

Projected Impacts of Large-scale Radiological Releases at Atomic Reactors in the U.S.
Calculation of Reactor Accident Consequences (CRAC-2) report by U.S. NRC & Sandia National Lab, 1982

Reactor/Location	Peak Early Fatalities	Peak Early Injuries	Peak Cancer Deaths	Property Damage in 1982 Dollars [adjusted for inflation to 2008 dollars]
Arkansas Nuclear One, Units 1 & 2, Russelville, AR	Unit 1 - 1,900 Unit 2 - 2,100	Unit 1 - 3,400 Unit 2 - 4,000	Unit 1 - 2,900 Unit 2 - 3,000	Unit 1 - \$68.1 Billion [\$150 Billion] Unit 2 - \$84.9 Billion [\$187 Billion]
Beaver Valley Units 1 & 2 Shippingport, Pa.	Unit 1 - 19,000 Unit 2 - 19,000	Unit 1 - 156,000 Unit 2 - 156,000	Unit 1 - 28,600 Unit 2 - 24,000	Unit 1 - \$122 Billion [\$269 Billion] Unit 2 - \$110 Billion [\$242 Billion]
Bellefonte Units 1 & 2 Scottsboro, Alabama	Unit 1 - 3,600 Unit 2 - 3,600	Unit 1 - 7,700 Unit 2 - 7,700	Unit 1 - 4,500 Unit 2 - 4,500	Unit 1 - \$86.1 Billion [\$190 Billion] Unit 2 - \$82.7 Billion [\$182 Billion]
Braidwood, Units 1 & 2 Joliet, Illinois	Unit 1 - 6,750 Unit 2 - 6,750	Unit 1 - 63,300 Unit 2 - 63,300	Unit 1 - 14,200 Unit 2 - 14,200	Unit 1 - \$127 Billion [\$280 Billion] Unit 2 - \$122 Billion [\$269 Billion]
Browns Ferry Units 1,2,3 Decatur, Alabama	Unit 1 - 18,000 Unit 2 - 18,000 Unit 3 - 18,000	Unit 1 - 42,000 Unit 2 - 42,000 Unit 3 - 42,000	Unit 1 - 3,900 Unit 2 - 3,900 Unit 3 - 3,900	Unit 1 - \$67.3 Billion [\$148 Billion] Unit 2 - \$69.1 Billion [\$152 Billion] Unit 3 - \$73 Billion [\$161 Billion]
Brunswick, Units 1 & 2, Brunswick, N. Carolina	Unit 1 - 7,500 Unit 2 - 7,500	Unit 1 - 18,000 Unit 2 - 18,000	Unit 1 - 4,600 Unit 2 - 4,600	Unit 1 - \$56.5 Billion [\$124 Billion] Unit 2 - \$53.9 Billion [\$119 Billion]
Byron, Units 1 & 2, Rockford, ILL.	Unit 1 - 9,050 Unit 2 - 9,050	Unit 1 - 79,300 Unit 2 - 79,300	Unit 1 - 15,300 Unit 2 - 15,300	Unit 1 - \$114 Billion [\$251 billion] Unit 2 - \$114 Billion [\$251 billion]
Callaway Unit 1, Callaway, MO.	11,500	32,000	9,600	\$110 Billion [\$242 Billion]
Calvert Cliffs, Units 1 & 2, Lusby, MD	Unit 1 - 5,600 Unit 2 - 5,600	Unit 1 - 15,000 Unit 2 - 15,000	Unit 1 - 23,000 Unit 2 - 23,000	Unit 1 - \$87.4 Billion [\$193 Billion] Unit 2 - \$92 Billion [\$203 Billion]
Catawba, Units 1 & 2, Rock Hill, S.C.	Unit 1 - 5,800 Unit 2 - 5,800	Unit 1 - 88,000 Unit 2 - 88,000	Unit 1 - 42,000 Unit 2 - 42,000	Unit 1 - \$101 Billion [\$222 Billion] Unit 2 - \$93.7 Billion [\$206 Billion]
Clinton, Clinton, IL.	Scaled 1,600	32,000	13,000	\$92.8 Billion [\$204 Billion]
Comanche Peak, Units 1 & 2 Glen Rose, TX	Unit 1 - 1,200 Unit 2 - 1,200	Unit 1 - 14,000 Unit 2 - 14,000	Unit 1 - 4,800 Unit 2 - 4,800	Unit 1 - \$117 Billion [\$258 Billion] Unit 2 - \$117 Billion [\$258 Billion]
Cook, Units 1 & 2 Bridgman, MI	Unit 1 - 1,900 Unit 2 - 2,000	Unit 1 - 80,000 Unit 2 - 88,000	Unit 1 - 13,000 Unit 2 - 13,000	Unit 1 - \$91.9 Billion [\$202 Billion] Unit 2 - \$101 Billion [\$222 Billion]
Cooper, Brownsville, Nebraska	1,600	2,800	3,100	\$57.2 Billion [\$126 Billion]
Crystal River, Unit 3, FL	900	3,800	2,800	\$53.8 Billion [\$119 Billion]
Davis-Besse, Ottawa, Ohio	1,400	73,000	10,000	\$84 Billion [\$185 Billion]

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Diablo Canyon Units 1 & 2 San Luis Obispo, California	Unit 1 - 10,000 Unit 2 - 10,000	Unit 1 - 11,000 Unit 2 - 12,000	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - \$155 Billion [\$341 Billion] Unit 2 - \$158 Billion [\$348 Billion]
Dresden Units 2 & 3	Unit 2 - 42,000	Unit 2 - 39,000	Unit 2 - 13,000	Unit 2 - \$87.4 Billion [\$193 Billion]
Morris, Illinois	Unit 3 - 42,000	Unit 3 - 39,000	Unit 3 - 13,000	Unit 3 - \$89.6 Billion [\$197 Billion]
Duane Arnold, Palo, IA	Scaled 2,900	12,000	not available	\$53.8 Billion [\$119 Billion]
Farley, Units 1 & 2 Dothan, Alabama	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - 2,900 Unit 2 - 2,900	Unit 1 - \$52.2 Billion [\$115 Billion] Unit 2 - \$59.1 Billion [\$130 Billion]
Fermi, Unit 2, Laguna Beach, Mi.	8,000	340,000	13,000	\$136 Billion [\$300 Billion]
FitzPatrick, Scriba, NY	scaled 1,000	scaled 16,000	17,000	\$103 Billion [\$227 Billion]
Fort Calhoun, Washington, NE	scaled 3,000	32,000	3,000	\$43.4 Billion [\$96 Billion]
Ginna, Ontario, NY	scaled 2,000	28,000	scaled 14,000	\$63 Billion [\$139 Billion]
Grand Gulf, Unit 1 Vicksburg, Mississippi	Unit 1 - 4,500	Unit 1 - 10,000	Unit 1 - 3,800	Unit 1 - \$83 Billion [\$182 Billion]
Hatch, Units 1 & 2 Baxley, Georgia	Unit 1 – 700 Unit 2 – 700	Unit 1 - 4,000 Unit 2 - 4,000	Unit 1 - 3,000 Unit 2 - 3,000	Unit 1 - \$51 Billion [\$112 Billion] Unit 2 - \$56 Billion [\$123 Billion]
[Hope Creek, NJ, near Wilmington, DE, not included]				
Indian Point Units 2 & 3 Buchanan, NY	Unit 2 - 46,000 Unit 3 - 50,000	Unit 2 - 141,000 Unit 3 - 167,000	Unit 2 - 13,000 Unit 3 - 14,000	Unit 2 - \$274 Billion [\$604 Billion] Unit 3 - \$314 Billion [\$692 Billion]
Kewaunee, Carlton, Wisconsin	scaled 900	17,000	8,000	\$46.9 Billion [\$103 Billion]
LaSalle, Units 1 & 2 Ottawa, Illinois	Unit 1 - 14,000 Unit 2 - 14,000	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - 15,000 Unit 2 - 15,000	Unit 1 - \$118 Billion [\$260 Billion] Unit 2 - \$120 Billion [\$264 Billion]
Limerick, Units 1 & 2 Montgomery, Pa.	Unit 1 - 74,000 Unit 2 - 74,000	Unit 1 610,000 Unit 2 - 610,000	Unit 1 - 34,000 Unit 2 - 34,000	Unit 1 - \$213 Billion [\$469 Billion] Unit 2 - \$197 Billion [\$434 Billion]
McGuire, Units 1 & 2 Cornelius, NC	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - 21,000 Unit 2 - 21,000	Unit 1 - 26,000 Unit 2 - 26,000	Unit 1 - \$106 Billion [\$233 Billion] Unit 2 - \$110 Billion [\$242 Billion]
Millstone, Units 2 & 3	Unit 2 - 18,000	Unit 2 - 18,000	Unit 2 - 33,000	Unit 2 - \$135 Billion [\$297 Billion]
Waterford, Ct.	Unit 3 - 23,000	Unit 3 - 30,000	Unit 3 - 38,000	Unit 3 - \$174 Billion [\$383 Billion]
Monticello, MN	scaled 500	10,000	4,000	\$44.6 Billion [\$98.2 Billion]

Reactor/Location	Peak Early Fatalities	Peak Early Injuries	Peak Cancer Deaths	Property Damage in 1982 Dollars [adjusted for inflation to 2008 dollars]
Nine Mile Point, Units 1 & 2, Scriba, NY	Unit 1 - 800 Unit 2 - 1,400	Unit 1 - 11,000 Unit 2 - 26,000	Unit 1 - 14,000 Unit 2 - 20,000	Unit 1 - \$66.2 Billion [\$146 Billion] Unit 2 - \$134 Billion [\$295 Billion]
North Anna, Units 1 & 2 Mineral, Virginia	Unit 1 - 1,800 Unit 2 - 1,800	Unit 1 - 5,000 Unit 2 - 5,000	Unit 1 - 29,000 Unit 2 - 29,000	Unit 1 - \$66 Billion [\$145 Billion] Unit 2 - \$60 Billion [\$132 Billion]
Oconee, Units 1, 2, & 3 Seneca, South Carolina	Unit 1 - 4,000 Unit 2 - 4,000 Unit 3 - 4,000	Unit 1 - 47,000 Unit 2 - 47,000 Unit 3 - 47,000	Unit 1 - 4,000 Unit 2 - 4,000 Unit 3 - 4,000	Unit 1 - \$56.8 Billion [\$125 Billion] Unit 2 - \$58.3 Billion [\$128 Billion] Unit 3 - \$58.3 Billion [\$128 Billion]
Oyster Creek, Toms River, NJ	13,000	10,000	23,000	\$79.8 Billion [\$176 Billion]
Palisades, South Haven, Michigan	1,000	7,000	scaled 10,000	\$52.6 Billion [\$116 Billion]
Palo Verde, Units 1, 2, & 3 Maricopa, AZ	Unit 1 - 4,000 Unit 2 - 4,000 Unit 3 - 4,000	Unit 1 - 36,000 Unit 2 - 36,000 Unit 3 - 36,000	Unit 1 - 15,000 Unit 2 - 15,000 Unit 3 - 15,000	Unit 1 - \$89.7 Billion [\$198 Billion] Unit 2 - \$89.7 Billion [\$198 Billion] Unit 3 - \$89.7 Billion [\$198 Billion]
Peach Bottom, Units 2 & 3 Peach Bottom, Pa	Unit 2 - 72,000 Unit 3 - 72,000	Unit 2 - 45,000 Unit 3 - 45,000	Unit 2 - 37,000 Unit 3 - 37,000	Unit 2 - \$119 Billion [\$262 Billion] Unit 3 - \$119 Billion [\$262 Billion]
Perry Unit 1, Painesville, OH	5,500	180,000	14,000	\$102 Billion [\$225 Billion]
Pilgrim Unit 1, Plymouth, Ma	3,000	30,000	23,000	\$81.8 Billion [\$180 Billion]
Point Beach, Units 1 & 2 Two Creeks, Wisconsin	Unit 1 - 500 Unit 2 - 500	Unit 1 - 9,000 Unit 2 - 9,000	Unit 1 - 7,000 Unit 2 - 7,000	Unit 1 - \$41.4 Billion [\$91 Billion] Unit 2 - \$43.8 Billion [\$96.5 Billion]
Prairie Island, Units 1 & 2 Red Wing, MN	Unit 1 - 2,000 Unit 2 - 2,000	Unit 1 - 4,000 Unit 2 - 4,000	Unit 2 - 4,000 Unit 2 - 4,000	Unit 1 - \$48.3 Billion [\$106 Billion] Unit 2 - \$49.5 Billion [\$109 Billion]
Quad Cities, Units 1 & 2 Cordova, IL	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - 41,000 Unit 2 - 41,000	Unit 1 - 12,000 Unit 2 - 12,000	Unit 1 - \$65.1 Billion [\$143 Billion] Unit 2 - \$65.1 Billion [\$143 Billion]
[River Bend 1, near Baton Rouge, LA, not included]				
Robinson 2, Hartsville, SC	Scaled 2,000	8,000	3,000	\$42.5 Billion [\$93.6 Billion]
St. Lucie, Units 1 & 2 Fort Pierce, Florida	Unit 1 - 5,000 Unit 2 - 5,000	Unit 1 - 6,000 Unit 2 - 6,000	Unit 1 - 3,000 Unit 2 - 3,000	Unit 1 - \$54.3 Billion [\$120 Billion] Unit 2 - \$59.1 Billion [\$130 Billion]
Salem, Units 1 & 2 Salem, NJ	Unit 1 - 100,000 Unit 2 - 100,000	Unit 1 - 70,000 Unit 2 - 75,000	Unit 1 - 40,000 Unit 2 - 40,000	Unit 1 - \$135 Billion [\$297 Billion] Unit 2 - \$150 Billion [\$330 Billion]
San Onofre, Units 2 & 3 San Clemente, Ca	Unit 2 - 27,000 Unit 3 - 27,000	Unit 2 - 23,000 Unit 3 - 23,000	Unit 2 - 18,000 Unit 3 - 18,000	Unit 2 - \$186 Billion [\$409 Billion] Unit 3 - \$182 Billion [\$401 Billion]

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Seabrook Unit 1, NH	Unit 1 - 7,000	Unit 1 - 27,000	Unit 1 - 6,000	Unit 1 - \$163 Billion [\$359 Billion]
Sequoyah, Units 1 & 2 Chattanooga, Tenn.	Unit 1 - 29,000 Unit 2 - 29,000	Unit 1 - 61,000 Unit 2 - 61,000	Unit 1 - 4,700 Unit 2 - 4,700	Unit 1 - \$96.8 Billion [\$213 Billion] Unit 2 - \$98.6 Billion [\$217 Billion]
Shearon Harris, Units 1 & 2 Apex, N. C.	Unit 1 - 11,000 Unit 2 - 11,000	Unit 1 - 31,000 Unit 2 - 31,000	Unit 1 - 6,000 Unit 2 - 6,000	Unit 1 - \$68.5 Billion [\$151 Billion] Unit 2 - \$47.8 Billion [\$105 Billion]
South Texas, Units 1 & 2 South Texas, TX	Unit 1 - 18,000 Unit 2 - 18,000	Unit 1 - 10,000 Unit 2 - 10,000	Unit 1 - 11,000 Unit 2 - 11,000	Unit 1 - \$112 Billion [\$247 Billion] Unit 2 - \$104 Billion [\$229 Billion]
Summer Unit 1, Fairfield, SC	5,000	73,000	4,000	\$68.2 Billion [\$150 Billion]
Surry Units 1 & 2 Gravel Neck, VA	Unit 1 - 31,000 Unit 2 - 31,000	Unit 1 - 36,000 Unit 2 - 36,000	Unit 1 - 23,000 Unit 2 - 23,000	Unit 1 - \$56.3 Billion [\$124 Billion] Unit 2 - \$57.8 Billion [\$127 Billion]
Susquehanna, Units 1 & 2 Berwick, Pa	Unit 1 - 67,000 Unit 2 - 67,000	Unit 1 - 47,000 Unit 2 - 47,000	Unit 1 - 28,000 Unit 2 - 28,000	Unit 1 - \$143 Billion [\$315 Billion] Unit 2 - \$137 Billion [\$302 Billion]
Three Mile Island Unit 1 Middletown, PA	42,000	50,000	26,000	\$102 Billion [\$225 Billion]
Turkey Point Units 3 & 4 Florida City, Fl	Unit 3 - 29,000 Unit 4 - 29,000	Unit 3 - 45,000 Unit 4 - 45,000	Unit 3 - 4,000 Unit 4 - 4,000	Unit 3 - \$43.6 Billion [\$96 Billion] Unit 4 - \$48.6 Billion [\$107 Billion]
Vermont Yankee	7,000	3,000	17,000	\$68.8 Billion [\$152 Billion]
Vogtle, Units 1 & 2 Burke, GA	Unit 1 - 200 Unit 2 - 200	Unit 1 - 39,000 Unit 2 - 39,000	Unit 1 - 4,000 Unit 2 - 4,000	Unit 1 - \$70.3 Billion [\$155 Billion] Unit 2 - \$62.3 Billion [\$137 Billion]
Waterford, Unit 3, St. Charles, LA	96,000	279,000	9,000	\$131 Billion [\$289 Billion]
Watts Bar, Units 1 & 2 Rhea, Tenn.	Unit 1 - 5,000 Unit 2 - 5,000	Unit 1 - 11,000 Unit 2 - 11,000	Unit 1 - 4,000 Unit 2 - 4,000	Unit 1 - \$86.6 Billion [\$191 Billion] Unit 2 - \$83.3 Billion [\$183 Billion]
WPPSS Unit 1, Richland, WA (also known as Columbia Generating Station)	200	20,000	4,000	\$80.4 Billion [\$177 Billion]
<u>Wolf Creek 1, Burlington, KS</u>	<u>1,000</u>	<u>3,000</u>	<u>3,000</u>	<u>\$105 Billion [\$231 Billion]</u>

Viewable online at <http://www.geocities.com/mothersalert/crac.html>, including figures for reactors that have been permanently shut down or cancelled before completion since 1982.

An introduction there also provides definitions of terms, and background information on the assumptions underlying the CRAC-2 report. Some experts claim that CRAC-2's assessment has several faults. Among them -- accidents can spread to the irradiated fuel pool, where huge amounts of radioactive waste are stored. The authors of the Reactor Safety Study concluded that changing some of the criteria for data gathering would actually increase the number of early fatalities by a factor of 3-4, depending upon circumstances [NUREG-0340]. Economic costs *not* included in CRAC-2 are: the cost of providing health care to the affected population; all onsite costs; litigation costs; direct costs of health effects; and indirect costs. Casualties could also be worse than reported above, due to population growth since 1982. Also, "peak" does not necessarily mean worst case, as CRAC-2's model contained limitations in its meteorological modeling capability, evacuation assumptions, etc.