



General Distribution

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ISOE INFORMATION SHEET

North American Technical Center
Information System on Occupational Exposure

3-YEAR ROLLING AVERAGE ANNUAL DOSE COMPARISONS
United States Boiling Water Reactor (BWR)
1999-2001 Occupational Dose Benchmarking Charts

NATC ISOE Information Sheet No. 02-2

NATC ISOE Information Sheet No. 02-2 presents the U.S. Boiling Water Reactor (BWR) occupational exposure results for FY 2001. The 3-Year Rolling Average Occupational Dose Comparisons provide a means to evaluate site occupational dose performance over an entire fuel cycle.

For this report, annual site doses were used for 1999, 2000 and 2001. Annual site doses were divided by the number of units per site. The top 10% US BWR units for this period are provided in the following table.

Site Name	Three Year Rolling Average Person-Rem (Person-mSv)
Fermi 2	117 (1170)
Vermont Yankee	119 (1190)
Limerick 1,2	124 (1240)
Clinton	125 (1250)

Table 1: U.S. BWR Three-Year Rolling Average, 1999-2001

**BOILING WATER REACTORS
COLLECTIVE RADIATION EXPOSURE PER UNIT
THREE YEAR ROLLING AVERAGE**

1999 - 2001 Actual Values

SITE NAME	COMPANY	Collective Radiation Exposure Per Site (Person-Rem or Person-cSv)										2000^	2001*	Three Year Rolling Average Per Unit
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999			
Fermi 2	Detroit Edison Co.	83	211	230	34.5	213.1	27.7	157	49	208	36	145.964	168.69	117
Vermont Yankee	Vermont Yankee Nuclear Power Co.	307	100	356	204	38.2	181	231	57	199	176	37.846	143.01	119
Limerick 1,2	Exelon Energy	176	104	330	210	270	259.5	234	234	357	271	260.611	210.336	124
Clinton 1	Amergen	553	220	404	498	63.3	318	349	172	144	87	253.382	34	125
Duane Arnold	NMC	861	199	502	407	119	358	252	63	237	201	44.181	137.564	128
Cooper	Nebraska Public Power District	379	407	73	390	82.4	228	47	174	182	49	199.589	168.665	139
Fitzpatrick	New York Power Authority	884	292	674	231.50	323	327.7	357	91	358	68	300.997	56.125	142
WNP-2	Columbia	536	388	612	468.6	867	543.6	370	251	286	155	53.152	225.399	145
Grand Gulf 1	Entergy Operations, Inc.	482	103	483	331.9	56.44	342	354	105	304	226	34.877	185.214	149
LaSalle 1,2	Exelon Energy	948	806	1168	855	727	512	818	316	422	576	260.32	82.721	153
Hatch 1,2	Georgia Power Co.	1456	1160	549	669	868	490	441	722	320	329	401.891	230.245	160
Peach Bottom 2,3	Exelon Energy	418	1074	502	551.9	578	397	282	490	366	319	330.928	344.283	166
Monticello	Northern States Power Co.	94	465	114	494	394.6	44	300	106	209	70	216.136	220.683	169
Brunswick 1,2	Carolina Power & Light Co.	1548	778	623	872	999	683.4	716	411	396	418	321.785	302.812	174
Susquehanna 1,2	PP&L Susquehanna LLC	440	507	724	335	441.6	475	290	433	361	431	333.163	289	176
Nine Mile Pt. 1,2	Niagara Mohawk Power Corp.	700	262	616	632.5	147.16	757.5	288	429	378	447	282.838	343.197	179
Browns Ferry 2,3	Tennessee Valley Authority	1310	354	516	869	854.8	408.7	384	516	361	447	333.215	293.879	179
Hope Creek 1	Public Service Electric & Gas Co.	196	366	437	97.6	327	197	149	350	54.8	279	128.788	154.68	187
Pilgrim 1	Entergy Operations, Inc.	225	570	265	410	213	488.5	116	588	71.4	344	50.797	179.585	191
Quad Cities 1,2	Exelon Energy	1028	508	1157	849	1127.89	736	1025	654	761	201	893.766	143.849	206
Dresden 2,3	Exelon Energy	1400	1006	619	1655	833.4	876	410	467	427	591	261.684	400.702	209
Perry 1	Centerior Energy Corp.	638	147	571	278.4	691.2	65.2	307	272	41.9	326	55.827	258.268	213
Oyster Creek	Amergen	310	1189	657	416	844	95	449	50	308	42	614.379	45.817	234

River Bend 1	Entergy Operations, Inc.	489	127	710	179.7	514	79.4	394	347	57.7	340	216.053	207.614	255
Cofrentes	Iberdrola	318	525	151	469	381	47	181	273	58	221	264		162
Laguna Verde	Comision Federal de Electricidad		514	544	196.8	430							758.1	
Santa Maria De Garona	Nuclenor			708	100.5	408		490						
Ringhals 1	Statens Vattenfallsverk	205	210	385										
Total U.S. Units Included :		37	37	37	37	37	37	37	37	36	35	36	36	36
Annual U.S. BWR Average :		418	307	348	323	313	240	236	199	189	184	168	134	112

* Big Rock Point is shut down.

Millstone-1 is shut down.

2000^ - Based on Official TLD Data

2001* - Based on Official TLD Data