

TABLE 5.5.1.2–2.—Potential Accident Frequency and Consequence (Unfavorable Meteorology)^a

Building	Accident	Frequency (per year)	MEI		Offsite Population ^b		Individual Noninvolved Worker		Noninvolved Worker Population	
			Dose (rem)	LCFs ^c	Dose (Person- rem)	LCFs ^d	Dose (rem)	LCFs ^c	Dose (Person- rem)	LCFs ^d
Building 191	Radioactive material dispersion from a spill and fire - No Action	<10 ⁻⁶	4.25 × 10 ⁻⁴	2.55 × 10 ⁻⁷	4.20 × 10 ⁻²	2.52 × 10 ⁻⁵	7.14 × 10 ⁻⁴	4.28 × 10 ⁻⁷	6.96 × 10 ⁻²	4.18 × 10 ⁻⁵
	Radioactive material dispersion from a spill and fire - Proposed Action	<10 ⁻⁶	Same	Same	Same	Same	Same	Same	Same	Same
Building 194	Design-basis earthquake and fire - No Action	10 ⁻⁶ to 10 ⁻⁴	1.30 × 10 ⁻²	7.80 × 10 ⁻⁶	1.81	1.09 × 10 ⁻³	3.30 × 10 ⁻²	1.98 × 10 ⁻⁵	3.47	2.08 × 10 ⁻³
	Design-basis earthquake and fire- Proposed Action	10 ⁻⁶ to 10 ⁻⁴	Same	Same	Same	Same	Same	Same	Same	Same
Building 239	Uncontrolled oxidation of plutonium at elevated temperature - No Action	<4.5 × 10 ⁻⁷	3.68 × 10 ⁻¹	2.21 × 10 ⁻⁴	1.02 × 10 ²	6.12 × 10 ⁻²	2.97	1.78 × 10 ⁻³	2.02 × 10 ²	1.21 × 10 ⁻¹
	Uncontrolled oxidation of plutonium at elevated temperature - Proposed Action	<4.5 × 10 ⁻⁷	Same	Same	Same	Same	Same	Same	Same	Same
Building 251	Evaluation basis fire - No Action	10 ⁻⁶ to 10 ⁻⁴	1.18 × 10 ¹	7.10 × 10 ⁻³	1.22 × 10 ³	7.34 × 10 ⁻¹	6.46 × 10 ¹	3.88 × 10 ⁻²	4.52 × 10 ³	2.71
	Evaluation basis fire - Proposed Action	10 ⁻⁶ to 10 ⁻⁴	Same	Same	Same	Same	Same	Same	Same	Same
Building 331	Plutonium Metal Fire - No Action	10 ⁻⁶ to 10 ⁻⁴	9.98 × 10 ⁻¹	5.99 × 10 ⁻⁴	3.85 × 10 ²	2.31 × 10 ⁻¹	7.52	4.51 × 10 ⁻³	6.70 × 10 ²	4.02 × 10 ⁻¹
	Aircraft crash with subsequent fire - Proposed Action	1.53 × 10 ⁻⁶	3.26	2.28 × 10 ⁻⁴	1.56 × 10 ³	1.10 × 10 ⁻¹	2.55 × 10 ¹	1.79 × 10 ⁻³	2.05 × 10 ³	1.44 × 10 ⁻¹
Building 332	Aircraft Crash - No Action	4.86 × 10 ⁻⁶	2.89	1.73 × 10 ⁻³	1.19 × 10 ³	7.14 × 10 ⁻¹	2.36 × 10 ¹	1.42 × 10 ⁻²	2.53 × 10 ³	1.52
	Room Fire Unfiltered - Proposed Action	3.90 × 10 ⁻⁷	8.40	5.04 × 10 ⁻³	3.26 × 10 ³	1.95	4.46 × 10 ¹	2.68 × 10 ⁻²	7.80 × 10 ³	4.68

TABLE 5.5.1.2–2.—Potential Accident Frequency and Consequences (Unfavorable Meteorology)^a (continued)

Building	Accident	Frequency (per year)	MEI			Offsite Population ^b		Individual Noninvolved Worker		Noninvolved Worker Population	
			Dose (rem)	LCFs ^c	Dose (Person- rem)	LCFs ^d	Dose (rem)	LCFs ^c	Dose (Person-rem)	LCFs ^d	
Building 334	Uncontrolled oxidation of plutonium at elevated temperatures - No Action	$< 1.00 \times 10^{-6}$	3.68	2.21×10^{-3}	1.03×10^3	6.18×10^{-1}	4.39×10^1	2.63×10^{-2}	2.08×10^3	1.25	
	Uncontrolled oxidation of plutonium at elevated temperatures - Proposed Action	$< 1.00 \times 10^{-6}$	Same	Same	Same	Same	Same	Same	Same	Same	
Building 581	Earthquake - No Action	2.00×10^{-8}	6.15×10^{-3}	3.69×10^{-6}	3.05	1.83×10^{-3}	1.33×10^{-2}	8.01×10^{-6}	2.22	1.33×10^{-3}	
	Earthquake during plutonium Experiment without yield - Proposed Action	2.00×10^{-9}	2.16×10^{-2}	1.30×10^{-5}	8.33	5.00×10^{-3}	4.69×10^{-2}	2.82×10^{-5}	8.23	4.94×10^{-3}	
Building 625	Aircraft Crash - No Action	6.10×10^{-7}	7.59	4.55×10^{-3}	5.80×10^3	3.48	2.70×10^1	1.62×10^{-2}	6.44×10^2	3.86×10^{-1}	
	Aircraft Crash - Proposed Action	6.10×10^{-7}	2.31×10^1	1.39×10^{-2}	1.76×10^4	1.06×10^1	8.23×10^1	4.94×10^{-2}	1.96×10^3	1.18	
Building 696R	Aircraft Crash - No Action	6.29×10^{-7}	1.66×10^1	9.93×10^{-3}	1.06×10^4	6.38	2.16×10^1	1.30×10^{-2}	1.73×10^3	1.04	
	Aircraft Crash - Proposed Action	6.29×10^{-7}	Same	Same	Same	Same	Same	Same	Same	Same	
Site 300 Materials Management Facilities	Depleted uranium release by fire - No Action	10^{-4} to 10^{-2}	7.89×10^{-3}	4.73×10^{-6}	2.60	1.56×10^{-3}	6.27×10^{-1}	3.76×10^{-4}	5.50×10^{-1}	3.30×10^{-4}	
	Depleted uranium release by fire - Proposed Action	10^{-4} to 10^{-2}	Same	Same	Same	Same	Same	Same	Same	Same	
Onsite Transportation	Materials Management Section package explosion - No Action	$< 1.00 \times 10^{-6}$	2.76	1.66×10^{-3}	6.50×10^2	3.90×10^{-1}	5.32×10^1	3.19×10^{-2}	1.02×10^3	6.12×10^{-1}	
	Materials Management Section package explosion - Proposed Action	$< 1.00 \times 10^{-6}$	Same	Same	Same	Same	Same	Same	Same	Same	

Source: Original

^a The consequences for the Reduced Operation Alternative would be the same as for the No Action Alternative.^b Based on the population of approximately 6,900,000 persons residing within 50 miles of LLNL.^c Increased likelihood of a latent cancer fatality.^d Increased number of latent cancer fatalities.

LCFs = latent cancer fatalities; MEI = maximally exposed individual.