — 580 assemblies in core
173 assemblies in a discharge batch

Steps

1. Decay core to 5/1/87
2. Subtract spent fuel batch 11 on 5/1/87 to get activity in remaining 2/3 core on 5/1/87
3. Decay activity in remaining 2/3 core to 7/1/87 and 4/1/88
4. Add activity in remaining 2/3 core to 30, 90, 365 day spent fuel pool activities

30 day inventories => atmos 7b.inp
early3.inp
chincl_n.inp
METSUR.INP
" "
} 7b.out

90 day inventories => atmos 7c.inp } 7c.out

1 year inventories => atmos 7d.inp } 7d.out

Also, I checked the inventories in atmos 7b, 7c, and 7d against my excel spreadsheet of 5/14/99.

4. Start FP release at 5 hours.
Start Evacuation at 2 hours

In "default" timing, evacuation started at 2.4 hours and FP release started at 1 hour.

⇒ Keep evacuation starting at 2.4 hours, but change FP release start time to 5.4 hours.

Evacuation starts at 8500 sec

FP release will start at 8500 sec + 3 × 3600 sec
= 19,300 sec.

⇒ change PDELAY to 19,300 sec (in early)

atmos 8b.inp
early 4.inp (same as early3.inp)
chrnc1_n.inp
METSUR.INP
" "

→ 8B.OUT

atmos 8c.inp → 8c.out
atmos 8d.inp → 8d.out

5. Change release fractions for La and Ce from 1×10^{-6} to 6×10^{-6}.

atmos 9b.inp
early 4.inp
chronc1_n.inp
METSUR.INP
" "
} 9b.out

atmos 9c.inp → 9c.out
atmos 9d.inp → 9d.out

6. Change fraction evacuating from .95 to .995

Change (in early)

1st EZWTFRAC 001 from .95 to .995

2nd EZWTFRAC 001 from .05 to .005

atmos 8b.inp
early 5.inp
chrnc1_n.inp
METSUR.INP
" "
→ 10b.out

atmos 8c.inp
early 5.inp
chrnc1_n.inp
METSUR.INP
" "
→ 10c.out

atmos 8d.inp
early 5.inp
chrnc1_n.inp
METSUR.INP
" "
→ 10d.out