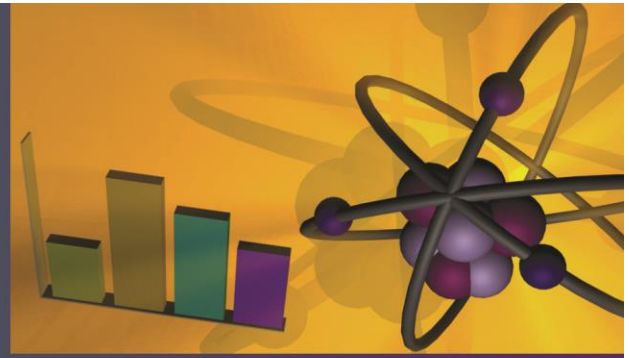


Nuclear Performance

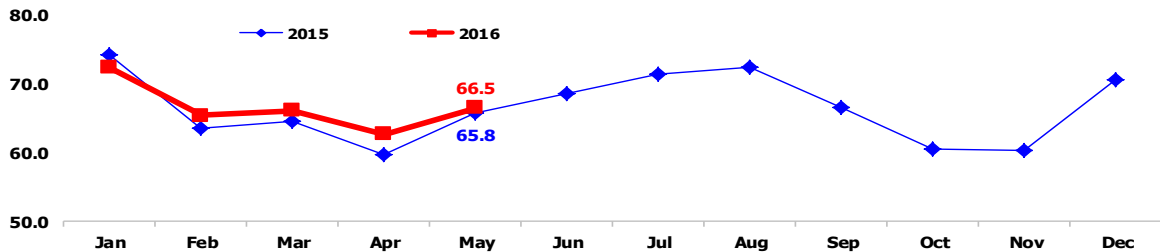
May 2016



Summary of Nuclear Plant Production Data

- The U.S. fleet's average estimated capacity factor in May 2016 was 90.3 percent, compared to 89.8 percent in May 2015. Thirteen reactors were shut down for refueling during some part of May. Estimated U.S. nuclear generation in May 2016 was 66.5 billion kWh, compared to 65.8 billion kWh in May 2015.
- "Licensed reactor operators at Tennessee Valley Authority's Watts Bar Unit 2 project reached a major milestone at 2:16 a.m. EDT, Monday, May 23, when the unit's reactor achieved its first sustained nuclear fission reaction. ... The reactor is now operating in a stable condition at low power levels. During the coming weeks, power levels will be slowly increased as part of scheduled power ascension testing and the unit will begin producing electricity that will flow onto TVA's transmission system." (Tennessee Valley Authority – May 23, 2016)
- Duke Energy's 934-MW Oconee-3 in South Carolina returned to service at 1:14 p.m. EDT, Monday, May 16, ending a 23-day refueling and maintenance outage that was the shortest in station history. The unit had shut April 23 for refueling and maintenance. Operators returned Clinton Power Station to full power [on May 30], ending a refueling outage that began May 15 and setting a new U.S. record for the shortest refueling outage for a boiling water reactor at 11 days. (Platts and company reports)

Monthly Nuclear Generation (BkWh)



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Year	Capacity Factor (%)		Generation (BkWh)	
	May	Year to Date	May	Year to Date
2014	85.2	88.3	62.9	317.4
2015	89.8	91.8	65.8	327.9
2016	90.3	92.1	66.5	333.1

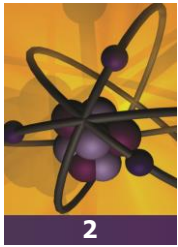
Type	BWR					BWR Total	PWR				PWR Total	
	2	3	4	5	6		B&W	CE	W2	W3		W4
# of Units	2	6	18	4	4	34	6	12	5	13	29	65

Capacity Factors - Percent

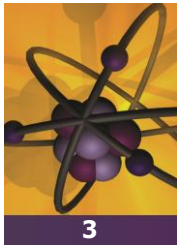
May	80.0	100.9	95.5	95.5	89.8	94.9	86.8	95.9	100.9	98.4	80.9	89.3
Year-to-date	93.4	99.5	91.8	89.8	80.7	91.7	89.5	97.3	90.7	97.1	90.5	93.0

Average Refueling Outage Duration - Days (2010 to Present)

18 Mo. Cycle	-	-	34.6	-	42.3	37.6	57.8	49.5	45.7	45.3	36.9	42.1
24 Mo. Cycle	30.2	34.5	39.3	40.3	30.9	37.3	45.5	33.6	-	-	37.3	41.2



Unit	Net MWe	Capacity Factor (%)		Generation (BkWh)		Last Refueling Outage		
		Month	YTD	Month	YTD	Start Date	End Date	Outage Duration (Days)
Arkansas Nuclear One 1	834	99.9	100.4	0.62	3.05	1/26/15	3/1/15	35
Arkansas Nuclear One 2	986	96.8	93.0	0.71	3.35	9/21/15	11/13/15	54
Beaver Valley 1	920	100.9	101.9	0.69	3.42	4/25/15	5/23/15	29
Beaver Valley 2	914	100.9	95.4	0.69	3.18	9/26/15	10/29/15	34
Braidwood 1	1,183	102.7	102.9	0.90	4.44	3/30/15	4/17/15	19
Braidwood 2	1,154	101.5	102.4	0.87	4.31	10/5/15	10/23/15	19
Browns Ferry 1	1,101	100.9	101.4	0.83	4.07	10/4/14	10/29/14	26
Browns Ferry 2	1,104	100.0	101.3	0.82	4.08	3/14/15	4/9/15	27
Browns Ferry 3	1,105	99.7	66.1	0.82	2.66	2/20/16	3/27/16	37
Brunswick 1	938	100.2	73.2	0.70	2.51	2/27/16	3/23/16	26
Brunswick 2	932	100.0	99.8	0.69	3.39	2/21/15	4/4/15	43
Byron 1	1,164	102.3	102.3	0.89	4.34	9/14/15	10/2/15	19
Byron 2	1,136	44.4	81.2	0.38	3.37	4/18/16	5/16/16	29
Callaway	1,193	61.5	74.4	0.55	3.24	4/3/16	5/9/16	37
Calvert Cliffs 1	866	102.9	84.4	0.66	2.67	2/15/16	3/10/16	25
Calvert Cliffs 2	842	103.6	104.0	0.65	3.20	2/16/15	3/11/15	24
Catawba 1	1,140	102.0	102.0	0.87	4.24	11/21/15	12/16/15	26
Catawba 2	1,150	100.7	101.4	0.86	4.25	2/28/15	3/31/15	32
Clinton	1,065	55.3	89.3	0.44	3.47	5/17/16	5/26/16	10
Columbia 2	1,158	96.3	95.8	0.83	4.04	5/10/15	6/25/15	47
Comanche Peak 1	1,205	0.5	81.3	0.00	3.58	5/2/16	5/31/16	30
Comanche Peak 2	1,195	102.1	102.2	0.91	4.46	10/4/15	11/11/15	39
Cooper	764	99.0	102.1	0.56	2.84	9/28/14	11/1/14	35
Davis Besse	894	68.8	62.8	0.46	2.05	3/26/16	5/9/16	45
Diablo Canyon 1	1,122	102.2	102.1	0.85	4.18	10/4/15	11/7/15	35
Diablo Canyon 2	1,118	0.0	80.6	0.00	3.29	5/1/16	6/1/16	32
Donald C. Cook 1	1,009	105.5	80.1	0.79	2.95	3/23/16	4/27/16	36
Donald C. Cook 2	1,060	104.9	105.9	0.83	4.10	3/25/15	4/27/15	34
Dresden 2	902	98.3	101.9	0.66	3.35	11/2/15	11/19/15	18
Dresden 3	895	100.7	102.4	0.67	3.34	11/3/14	11/18/14	16
Duane Arnold	601	98.2	99.7	0.44	2.19	10/4/14	11/24/14	52
Edwin I. Hatch 1	876	101.6	78.0	0.66	2.49	2/8/16	3/4/16	26
Edwin I. Hatch 2	883	79.8	97.8	0.52	3.15	2/9/15	3/10/15	30
Fermi 2	1,124	63.8	91.4	0.53	3.75	9/14/15	11/25/15	73
Fort Calhoun	479	101.0	104.5	0.36	1.83	4/12/15	6/8/15	58
Ginna	582	99.4	99.6	0.43	2.11	10/19/15	11/6/15	19
Grand Gulf 1	1,409	101.5	71.3	1.06	3.67	2/20/16	3/26/16	36
H.B. Robinson 2	741	101.8	105.4	0.56	2.85	5/12/15	6/25/15	45
Hope Creek 1	1,172	103.5	102.4	0.90	4.38	4/11/15	5/9/15	29
Indian Point 2	1,020	0.0	41.0	0.00	1.52	3/7/16	6/14/16	100
Indian Point 3	1,041	100.1	99.7	0.78	3.79	3/2/15	3/24/15	23
James A. Fitzpatrick	852	100.0	93.8	0.63	2.92	8/25/14	10/7/14	44
Joseph M. Farley 1	874	101.2	102.0	0.66	3.25	3/30/15	5/4/15	36
Joseph M. Farley 2	883	55.7	78.1	0.37	2.52	4/11/16	5/9/16	29
La Salle 1	1,135	102.1	77.5	0.86	3.21	2/15/16	3/8/16	23
La Salle 2	1,136	101.7	102.7	0.86	4.26	2/2/15	2/27/15	26
Limerick 1	1,120	103.1	82.3	0.86	3.36	3/21/16	4/15/16	26
Limerick 2	1,122	102.4	104.8	0.85	4.29	4/13/15	5/5/15	23
McGuire 1	1,139	104.4	83.8	0.88	3.48	3/19/16	4/16/16	29
McGuire 2	1,158	102.7	102.8	0.88	4.34	9/13/15	10/9/15	27
Millstone 2	898	95.8	95.9	0.64	3.14	10/4/15	11/6/15	34
Millstone 3	1,225	44.4	70.7	0.40	3.16	4/10/16	5/12/16	33
Monticello	607	107.7	108.4	0.49	2.40	4/13/15	5/28/15	46
Nine Mile Point 1	637	97.4	97.7	0.46	2.27	3/16/15	4/9/15	25
Nine Mile Point 2	1,287	82.1	83.2	0.79	3.91	4/11/16	5/5/16	25
North Anna 1	948	102.7	103.1	0.72	3.56	3/8/15	3/28/15	21
North Anna 2	944	103.1	77.5	0.72	2.67	3/6/16	4/10/16	36
Oconee 1	847	101.3	84.6	0.64	2.62	11/4/14	12/7/14	34
Oconee 2	848	102.8	103.3	0.65	3.19	10/17/15	11/11/15	26
Oconee 3	859	48.3	84.8	0.31	2.66	4/23/16	5/15/16	23
Oyster Creek 1	608	62.6	89.1	0.28	1.98	9/15/14	10/13/14	29
Palisades	784	101.8	103.3	0.59	2.95	9/16/15	10/18/15	33
Palo Verde 1	1,311	41.2	74.2	0.40	3.55	4/9/16	5/14/16	36
Palo Verde 2	1,314	101.3	101.8	0.99	4.88	10/10/15	11/14/15	36



Unit	Net MWe	Capacity Factor (%)		Generation (BkWh)		Last Refueling Outage		
		Month	YTD	Month	YTD	Start Date	End Date	Outage Duration (Days)
Palo Verde 3	1,312	101.0	101.3	0.99	4.85	4/4/15	5/3/15	30
Peach Bottom 2	1,320	97.9	98.9	0.96	4.76	10/20/14	11/30/14	42
Peach Bottom 3	1,355	98.1	97.9	0.99	4.84	9/21/15	10/21/15	31
Perry 1	1,240	102.3	91.4	0.94	4.14	3/9/15	4/24/15	47
Pilgrim 1	682	97.6	96.2	0.50	2.39	4/20/15	5/21/15	32
Point Beach 1	598	100.6	82.6	0.45	1.80	3/12/16	4/4/16	24
Point Beach 2	598	100.7	100.9	0.45	2.20	10/3/15	10/30/15	28
Prairie Island 1	521	100.8	103.1	0.39	1.96	10/8/14	11/21/14	45
Prairie Island 2	519	103.1	67.2	0.40	1.27	10/17/15	12/3/15	48
Quad Cities 1	908	102.1	102.1	0.69	3.38	3/2/15	3/23/15	22
Quad Cities 2	911	99.0	86.1	0.67	2.86	3/21/16	4/7/16	18
River Bend 1	969	100.0	70.6	0.72	2.49	2/23/15	3/27/15	33
Salem 1	1,170	0.0	69.5	0.00	2.96	4/15/16	Current	65
Salem 2	1,158	100.8	97.5	0.87	4.12	10/23/15	11/27/15	36
Seabrook 1	1,248	100.2	95.5	0.93	4.35	10/1/15	11/13/15	44
Sequoyah 1	1,152	99.8	67.8	0.86	2.85	4/11/15	5/15/15	35
Sequoyah 2	1,126	81.3	93.1	0.68	3.83	11/14/15	12/13/15	30
Shearon Harris 1	928	102.3	103.3	0.71	3.50	4/2/15	5/15/15	44
South Texas Project 1	1,280	84.3	95.0	0.80	4.44	10/18/15	12/19/15	63
South Texas Project 2	1,280	99.7	100.6	0.95	4.70	3/29/15	5/7/15	40
St. Lucie 1	981	101.4	101.1	0.74	3.62	3/23/15	4/22/15	31
St. Lucie 2	987	102.2	102.3	0.75	3.68	9/8/15	10/25/15	48
Surry 1	838	103.3	104.1	0.64	3.18	4/19/15	5/26/15	38
Surry 2	838	103.0	104.0	0.64	3.18	10/19/15	12/10/15	53
Susquehanna 1	1,260	86.2	63.4	0.81	2.91	3/13/16	4/20/16	39
Susquehanna 2	1,260	85.2	97.8	0.80	4.49	4/11/15	5/23/15	43
Three Mile Island 1	803	99.7	101.0	0.60	2.96	10/30/15	11/24/15	26
Turkey Point 3	802	102.6	104.0	0.61	3.04	10/19/15	12/2/15	45
Turkey Point 4	802	99.9	81.2	0.60	2.38	3/29/16	4/27/16	30
V.C. Summer	971	101.9	102.0	0.74	3.61	10/3/15	12/1/15	60
Vogtle 1	1,150	101.5	102.4	0.87	4.29	9/21/15	10/21/15	31
Vogtle 2	1,152	95.5	85.3	0.82	3.59	3/7/16	3/27/16	21
Waterford 3	1,164	101.5	101.6	0.88	4.31	10/25/15	12/15/15	52
Watts Bar 1	1,123	97.9	97.4	0.82	3.99	9/21/15	10/21/15	31
Wolf Creek 1	1,175	103.4	103.7	0.90	4.45	2/28/15	5/1/15	63
Total	99,094	90.3	92.1	66.54	333.10			35.1

Notes: Generation estimates are based on Nuclear Regulatory Commission (NRC) Monthly Operating Reports obtained through the Institute of Nuclear Power Operations and Energy Information Administration (EIA) 923 Form. Capacity figures from the EIA are the Net Summer Capacities reported in the 860 Form; other capacity figures are from media or company reports. Capacity factors are estimated using EIA capacity and generation data, and NRC generation data.

Outage duration and start and end dates are only estimates based on publicly available data from the NRC. Numbers may vary from published press releases. Outage data current as of June 20, 2016.

Acronyms: B&W – Babcock and Wilcox, CE – Combustion Engineering, W – Westinghouse, PWR – Pressurized Water Reactor, BWR – Boiling Water Reactor. All BWRs are General Electric.

Nuclear Performance is produced monthly by the Nuclear Energy Institute's Policy Development and Planning Division.