Joseph Specht

Homework 6

NPRE 247

1) Yes

2a) U235\_atom\_density; 1.337e22 atoms/cc

U238\_atom\_density; 1.337e22 atoms/cc

b) U235 atom density; 1.345e22 atoms/cc

U238 atom density; 1.328e22 atoms/cc

3) E total; 22805.499 kwh

E total; 0.950 Mwd

4) Cf252 mass; 1.398e-5 g

5) Activity in bq; 2.035e9 bq

Activity in Ci; 0.0545 Ci

6a) frequency; 0.0005 Hz

Energy; 1.348 MeV

b) max E positron; 0.174 MeV

max f positron; 0.6531 Hz

max E electron; 0.39 MeV

max f electron; 0.5787 Hz

7a) A Sr90; 0.999 Gbq

A Y90; 0.971 Gbq

b) A Sr90; 0.497 Gbq

A Y90; 0.971 Gbq

8a) 28198.545 years

b) 1.142e19 bq

c) 7.411e18 bq

9) If Q>0, then there are no thresholds

Graphical user interface, text

Description automatically generated

10) Text

Description automatically generated with medium confidence

11) 1.907 MeV