



Modeling experience with the Bellezane site



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1.ReCLAIM

- Used parameter for OPM-68:

- Layer residues - 50 m
- Radionuclide inventory:
1.6 Bq/g ^{238}U
32 Bq/g ^{226}Ra
- Thickness of cover – 2 m

- Exposure pathways:

- Ingestion of beef
- Ingestion of milk
- Ingestion green vegetables
- Ingestion of root vegetations
- External dose buried

Result

USER Specified d-Mod1

Exposure Pathway	Parameter	Default Scenario	Default	Parameters Changed	Basis
Ing Beef	Beef Ingestion Rate (kg y-1)	0	45	45	
Ing Beef	Cattle Grass Ingestion Rate (kg d-1)	0	65	65	
Ing Beef	Cattle Soil Ingestion Rate (kg d-1)	0	0	0	
Ing Beef	Cattle Water Ingestion Rate (L d-1)	0	0	0	
Ing Milk	Milk Ingestion Rate (kg y-1)	0	240	240	
Ing Milk	Cattle Grass Ingestion Rate (kg d-1)	0	65	65	
Ing Milk	Cattle Soil Ingestion Rate (kg d-1)	0	0	0	
Ing Milk	Cattle Water Ingestion Rate (L d-1)	0	0	0	
Ext dose buried	Time spent at Buried Geometry 1 (h y-1)	0			
Ext dose buried	Thickness of Cover Material 1 (m)	0			
Ext dose buried	Thickness of Buried Contamination 1 (m)	0	0		
Ext dose buried	Density of Cover Material 1 (g cm-3)	0	0		
Ext dose buried	Density of Buried Contamination 1 (g cm-3)	0	0		
Ext dose buried	Time spent at Buried Geometry 2 (h y-1)	0		183	
Ext dose buried	Thickness of Cover Material 2 (m)	0		2	
Ext dose buried	Thickness of Buried Contamination 2 (m)	0	0	5	
Ext dose buried	Density of Cover Material 2 (g cm-3)	0	0	1.5	
Ext dose buried	Density of Buried Contamination 2 (g cm-3)	0	0	1.5	

Output Summary

Model Selected	USER Specified scenario
Dose Target (mSv y ⁻¹)	3.00E-01
Total Dose from Assessment (mSv y ⁻¹)	4.48E-01
Selected Nuclide	
Most limiting Scenario	USER Specified
Assessment Type	DOSE
Most limiting nuclide	Ra+226

Select model to report

d-Mod1

Total Dose : Dose Target

1.49

FAIL

Calculate depth at which model = PASS

VIEW MOST LIMITING SCENARIO OVERVIEW >>>

HIDE ACTIVE PATHWAYS FOR MOST LIMITING SCENARIO

2. RESRAD – OFFSITE (1)

■ Site layout – using the map

The screenshot displays the 'Map Interface' window on the left, showing a map of a site layout with various features like buildings, fields, and a river. The 'Site Layout' window on the right contains a table of coordinates and dimensions for different site components.

Site Layout Parameters:

- Bearing of X axis (clockwise angle from North): 134.8 degrees
- X dimension of Primary Contamination: 500 meters
- Y dimension of Primary Contamination: 100 meters

Location Coordinates Table:

Location	Smaller X Coordinate	Larger X Coordinate	Smaller Y Coordinate	Larger Y Coordinate	Unit
Fruit, grain, non-leafy vegetables plot	243.5	274.7	227.2	259.2	meters
Leafy vegetables plot	225.3	256.5	270.3	302.3	meters
Pasture, Silage growing area	354.9	454.8	230	329.9	meters
Grain fields	460.6	560.5	98.18	198.1	meters
Dwelling site	34.375	65.625	134	166	meters
Surface- water body	-371	1105	782.7	814.7	meters

Map Interface Labels: Bessines-sur-Gartempe, Le Mas, Les Petites Magnelles, Les Grandes Magnelles, La Puy Isignoux, Marcouville, Monlimozacut, Bellefane Site, X axis, Y axis.

Map Interface Buttons: Set Scale, Get Image, Accept Changes, Cancel Changes, Print.

Site Layout Buttons: Display Map, Save, Cancel.

2. RESRAD – OFFSITE (2)

- Used parameter for OPM-68:

- Nuclide contamination:

- 1.6 Bq/g ^{238}U

- 32 Bq/g ^{226}Ra

- Contaminated zone - 50000 m²

- Length to contamination parallel to aquifer flow
- 360 m

- Thickness of contamination zone – 50 m

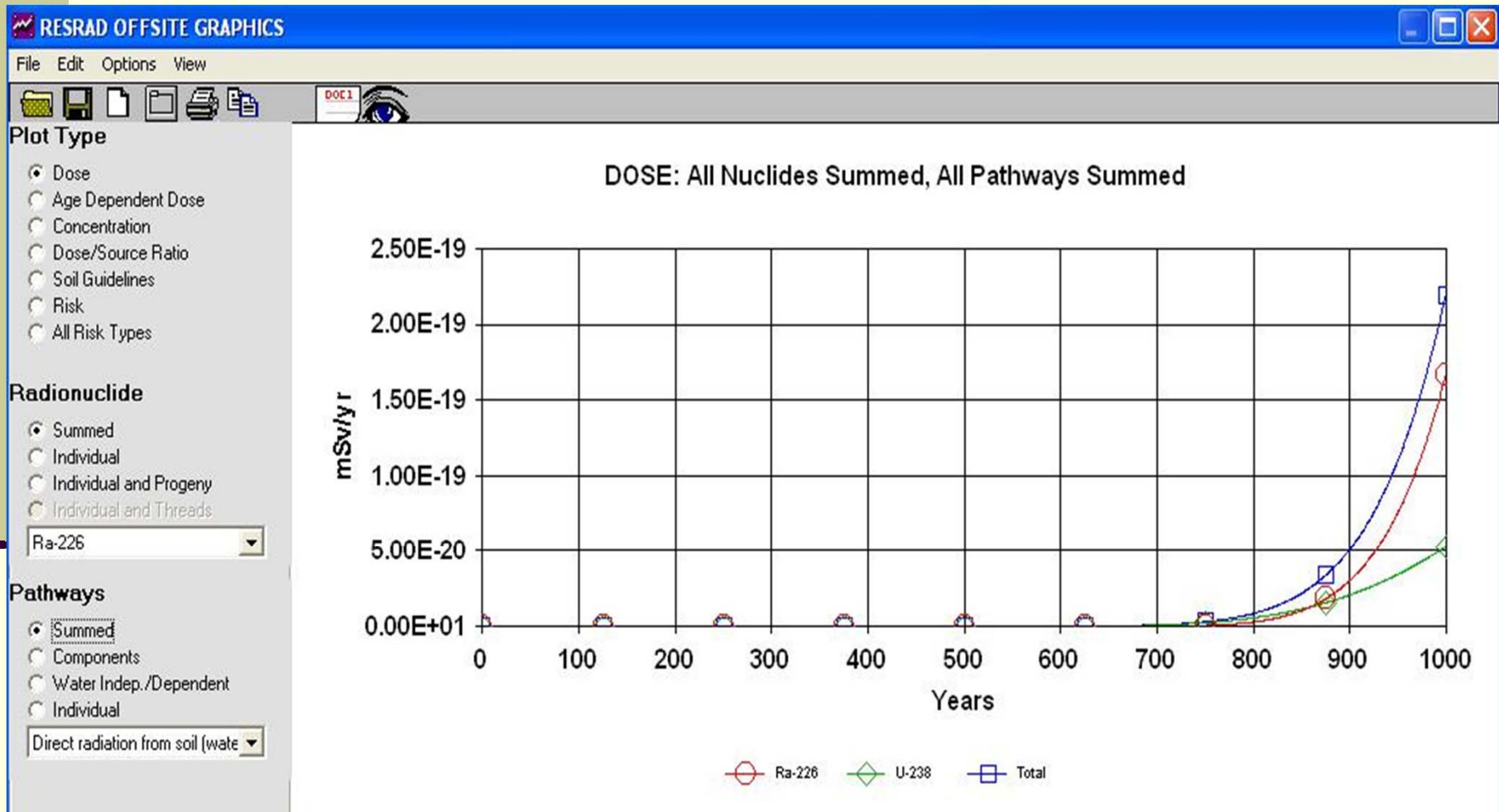
- Clean cover – 2 m

- Unsaturated zone - 1; thickness 4 m (default)

2. RESRAD – OFFSITE (3)

- Exposure pathways:
 - Plant ingestion
 - Meal ingestion
 - Milk ingestion
 - Without/with exposure to Rn

Result



3. RESRAD – ONSITE 6.5

