Radionuclide*	Units	EPA CERCLA Methodology – Site Specific	EPA CWA Methodology - Defaults
		Site-Specific Instream Ambient Water Quality Criteria (AWQC) Equivalent (assumes 15 fish meals/year)	CWA Guidance Defaults Instream AWQC (assumes 34 fish meals/year)
Cs-137***	pCi/L	1.2	0.19
Sr-90	pCi/L	385	43
Tc-99	pCi/L	1,883	308
U-238	pCi/L	972	159

* Most mobile and commonly detected radionuclides at Oak Ridge Reservation.

**These are example calculations only since actual radionuclide discharge limits will be a fun

*** For comparison purposes, the drinking water standard (i.e., MCL) for Cs-137 is 200 pCi/L.

DIFFERENCES IN EXPOSURE ASSUMPTIONS BETWEEN DOE, EPA CWA, & EPA CERCLA

Variable	DOE Methodology		EPA C
	Value	Source	Value
TR (target cancer risk) unit less	1×10^{-5}	Default	1×10^{-5}
FI (fraction of fish ingested)	0.33	Professional Judgement	1
EFf (exposure frequency) days/yr	1	DOE proposed, no data to support	365
EDf (exposure duration) yr	30	No longer used CERCLA Default	70
IRFa (fish consumption rate)	170 grams/meal	Assumes a single 6- ounce meal*	22 grams/day

ream Water Quality Criteria for Bear Creek

Example End of Pipe Effluent Rad Discharge Limit (assuming assimilative capacity of 3)**	Example End of Pipe Effluent Rad Discharge Limit (assuming assimilative capacity of 16)**	Current Average Discharge Measurements at the EMWMF (current landfill)	DOE Proposal 25% DCS Value
3.6	19.2	5.05	750
1,155	6160	3.41	275
5,649	30128	171	11,000
2,916	15552	1.66	188

ction of the implemented engineering controls (size of pipe, water flow rate at end of pipe, flow rate of receiving body

WA Methodology	EPA CERCLA Methodology	
Source	Value	Source
CWA Default	1×10^{-5}	within SF's acceptable range
Default	0.5	Literature; average range is 38-58% depending on fish weight
CWA Default	15 meals/year	site specific based on local studies
CWA Default	26 years	SF default
CWA Default	227 grams/meal (8 ounce meal)	SF default