

OECD Nuclear Energy Agency
International Atomic Energy Agency



INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

General Distribution

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ISOE Information Sheet

North American Technical Center

Information System on Occupational Exposure

North American Pressurized Water Reactor (PWR)

2013 Occupation Dose Benchmarking Charts

NATC ISOE Information Sheet No. 13-04

Information sheet No. 13-04 reports and benchmarks the occupational exposure received at each of the pressurized water reactors in the US in 2013. Each PWR unit is benchmarked according to collective effective dose equivalent during normal operations and outage dose and duration, when applicable.

The following values represent those reported by INPO multiplied by a weighting factor to match the CEDE reported by the

NRC. By this criteria, each reactor is organized into quartiles in the first three figures of the report. The final table summarizes the total dose for each site.

Of the sixty-five operating PWR's, thirty-four had scheduled refueling outages in 2013. This includes Waterford 3, who extended a 2012 outage into the month of January. Of these refueling outages, the average effective dose equivalent was 62 man-rem.

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Figure 1. 2013 PWR Outage Duration Quartiles

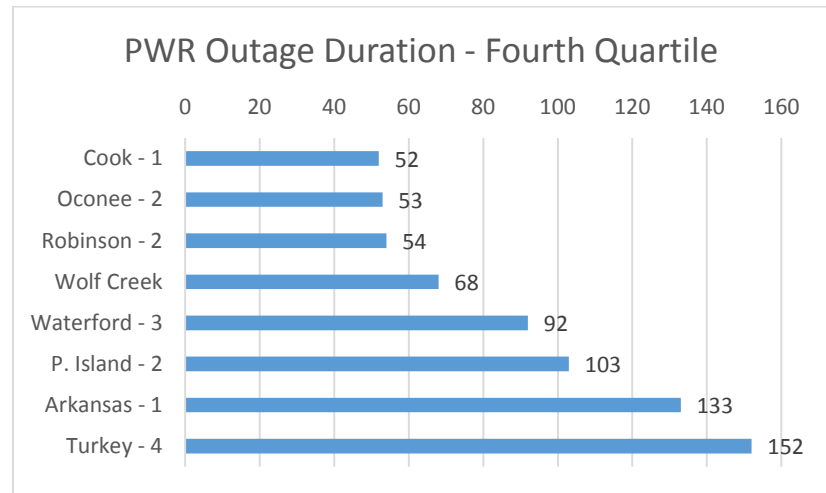
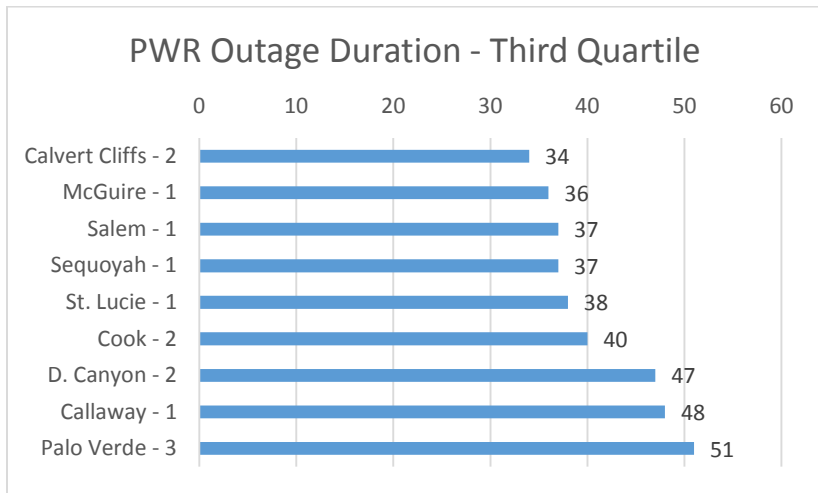
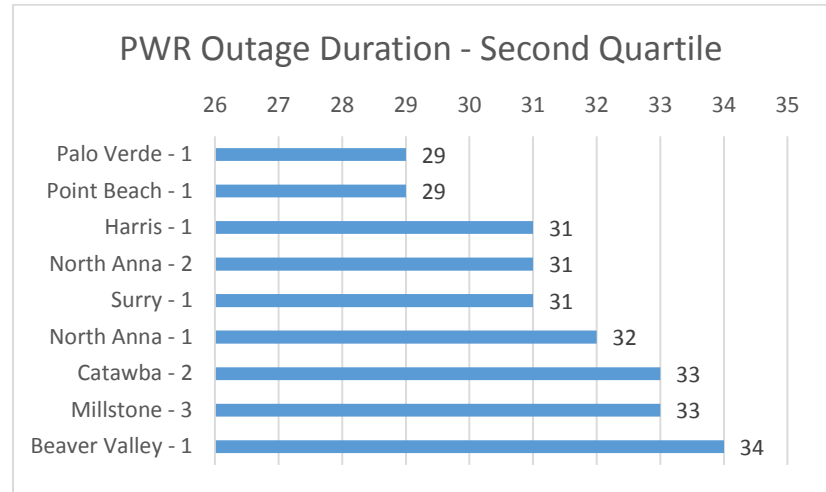
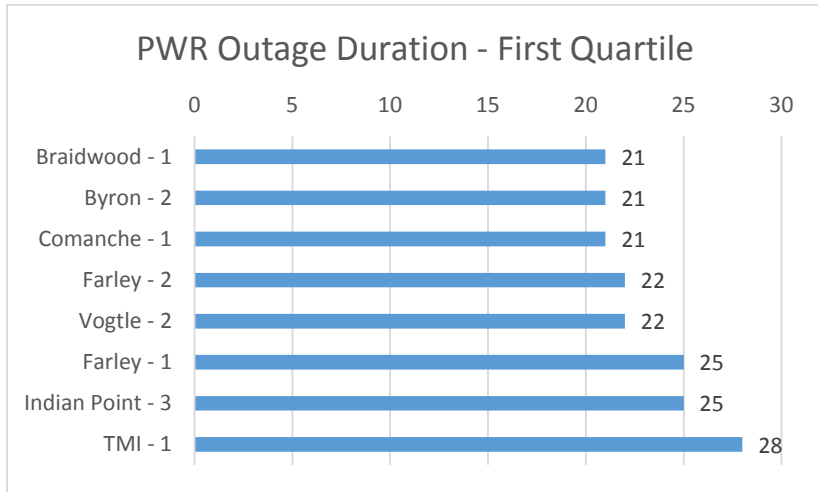


Figure 2. 2013 PWR Outage Dose Quartiles

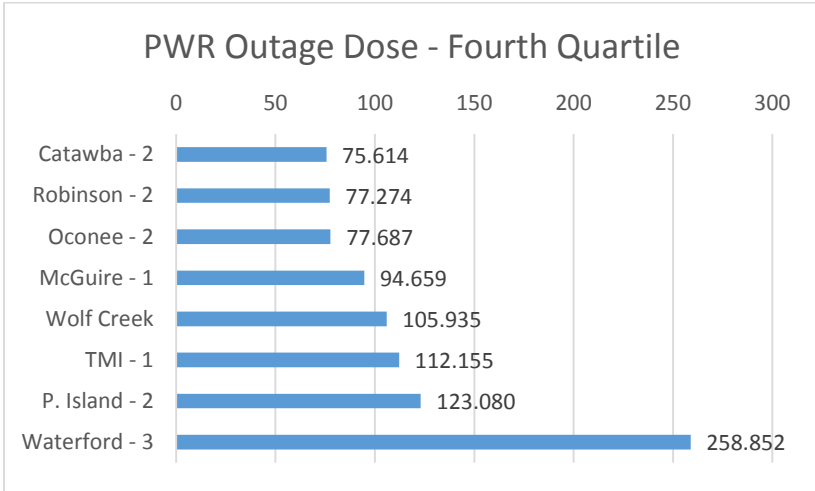
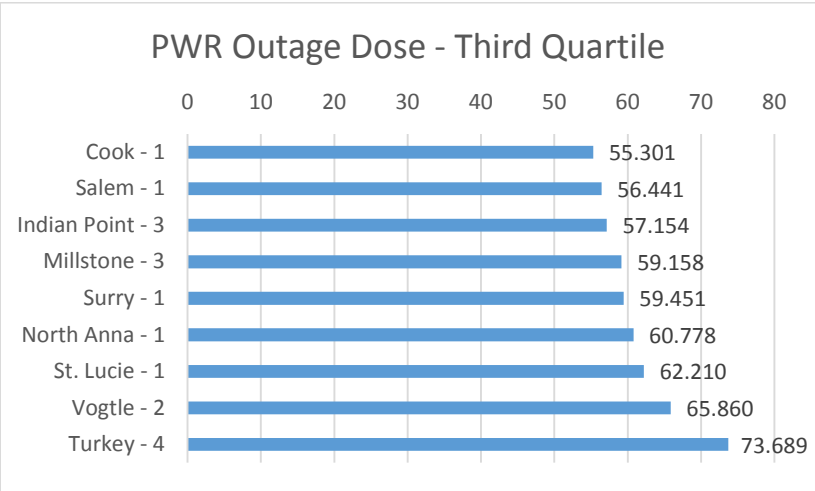
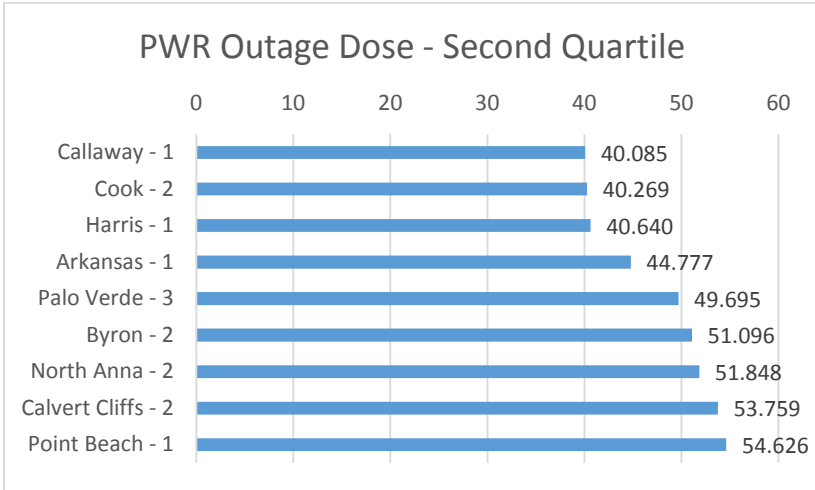
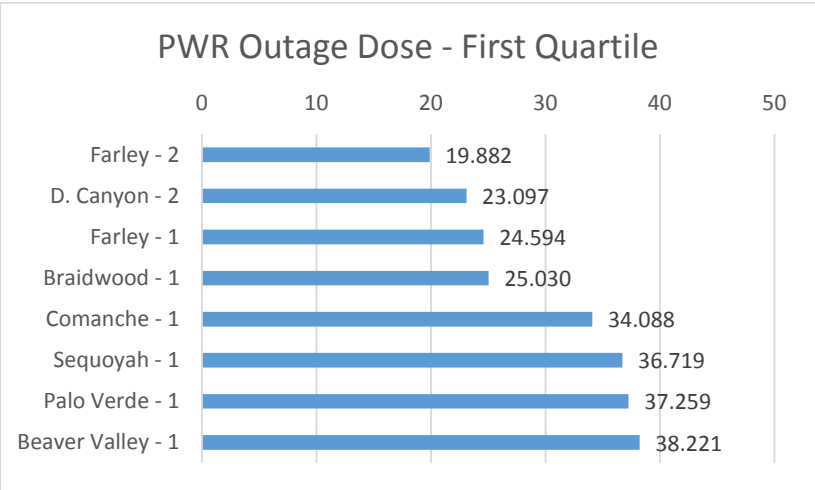


Figure 3. 2013 PWR Normal Operations Dose Quartiles

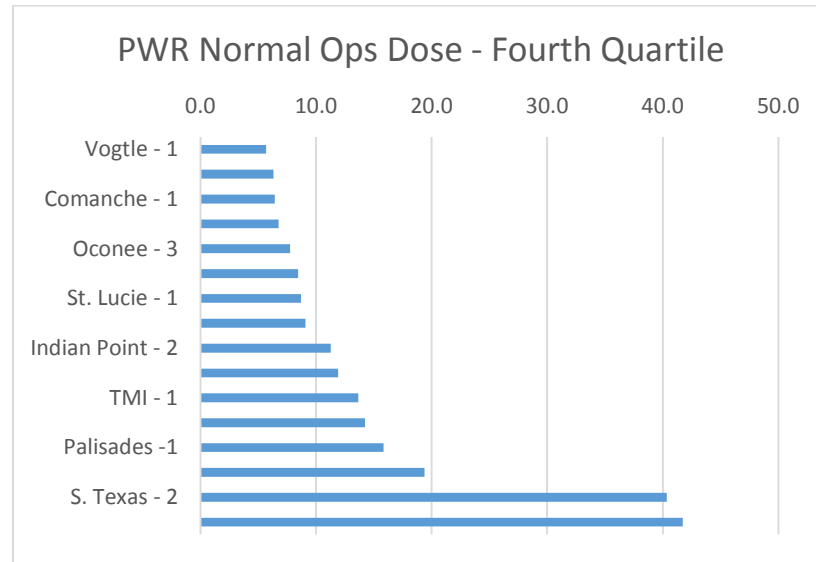
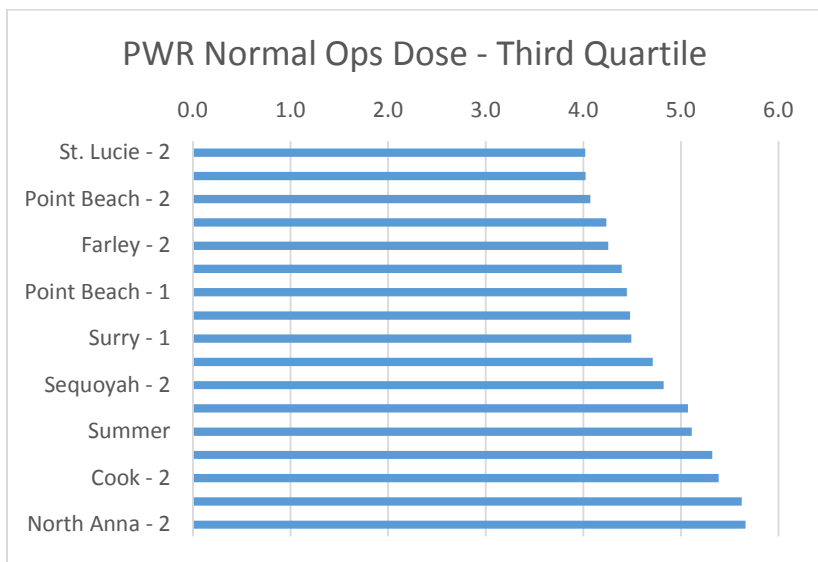
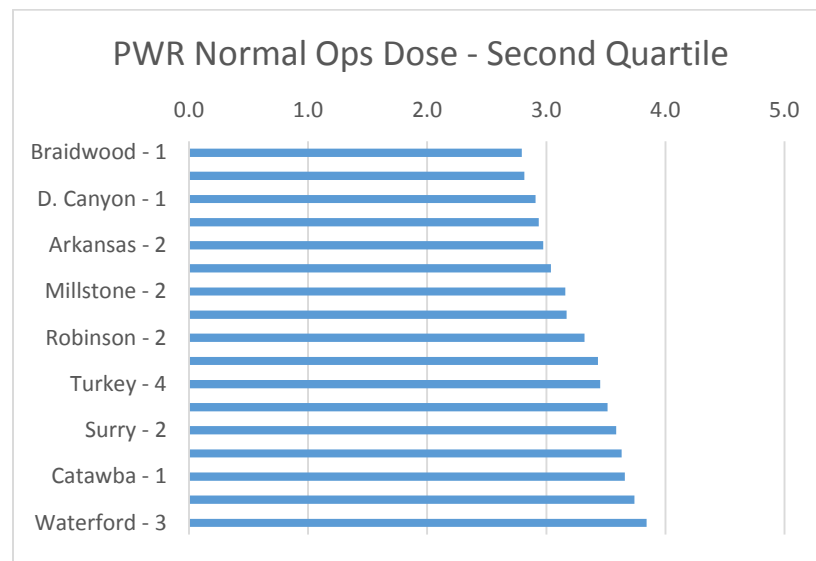
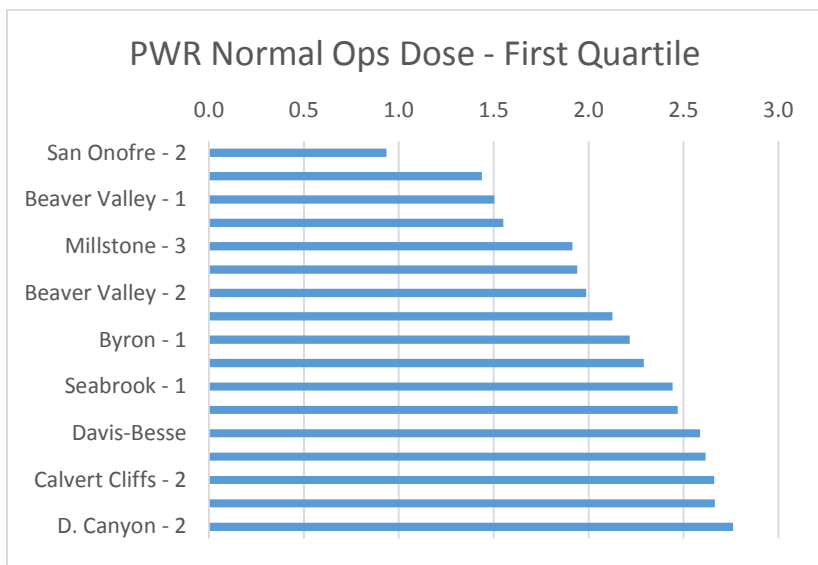


Table 1. 2013 PWR Total Site Dose

Nuclear Unit	Outage Began	Outage Ended	Outage Dose	Normal Ops. Dose	Site CEDE
Arkansas - 1	3/25/2013	8/5/2013	44.777	2.291	
Arkansas - 2				2.973	50.041
Beaver Valley - 1	9/30/2013	11/3/2013	38.221	1.503	
Beaver Valley - 2				1.987	41.712
Braidwood - 1	9/9/2013	9/30/2013	25.030	2.794	
Braidwood - 2				4.023	31.847
Byron - 1				2.217	
Byron - 2	4/8/2013	4/29/2013	51.096	4.395	57.708
Callaway - 1	4/9/2013	5/27/2013	40.085	3.038	43.123
Calvert Cliffs -1				4.236	
Calvert Cliffs - 2	2/18/2013	3/24/2013	53.759	2.662	60.657
Catawba - 1				3.659	
Catawba - 2	9/14/2013	10/17/2013	75.614	3.633	82.906
Comanche - 1	3/31/2013	4/21/2013	34.088	6.437	
Comanche - 2				4.712	45.237
Cook - 1	3/27/2013	5/18/2013	55.301	2.815	
Cook - 2	10/2/2013	11/11/2013	40.269	5.387	103.772
D. Canyon - 1				2.909	
D. Canyon - 2	2/3/2013	3/22/2013	23.097	2.761	28.767
Davis-Besse				2.588	2.588
Farley - 1	9/30/2013	10/25/2013	24.594	4.480	
Farley - 2	4/15/2013	5/7/2013	19.882	4.257	53.212
Fort Calhoun				0.000	
Harris - 1	11/9/2013	12/10/2013	40.640	14.234	54.874
Indian Point - 2				11.259	
Indian Point - 3	3/4/2013	3/29/2013	57.154	5.625	74.038
McGuire - 1	3/17/2013	4/22/2013	94.659	8.444	
McGuire - 2				6.320	109.423
Millstone - 2				3.160	
Millstone - 3	4/14/2013	5/17/2013	59.158	1.914	64.232
North Anna - 1	9/8/2013	10/10/2013	60.778	3.514	
North Anna - 2	4/7/2013	5/8/2013	51.848	5.663	121.803

Nuclear Unit	Outage Began	Outage Ended	Outage Dose	Normal Ops. Dose	Site CEDE
Oconee - 1				11.897	
Oconee - 2	10/12/2013	12/4/2013	77.687	9.072	
Oconee - 3				7.758	106.414
P. Island - 1				3.739	
P. Island - 2	9/21/2013	1/2/2014	123.080	3.169	129.989
Palisades -1				15.830	15.83
Palo Verde - 1	3/30/2013	4/28/2013	37.259	1.939	
Palo Verde - 2				2.664	
Palo Verde - 3	10/5/2013	11/25/2013	49.695	2.126	93.684
Point Beach - 1	3/18/2013	4/16/2013	54.626	4.448	
Point Beach - 2				4.072	63.146
R. E. Ginna				3.434	3.434
Robinson - 2	9/14/2013	11/7/2013	77.274	3.321	80.595
S. Texas - 1				19.382	
S. Texas - 2				40.354	59.736
Salem - 1	4/15/2013	5/22/2013	56.441	1.438	
Salem - 2				1.551	59.43
Seabrook - 1				2.442	2.442
Sequoyah - 1	10/14/2013	11/20/2013	36.719	2.937	
Sequoyah - 2				4.822	44.478
St. Lucie - 1	9/30/2013	11/7/2013	62.210	8.696	
St. Lucie - 2				4.020	74.926
Summer				5.113	5.113
Surry - 1	10/20/2013	11/20/2013	59.451	4.491	
Surry - 2				3.586	67.528
TMI - 1	10/28/2013	11/25/2013	112.155	13.648	125.803
Turkey - 3				5.073	
Turkey - 4	11/5/2012	4/6/2013	73.689	3.453	82.215
Vogtle - 1				5.686	
Vogtle - 2	3/11/2013	4/2/2013	65.860	6.752	78.298
Waterford - 3	10/17/2012	1/17/2013	258.852	3.842	3.129
Watts Bar				2.616	2.616
Wolf Creek	2/4/2013	4/13/2013	105.935	5.322	111.257