

Attachment H65: RESRAD-Offsite 3.1 Inputs Parameters for Homeowner Areas that differ from defaults

Parameter	RESRAD-Offsite Default	HO3	HO4	HO5	Basis
Preliminary Inputs					
Exposure Duration	30	1	1	1	Yearly dose estimates calculated.
Site Layout					
Degrees North is from X-axis	90	90	90	90	Based on land use survey.
X dimension of Primary Contamination	100	110	110	110	
Y dimension of Primary Contamination	100	70	70	70	
Non-Leafy Plot (Smaller / Larger)	X: 34.375 / 65.625	X: 0 / 110	X: 0 / 110	X: 0 / 110	
	Y: 234 / 266	Y: 0 / 70	Y: 0 / 70	Y: 0 / 70	
Leafy Plot (Smaller / Larger)	X: 34.375 / 65.625	X: 0 / 110	X: 0 / 110	X: 0 / 110	
	Y: 234 / 266	Y: 0 / 70	Y: 0 / 70	Y: 0 / 70	
Pasture (Smaller / Larger)	X: 0 / 100	X: 0 / 110	X: 0 / 110	X: 0 / 110	
	Y: 450 / 550	Y: 0 / 70	Y: 0 / 70	Y: 0 / 70	
Grain (Smaller / Larger)	X: 0 / 100	X: 0 / 110	X: 0 / 110	X: 0 / 110	
	Y: 300 / 400	Y: 0 / 70	Y: 0 / 70	Y: 0 / 70	
Dwelling (Smaller / Larger)	X: 34.375 / 65.625	X: 0 / 1	X: 0 / 1	X: 0 / 1	
	Y: 134 / 166	Y: 0 / 1	Y: 0 / 1	Y: 0 / 1	
Surface-water Body (Smaller / Larger)	X: -100 / 200	X: -114 / 486	X: -4 / 596	X: -14 / 586	
	Y: 550 / 850	Y: -225 / -25	Y: -295 / -95	Y: -295 / -95	
Distribution Coefficients					
Ac-227	20	1740	1740	1740	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Am-241	20	Sediment: 4000	Sediment: 4000	Sediment: 4000	
		All others: 1900	All others: 1900	All others: 1900	
Cs-137	4600	Sediment: 480	Sediment: 480	Sediment: 480	
		All others: 280	All others: 280	All others: 280	
Np-237	257	Sediment: 3	Sediment: 3	Sediment: 3	
		All others: 2.3	All others: 2.3	All others: 2.3	
Pa-231	50	2040	2040	2040	
Pu-239	2000	Sediment: 3000	Sediment: 3000	Sediment: 3000	
		All others: 2600	All others: 2600	All others: 2600	
Sr-90	30	Sediment: 15	Sediment: 15	Sediment: 15	
		All others: 5	All others: 5	All others: 5	
Th-229	60000	5890	5890	5890	
U-233	50	Sediment: 10	Sediment: 10	Sediment: 10	
		All others: 35	All others: 35	All others: 35	
U-235	50	Sediment: 10	Sediment: 10	Sediment: 10	
		All others: 35	All others: 35	All others: 35	

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Pathways					
Include	External, Inhalation, Plant Ingestion, Meat Ingestion, Milk Ingestion, Aquatic Foods, Drinking Water, Soil Ingestion	External, Inhalation, Plant Ingestion, Meat Ingestion, Aquatic Foods, Soil Ingestion	External, Inhalation, Plant Ingestion, Meat Ingestion, Aquatic Foods, Soil Ingestion	External, Inhalation, Plant Ingestion, Meat Ingestion, Aquatic Foods, Soil Ingestion	Based on land use survey.
Physical and Hydrological					
Precipitation	1	1.16	1.16	1.16	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Wind Speed	0.89 (calculated)	Wind Rose	Wind Rose	Wind Rose	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Table 3-10: Wind Speed and Direction Frequency Distributions at 10 Meters.
Primary Contamination					
Length of contamination parallel to aquifer flow	100	88	88	88	Square root of the area.
Irrigation	0.2	0	0	0	
Evapotranspiration coefficient	0.5	0.62	0.62	0.62	Based on the Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C; Evapotranspiration and runoff coefficients selected to achieve infiltration rate of 0.26 m/y.
Runoff	0.2	0.41	0.41	0.41	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C; Evapotranspiration and runoff coefficients selected to achieve infiltration rate of 0.26 m/y.
Thickness	2	1	1	1	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Total Porosity	0.5	0.36	0.36	0.36	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Dry bulk density	1.5	1.7	1.7	1.7	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Soil erodibility factor	0.4	0	0	0	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Field Capacity	0.3	0.2	0.2	0.2	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
B parameter	5.3	1.4	1.4	1.4	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.

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Hydraulic conductivity	10	140	140	140	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Effective Porosity	0.4	0.25	0.25	0.25	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Agricultural Areas					
Irrigation	Non-Leafy: 0.2	Non-Leafy: 0	Non-Leafy: 0	Non-Leafy: 0	Based on land use survey.
	Leafy: 0.2	Leafy: 0	Leafy: 0	Leafy: 0	
	Pasture: 0.2	Pasture: 0	Pasture: 0	Pasture: 0	
	Grain: 0.2	Grain: 0	Grain: 0	Grain: 0	
	Dwelling: 0.2	Dwelling: 0	Dwelling: 0	Dwelling: 0	
Evapotranspiration coefficient	Non-Leafy: 0.5	Non-Leafy: 0.62	Non-Leafy: 0.62	Non-Leafy: 0.62	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. Evapotranspiration and runoff coefficients selected to achieve infiltration rate of 0.26 m/y.
	Leafy: 0.5	Leafy: 0.62	Leafy: 0.62	Leafy: 0.62	
	Pasture: 0.5	Pasture: 0.62	Pasture: 0.62	Pasture: 0.62	
	Grain: 0.5	Grain: 0.62	Grain: 0.62	Grain: 0.62	
	Dwelling: 0.5	Dwelling: 0.62	Dwelling: 0.62	Dwelling: 0.62	
Runoff	Non-Leafy: 0.2	Non-Leafy: 0.41	Non-Leafy: 0.41	Non-Leafy: 0.41	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. Evapotranspiration and runoff coefficients selected to achieve infiltration rate of 0.26 m/y.
	Leafy: 0.2	Leafy: 0.41	Leafy: 0.41	Leafy: 0.41	
	Pasture: 0.2	Pasture: 0.41	Pasture: 0.41	Pasture: 0.41	
	Grain: 0.2	Grain: 0.41	Grain: 0.41	Grain: 0.41	
	Dwelling: 0.2	Dwelling: 0.41	Dwelling: 0.41	Dwelling: 0.41	
Dry bulk density	Non-Leafy: 1.5	Non-Leafy: 1.7	Non-Leafy: 1.7	Non-Leafy: 1.7	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Leafy: 1.5	Leafy: 1.7	Leafy: 1.7	Leafy: 1.7	
	Pasture: 1.5	Pasture: 1.7	Pasture: 1.7	Pasture: 1.7	
	Grain: 1.5	Grain: 1.7	Grain: 1.7	Grain: 1.7	
	Dwelling: 1.5	Dwelling: 1.7	Dwelling: 1.7	Dwelling: 1.7	
Soil erodibility factor	Non-Leafy: 0.4	Non-Leafy: 0	Non-Leafy: 0	Non-Leafy: 0	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Leafy: 0.4	Leafy: 0	Leafy: 0	Leafy: 0	
	Pasture: 0.4	Pasture: 0	Pasture: 0	Pasture: 0	
	Grain: 0.4	Grain: 0	Grain: 0	Grain: 0	
	Dwelling: 0	Dwelling: 0	Dwelling: 0	Dwelling: 0	

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Atmospheric Transport					
Joint Metrological Data (Wind Speed/ Stability class frequency)	n/a	Wind Rose	Wind Rose	Wind Rose	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Table 3-10: Wind Speed and Direction Frequency Distributions at 10 Meters
Unsaturated Zone Hydrology					
Thickness	4	2	2	2	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Dry bulk density	1.5	1.7	1.7	1.7	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Total Porosity	0.4	0.36	0.36	0.36	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Effective Porosity	0.2	0.25	0.25	0.25	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Field Capacity	0.3	0.2	0.2	0.2	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Hydraulic conductivity	10	140	140	140	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
B parameter	5.3	1.4	1.4	1.4	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Saturated Zone Hydrology					
Dry bulk density	1.5	1.7	1.7	1.7	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Total Porosity	0.4	0.36	0.36	0.36	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Effective Porosity	0.2	0.25	0.25	0.25	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Hydraulic conductivity	100	1400	1400	1400	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Hydraulic Gradient	0.02	0.03	0.03	0.03	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Depth of aquifer contributing	10	5	5	5	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.

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<b>Water Usage</b>					
Consumption	510	0	0	0	Based on land use survey.
Number of Humans	4	0	0	0	n/a
Dwelling	225	0	0	0	Based on land use survey.
Beef Cattle	50	0	0	0	No wild game per land use survey.
Number of Beef Cattle	2	0	0	0	No wild game per land use survey.
Surface/Well	0/1	0	0	0	Based on land use survey.
Dairy Cattle	160	0	0	0	Based on land use survey.
Number of Dairy Cattle	2	0	0	0	Based on land use survey.
Irrigation Non-Leafy	0.2	0	0	0	Based on land use survey.
Irrigation Leafy	0.2	0	0	0	Based on land use survey.
Irrigation Pasture	0.2	0	0	0	Based on land use survey.
Irrigation Grain	0.2	0	0	0	Based on land use survey.
Irrigation Dwelling	0.2	0	0	0	Based on land use survey.
Well Pump Rate	5100	0	0	0	Based on land use survey.
<b>Surface Water Body</b>					
Volume	150000	110000	110000	110000	Based on Surface-water Body layout and an average water depth of 1 meter.
<b>Ingestion Rates</b>					
Drinking Water Consumption Rate/Fraction Affected	510/1	0/1	0/1	0/1	Based on land use survey.
Fish Consumption Rate/Fraction Affected	5.4/0.9	16.3/1	16.3/1	16.3/1	Based on land use survey.
Crustacea Consumption Rate/Fraction Affected	0.9/0.5	0/1	0/1	0/1	Based on land use survey.
Non-Leafy Consumption Rate/Fraction Affected	160/0.5	165.2/1	165.2/1	165.2/1	Based on land use survey.
Leafy Consumption Rate/Fraction Affected	14/0.5	118/1	118/1	118/1	Based on land use survey.
Meat Consumption Rate/Fraction Affected	63/1	0/1	0/1	0/1	Based on land use survey.
Milk Consumption Rate/Fraction Affected	92/1	0/1	0/1	0/1	Based on land use survey.
Soil Consumption Rate	36.5	18.3	18.3	18.3	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
<b>Livestock Intakes</b>					
Water	Beef: 50	Beef: 0	Beef: 0	Beef: 0	No wild game per land use survey.
	Dairy: 160	Dairy: 0	Dairy: 0	Dairy: 0	

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Pasture	Beef: 14	Beef: 2.25	Beef: 2.25	Beef: 2.25	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. There are no dairy cattle. Beef cattle represent wild game.
	Dairy: 44	Dairy: 0	Dairy: 0	Dairy: 0	
Grain	Beef: 54	Beef: 0	Beef: 0	Beef: 0	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. There are no grain crops grown.
	Dairy: 11	Dairy: 0	Dairy: 0	Dairy: 0	
Soil from Pasture	Beef: 0.1	Beef: 0.5	Beef: 0.5	Beef: 0.5	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. There are no dairy cattle. Beef cattle represent wild game.
	Dairy: 0.4	Dairy: 0	Dairy: 0	Dairy: 0	
Soil from Grain	Beef: 0.4	Beef: 0	Beef: 0	Beef: 0	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C. There are no grain crops grown.
	Dairy: 0.1	Dairy: 0	Dairy: 0	Dairy: 0	
Livestock Feed Factors					
Wet weight crop yield	Pasture: 1.1	Pasture: 1.1	Pasture: 1.1	Pasture: 1.1	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Grain: 0.7	Grain: 0.7	Grain: 0.7	Grain: 0.7	
	Non-leafy: 0.1	Non-leafy: 1.75	Non-leafy: 1.75	Non-leafy: 1.75	
	Leafy: 1.5	Leafy: 1.5	Leafy: 1.5	Leafy: 1.5	
Weathering removal constant	Pasture: 20	Pasture: 18	Pasture: 18	Pasture: 18	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Grain: 20	Grain: 18	Grain: 18	Grain: 18	
	Non-leafy: 20	Non-leafy: 18	Non-leafy: 18	Non-leafy: 18	
	Leafy: 20	Leafy: 18	Leafy: 18	Leafy: 18	
Foliar interception factor for irrigation	Pasture: 0.25	Pasture: 0.25	Pasture: 0.25	Pasture: 0.25	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Grain: 0.25	Grain: 0.25	Grain: 0.25	Grain: 0.25	
	Non-leafy: 0.25	Non-leafy: 0.25	Non-leafy: 0.25	Non-leafy: 0.25	
	Leafy: 0.25	Leafy: 0.67	Leafy: 0.67	Leafy: 0.67	
Root depth	Pasture: 0.9	Pasture: 0.9	Pasture: 0.9	Pasture: 0.9	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
	Grain: 1.2	Grain: 0.9	Grain: 0.9	Grain: 0.9	
	Non-leafy: 1.2	Non-leafy: 0.9	Non-leafy: 0.9	Non-leafy: 0.9	
	Leafy: 0.9	Leafy: 0.9	Leafy: 0.9	Leafy: 0.9	
Inhalation and External Gamma					
Mass loading	0.0001	0.0000148	0.0000148	0.0000148	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Indoor to outdoor	0.4	1	1	1	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.

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External gamma penetrating factor	0.7	0.273	0.273	0.273	Phase 1 Decommissioning Plan for the West Valley Demonstration Project Rev 2 Attachment C.
Occupancy					
Primary contamination indoor	0	0.5000	0.5000	0.5000	Based on land use survey.
Primary contamination outdoor	0	0.1564	0.1564	0.1564	
Offsite dwelling indoor	0.5	0	0	0	
Offsite dwelling outdoor	0.1	0	0	0	
Non-leafy vegetable fields	0.1	0.0417	0.0417	0.0417	
Leafy vegetable fields	0.1	0.0628	0.0628	0.0628	
Pasture and silage fields	0.1	0	0	0	
Livestock grain fields	0.1	0	0	0	