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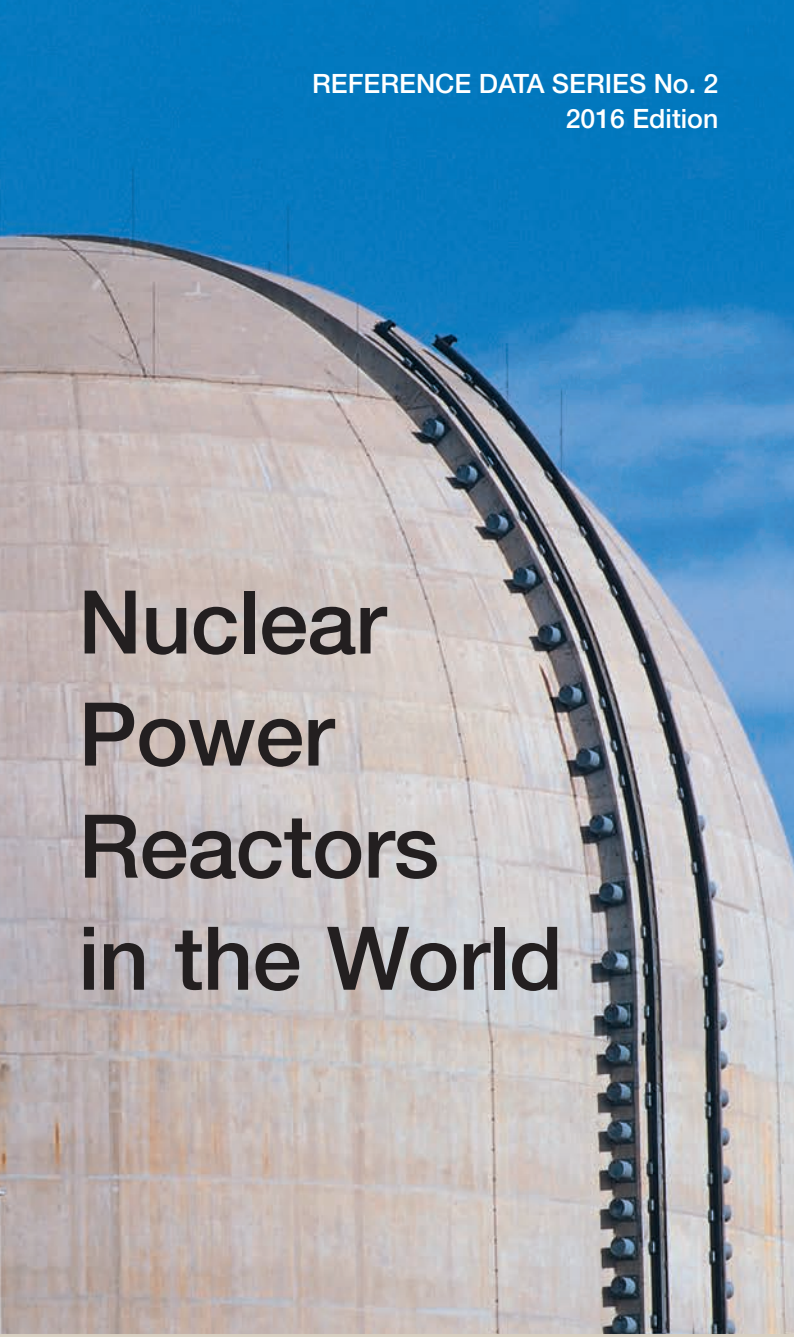
2016 Edition



Nuclear Power Reactors in the World

IAEA
International Atomic Energy Agency

REFERENCE DATA SERIES No. 2

NUCLEAR POWER REACTORS IN THE WORLD

2016 Edition

INTERNATIONAL ATOMIC ENERGY AGENCY
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INTRODUCTION

Nuclear Power Reactors in the World is an annual publication that presents the most recent data pertaining to reactor units in IAEA Member States.

This thirty-sixth edition of Reference Data Series No. 2 provides a detailed comparison of various statistics up to and including 31 December 2015. The tables and figures contain the following information:

— General statistics on nuclear reactors in IAEA Member States;
— Technical data on specific reactors that are either planned, under construction or operational, or that have been shut down or decommissioned;
— Performance data on reactors operating in IAEA Member States, as reported to the IAEA.

The data compiled in this publication is a product of the IAEA's Power Reactor Information System (PRIS). The PRIS database is a comprehensive source of data on all nuclear power reactors in the world. It includes specification and performance history data on operational reactors as well as on reactors under construction or in the decommissioning process. Data is collected by the IAEA via designated national correspondents in Member States.

PRIS outputs are available in the IAEA's annual publications and on the PRIS web page (*http://www.iaea.org/pris*). Detailed outputs are accessible to registered users through on-line applications. Enquiries should be addressed to:

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DEFINITIONS

Performance factors

$$\text{EAF (\%)} = \frac{(\text{REG} - \text{PEL} - \text{UEL} - \text{XEL})}{\text{REG}} \times 100$$

$$\text{UCF (\%)} = \frac{(\text{REG} - \text{PEL} - \text{UEL})}{\text{REG}} \times 100$$

$$\text{UCL (\%)} = \frac{\text{UEL}}{\text{REG}} \times 100$$

$$\text{PCL (\%)} = \frac{\text{PEL}}{\text{REG}} \times 100$$

$$\text{LF (\%)} = \frac{\text{EG}}{\text{REG}} \times 100$$

$$\text{OF (\%)} = \frac{\text{On-line hours}}{\text{Total hours}} \times 100$$

where

EAF is the energy availability factor, expressed in per cent.

UCF is the unit capability factor, expressed in per cent.

UCL is the unplanned capability loss factor, expressed in per cent.

PCL is the planned capability loss factor, expressed in per cent.

LF is the load factor, expressed in per cent.

OF is the operating factor, expressed in per cent.

REG Reference energy generation: The net electrical energy (MW·h), supplied by a unit continuously operated at the reference unit power for the duration of the entire reference period.

PEL Planned energy loss: The energy (MW·h) that was not supplied during the period because of planned shutdowns or load reductions due to causes under plant management control. Energy losses are considered to be planned if they are scheduled at least four weeks in advance.

UEL Unplanned energy loss: The energy (MW·h) that was not supplied during the period because of unplanned shutdowns, outage extensions, or load reductions due to causes under plant management control. Energy losses are considered to be unplanned if they are not scheduled at least four weeks in advance.

XEL External energy loss: The energy (MW·h) that was not supplied owing to constraints beyond plant management control that reduced plant availability.

EG The net electrical energy supplied during the reference period as measured at the unit outlet terminals after deducting the electrical energy taken by unit auxiliaries and the losses in transformers that are considered to be integral parts of the unit.

Planned reactors
The IAEA considers a reactor as planned from the date when a construction licence application has been submitted to the relevant national regulatory authorities to the construction start date.

Construction start
The date when the first major placing of concrete, usually for the base mat of the reactor building, is carried out.

First criticality
The date when the reactor is made critical for the first time.

Grid connection
The date when the plant is first connected to the electrical grid for the supply of power. After this date, the plant is considered as operational.

Commercial operation
The date when the plant is handed over by the contractors to the owner and declared officially in commercial operation.

Long term shutdown (suspended operation)
A unit is considered to be in long term shutdown if it has been shut down for an extended period (usually several years) initially without any firm recovery schedule, but with the intention to restart the unit eventually. Suspended operation is a new term for this status.

Permanent shutdown
The date when the plant is officially declared to be shut down by the owner and taken out of operation permanently.

NSSS supplier
The supplier of a power reactor unit's nuclear steam supply system.

Units and energy conversion
1 terawatt-hour (TW·h) = 10^6 megawatt-hours (MW·h)

For an average power plant,

1 TW·h = 0.39 megatonnes of coal equivalent (input),
= 0.23 megatonnes of oil equivalent (input)

TABLE 1. OVERVIEW OF POWER REACTORS AND NUCLEAR SHARE, 31 DEC. 2015

Country	Operational reactors		Reactors in long term shutdown		Reactors under construction		Nuclear electricity supplied in 2015	
	No. of units	Net capacity MW(e)	No. of units	Net capacity MW(e)	No. of units	Net capacity MW(e)	TW(e)·h	% of total
ARGENTINA	3	1632			1	25	6.5	4.8
ARMENIA	1	375					2.6	34.5
BELARUS					2	2218	NA	NA
BELGIUM	7	5913					24.8	37.5
BRAZIL	2	1884			1	1245	13.9	2.8
BULGARIA	2	1926					14.7	31.3
CANADA	19	13524					95.6	16.6
CHINA	31	26774			24	24128	161.2	3.0
CZECH REP.	6	3930					25.3	32.5
FINLAND	4	2752			1	1600	22.3	33.7
FRANCE	58	63130			1	1630	419.0	76.3
GERMANY	8	10799					86.8	14.1
HUNGARY	4	1889					15.0	52.7
INDIA	21	5308			6	3907	34.6	3.5
IRAN, ISL. REP.	1	915					3.2	1.3
JAPAN	43	40290	1	246	2	2650	4.3	0.5
KOREA, REP. OF	24	21733			4	5420	157.2	31.7
MEXICO	2	1440					11.2	6.8
NETHERLANDS	1	482					3.9	3.7
PAKISTAN	3	690			2	630	4.3	4.4
ROMANIA	2	1300					10.7	17.3
RUSSIA	35	25443			8	6582	182.8	18.6
SLOVAKIA	4	1814			2	880	14.1	55.9
SLOVENIA	1	688					5.4	38.0
SOUTH AFRICA	2	1860					11.0	4.7
SPAIN	7	7121	1	446			54.8	20.3
SWEDEN	10	9648					54.5	34.3
SWITZERLAND	5	3333					22.2	33.5

TABLE 1. OVERVIEW OF POWER REACTORS AND NUCLEAR SHARE, 31 DEC. 2015 — continued

Country	Operational reactors		Reactors in long term shutdown		Reactors under construction		Nuclear electricity supplied in 2015	
	No. of units	Net capacity MW(e)	No. of units	Net capacity MW(e)	No. of units	Net capacity MW(e)	TW(e)·h	% of total
UAE					4	5380	NA	NA
UK	15	8918					63.9	18.9
UKRAINE	15	13107			2	1900	82.4	56.5
USA	99	99185			5	5633	798.0	19.5
Total	441	382855	2	692	67	66428	2441.3	NA

Note:

The total includes the following data from Taiwan, China:

— 6 units, 5052 MW in operation; 2 units, 2600 MW under construction;

— 35.1 TW(e)·h of nuclear electricity generation, representing 16.3% of the total electricity generated there;

TABLE 2. TYPE AND NET ELECTRICAL POWER OF OPERATIONAL REACTORS, 31 DEC. 2015

Country	PWR		BWR		GCR		PHWR		LWGR		FBR		Total	
	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)
ARGENTINA							3	1632					3	1632
ARMENIA	1	375											1	375
BELGIUM	7	5913											7	5913
BRAZIL	2	1884											2	1884
BULGARIA	2	1926											2	1926
CANADA							19	13524					19	13524
CHINA	28	25400					2	1354			1	20	31	26774
CZECH REP.	6	3930											6	3930
FINLAND	2	992	2	1760									4	2752
FRANCE	58	63130											58	63130
GERMANY	6	8227	2	2572									8	10799
HUNGARY	4	1889											4	1889
INDIA	1	917	2	300			18	4091					21	5308
IRAN, ISL. REP.	1	915											1	915
JAPAN	21	17965	22	22325									43	40290
KOREA, REP. OF	20	19090					4	2643					24	21733
MEXICO			2	1440									2	1440
NETHERLANDS	1	482											1	482
PAKISTAN	2	600					1	90					3	690
ROMANIA							2	1300					2	1300
RUSSIA	18	13875							15	10219	2	1349	35	25443
SLOVAKIA	4	1814											4	1814
SLOVENIA	1	688											1	688
SOUTH AFRICA	2	1860											2	1860
SPAIN	6	6057	1	1064									7	7121
SWEDEN	3	2985	7	6663									10	9648
SWITZERLAND	3	1740	2	1593									5	3333
UK	1	1198			14	7720							15	8918
UKRAINE	15	13107											15	13107
USA	65	64872	34	34313									99	99185
TOTAL	282	263705	78	75208	14	7720	49	24634	15	10219	3	1369	441	382855

Notes:

1. The totals include 6 units, 5052 MW in Taiwan, China.
2. During 2015, 10 reactors, 9483 MW were newly connected to the grid.

TABLE 3. TYPE AND NET ELECTRICAL POWER OF REACTORS UNDER CONSTRUCTION, 31 DEC. 2015

Country	PWR		BWR		PHWR		LWGR		FBR		HTGR		Total	
	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)
ARGENTINA	1	25											1	25
BELARUS	2	2218											2	2218
BRAZIL	1	1245											1	1245
CHINA	23	23928									1	200	24	24128
FINLAND	1	1600											1	1600
FRANCE	1	1630											1	1630
INDIA	1	917			4	2520			1	470			6	3907
JAPAN			2	1325									2	1325
KOREA, REP. OF	4	5420											4	5420
PAKISTAN	2	630											2	630
RUSSIA	8	6582											8	6582
SLOVAKIA	2	880											2	880
UAE	4	5380											4	5380
UKRAINE	2	1900											2	1900
USA	5	5633											5	5633
TOTAL	57	57988	(*) 4	3925	4	2520			1	470	1	200	67	65103

Notes:

1. The totals include 2 units (2xBWR), 2600 MW in Taiwan, China.
2. During 2015, construction started on 7 reactors, 7345 MW.

TABLE 4. REACTOR YEARS OF EXPERIENCE, UP TO 31 DEC. 2015

Country	Operational reactors		Reactors in long term shutdown		Permanently shutdown reactors		Total, operating and shutdown			
	No.	Net capacity MW(e)	No.	Net capacity MW(e)	No.	Net capacity MW(e)	No.	Net capacity MW(e)	Operating experience Years	Months
ARGENTINA	3	1632					3	1632	76	2
ARMENIA	1	375			1	376	2	751	41	8
BELGIUM	7	5913			1	10	8	5923	275	7
BRAZIL	2	1884					2	1884	49	3
BULGARIA	2	1926			4	1632	6	3558	159	3
CANADA	19	13524			6	2143	25	15667	693	6
CHINA	31	26774					31	26774	209	2
CZECH REP.	6	3930					6	3930	146	10
FINLAND	4	2752					4	2752	147	4
FRANCE	58	63130			12	3789	70	66919	2048	4
GERMANY	8	10799			28	15576	36	26375	816	7
HUNGARY	4	1889					4	1889	122	2
INDIA	21	5308					21	5308	439	6
IRAN, ISL. REP.	1	915					1	915	4	4
ITALY					4	1423	4	1423	80	8
JAPAN	43	40290	1	246	16	8262	60	48798	1739	
KAZAKHSTAN					1	52	1	52	25	10
KOREA, REP. OF	24	21733					24	21733	474	
LITHUANIA					2	2370	2	2370	43	6
MEXICO	2	1440					2	1440	47	11
NETHERLANDS	1	482			1	55	2	537	71	
PAKISTAN	3	690					3	690	64	8
ROMANIA	2	1300					2	1300	27	11
RUSSIA	35	25443			5	786	40	26229	1191	4
SLOVAKIA	4	1814			3	909	7	2723	156	7
SLOVENIA	1	688					1	688	34	3
SOUTH AFRICA	2	1860					2	1860	62	3
SPAIN	7	7121	1	446	2	621	10	8188	315	1

TABLE 4. REACTOR YEARS OF EXPERIENCE, UP TO 31 DEC. 2015 — continued

Country	Operational reactors		Reactors in long term shutdown		Permanently shutdown reactors		Total, operating and shutdown			
	No.	Net capacity MW(e)	No.	Net capacity MW(e)	No.	Net capacity MW(e)	No.	Net capacity MW(e)	Operating experience Years	Months
SWEDEN	10	9648			3	1210	13	10858	432	6
SWITZERLAND	5	3333			1	6	6	3339	204	11
UK	15	8918			30	4715	45	13633	1559	7
UKRAINE	15	13107			4	3515	19	16622	458	6
USA	99	99185			33	13945	132	113130	4111	4
Total	441	382855	2	692	157	61395	600	444942	16536	7

Notes:

1. The total includes the following data from Taiwan, China:

— reactors connected to the grid: 6 units, 5052 MW; 206 years, 1 month.

2. Operating experience is counted from the grid connection excluding any long term shutdown period.

TABLE 5. OPERATIONAL REACTORS AND NET ELECTRICAL POWER,1985 TO 2015

Country	Number of units and net capacity as of 31 Dec. of given year															
	1985		1990		1995		2000		2005		2010		2014		2015	
	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)
ARGENTINA	2	935	2	935	2	935	2	978	2	935	2	935	3	1632	3	1632
ARMENIA	2	816			1	376	1	376	1	376	1	375	1	375	1	375
BELGIUM	8	5464	7	5501	7	5631	7	5712	7	5801	7	5926	7	5927	7	5913
BRAZIL	1	626	1	626	1	626	2	1976	2	1901	2	1884	2	1884	2	1884
BULGARIA	4	1632	5	2585	6	3538	6	3760	4	2722	2	1906	2	1926	2	1926
CANADA	16	9741	20	13993	21	14902	14	9998	18	12584	18	12604	19	13500	19	13524
CHINA					3	2188	3	2188	9	6587	13	10065	23	19007	31	26774
CZECH REP.	1	391	4	1632	4	1782	5	2611	6	3373	6	3675	6	3904	6	3930
FINLAND	4	2300	4	2310	4	2310	4	2656	4	2676	4	2716	4	2752	4	2752
FRANCE	43	37478	56	55808	56	58573	59	63080	59	63260	58	63130	58	63130	58	63130
GERMANY	24	18110	21	21250	19	20972	19	21283	17	20339	17	20490	9	12074	8	10799
HUNGARY	2	825	4	1710	4	1729	4	1729	4	1755	4	1889	4	1889	4	1889
INDIA	6	1143	7	1324	10	1746	14	2508	15	2993	19	4189	21	5308	21	5308
IRAN, ISL. REP.													1	915	1	915
ITALY	3	1273														
JAPAN	33	23612	41	30867	50	39625	52	43245	55	47593	54	46821	48	42388	43	40290
KAZAKHSTAN	1	135	1	135	1	50										
KOREA, REP. OF	5	3692	9	7220	11	9115	16	12990	20	16810	21	18698	23	20753	24	21733
LITHUANIA	1	1380	2	2760	2	2370	2	2370	1	1185						
MEXICO			1	640	2	1256	2	1290	2	1360	2	1300	2	1330	2	1440
NETHERLANDS	2	508	2	539	2	510	1	449	1	450	1	482	1	482	1	482
PAKISTAN	1	137	1	125	1	125	2	425	2	425	2	425	3	690	3	690
ROMANIA							1	655	1	655	2	1300	2	1300	2	1300
RUSSIA	28	15841	29	18898	30	19848	30	19848	31	21743	32	22693	34	24654	35	25443
SLOVAKIA	4	1632	4	1632	4	1632	6	2440	6	2442	4	1816	4	1814	4	1814
SLOVENIA	1	632	1	620	1	620	1	676	1	656	1	666	1	688	1	688
SOUTH AFRICA	2	1840	2	1840	2	1840	2	1840	2	1800	2	1800	2	1860	2	1860
SPAIN	8	5608	9	7099	9	7097	9	7468	9	7591	8	7514	7	7121	7	7121
SWEDEN	12	9455	12	9826	12	10028	11	9397	10	8905	10	9303	10	9470	10	9648

TABLE 5. OPERATIONAL REACTORS AND NET ELECTRICAL POWER,1985 TO 2015 — continued

Country	Number of units and net capacity as of 31 Dec. of given year															
	1985		1990		1995		2000		2005		2010		2014		2015	
	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)
SWITZERLAND	5	2881	5	2942	5	3056	5	3170	5	3220	5	3238	5	3333	5	3333
UK	38	10077	37	11360	35	12910	33	12490	23	11852	19	10137	16	9373	15	8918
UKRAINE	10	8324	15	13020	15	13045	13	11195	15	13107	15	13107	15	13107	15	13107
USA	90	74401	108	96228	108	98068	103	96297	103	98145	104	101211	99	98723	99	99185
WORLD	363	245779	416	318253	434	341387	435	349984	441	368125	441	375277	438	376341	441	382855

Note: The world total includes the following data in Taiwan, China:

- 1985: 6 units, 4890 MW; 1990: 6 units, 4828 MW; 1995: 6 units, 4884 MW; 2000: 6 units, 4884 MW; 2005: 6 units, 4884 MW; 2010: 6 units, 4982 MW; 2014: 6 units, 5032 MW; 2015: 6 units, 5052 MW.

TABLE 6. NUCLEAR ELECTRICITY PRODUCTION AND SHARE, FROM 1985 TO 2015

Country	Nuclear electricity supplied (TW·h) and percentage of nuclear share in given year															
	1985		1990		1995		2000		2005		2010		2014		2015	
	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total
ARGENTINA	5.25	11.7	6.72	19.8	6.57	11.8	5.74	7.3	6.37	6.9	6.69	5.9	5.26	4.1	6.52	4.8
ARMENIA							1.84	33.0	2.50	42.7	2.29	39.4	2.27	30.7	2.57	34.5
BELGIUM	29.25	59.8	40.59	60.1	39.30	55.5	45.81	56.8	45.34	55.6	45.73	50.0	32.09	47.5	24.83	37.5
BRAZIL	3.17	1.7	2.06	1.0	2.33	1.0	5.59	1.9	9.20	2.5	13.77	3.1	14.46	2.9	13.89	2.8
BULGARIA	12.17	31.6	13.51	35.7	16.22	46.4	16.79	45.0	17.38	44.1	14.24	33.1	15.01	33.6	14.70	31.3
CANADA	59.47	12.7	69.87	14.8	93.98	17.3	69.12	11.8	86.83	14.5	85.50	15.1	98.59	16.8	95.64	16.6
CHINA					12.13	1.2	16.02	1.2	50.33	2.0	70.96	1.8	123.81	2.4	161.20	3.0
CZECH REP.	1.99	NA	11.77	NA	12.23	20.0	12.71	18.7	23.25	30.5	26.44	33.3	28.64	35.8	25.34	NA
FINLAND	17.98	38.2	18.13	35.1	18.13	29.9	21.58	32.2	22.36	32.9	21.89	28.4	22.65	34.7	22.33	33.7
FRANCE	213.28	64.8	297.61	74.5	358.71	76.1	395.39	76.4	431.18	78.5	410.09	74.1	418.00	76.9	419.02	76.3
GERMANY	119.59	31.2	139.37	33.1	146.13	29.6	160.66	30.6	154.61	26.6	133.01	22.6	91.78	15.9	86.81	14.1
HUNGARY	6.10	23.6	12.89	51.4	13.20	42.3	13.35	40.6	13.02	37.2	14.66	42.1	14.78	53.6	14.96	52.7
INDIA	3.87	2.2	5.29	2.2	6.99	1.9	14.23	3.1	15.73	2.8	20.48	2.9	33.23	3.5	34.64	3.5
IRAN, ISL. REP.													3.72	1.5	3.20	NA
ITALY	6.46	3.8														
JAPAN	145.37	22.7	187.19	27.1	275.51	33.4	306.24	33.8	280.50	29.3	280.25	29.2			4.35	NA
KAZAKHSTAN					0.08	0.1										
KOREA, REP. OF	12.36	23.2	50.26	49.1	60.21	36.1	103.54	40.7	137.59	44.7	141.89	32.2	149.20	30.4	157.20	31.7
LITHUANIA	8.75	NA	15.70	NA	10.64	86.1	7.42	73.9	9.54	70.3						
MEXICO			2.78	2.6	7.53	6.0	7.92	3.9	10.32	5.0	5.59	3.6	9.31	5.6	11.18	6.8
NETHERLANDS	3.69	6.1	3.29	4.9	3.78	4.9	3.70	4.3	3.77	3.9	3.75	3.4	3.87	4.0	3.86	NA
PAKISTAN	0.26	1.0	0.38	1.1	0.46	0.9	0.90	1.7	2.41	2.8	2.56	2.6	4.58	4.3	4.33	4.4
ROMANIA							5.05	10.9	5.11	8.6	10.70	19.5	10.75	18.5	10.71	17.3
RUSSIA	88.26	NA	109.62	NA	91.59	11.8	120.10	15.0	137.64	15.8	159.41	17.1	169.06	18.6	182.81	18.6
SLOVAKIA	8.70	NA	11.16	NA	11.35	44.1	15.17	53.4	16.34	56.1	13.54	51.8	14.42	56.8	14.08	55.9
SLOVENIA	3.85	NA	4.39	NA	4.57	39.5	4.55	37.4	5.61	42.4	5.38	37.3	6.06	37.3	5.37	38.0
SOUTH AFRICA	5.39	4.2	8.47	5.6	11.29	6.5	13.00	6.6	12.24	5.5	12.90	5.2	14.76	6.2	10.97	4.7
SPAIN	26.83	24.0	51.98	35.9	53.49	34.1	59.49	27.6	54.99	19.6	59.26	20.1	54.86	20.4	54.76	20.3
SWEDEN	55.89	42.3	65.27	45.9	67.17	46.6	54.81	39.0	69.58	44.9	55.73	38.1	62.27	41.5	54.46	34.3

TABLE 6. NUCLEAR ELECTRICITY PRODUCTION AND SHARE, FROM 1985 TO 2015 — continued

Country	Nuclear electricity supplied (TW·h) and percentage of nuclear share in given year															
	1985		1990		1995		2000		2005		2010		2014		2015	
	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total	TW·h	% of total
SWITZERLAND	21.28	39.8	22.40	42.6	23.58	39.9	25.05	38.2	22.11	38.0	25.34	38.0	26.47	37.9	22.16	33.5
UK	53.73	19.6	58.77	19.7	70.64	25.4	72.99	21.9	75.34	20.0	56.85	15.5	57.92	17.2	63.89	NA
UKRAINE	35.81	NA	71.26	NA	65.78	37.8	72.56	47.3	83.40	48.5	83.95	48.1	83.12	49.4	82.41	56.5
USA	378.90	15.5	578.08	20.6	673.52	22.5	755.55	19.8	783.35	19.3	807.08	19.6	798.62	19.5	798.01	19.5
WORLD	1327.63		1890.35		2190.94		2443.85		2626.34		2629.82		2410.37		2441.33	

Note: The world total includes the following data from Taiwan, China:

1985: 27.5 TW(e)·h of nuclear electricity generation, representing 52.41% of the total electricity generated there;

1990: 31.54 TW(e)·h of nuclear electricity generation, representing 38.32% of the total electricity generated there;

1995: 33.8 TW(e)·h of nuclear electricity generation, representing 28.79% of the total electricity generated there;

2000: 37 TW(e)·h of nuclear electricity generation, representing 21.19% of the total electricity generated there;

2005: 38.4 TW(e)·h of nuclear electricity generation, representing 17.93% of the total electricity generated there;

2010: 39.89 TW(e)·h of nuclear electricity generation, representing 19.3% of the total electricity generated there;

2014: 40.8 TW(e)·h of nuclear electricity generation, representing 18.93% of the total electricity generated there;

2015: 35.14 TW(e)·h of nuclear electricity generation, representing 16.32% of the total electricity generated there.

TABLE 7. ANNUAL CONSTRUCTION STARTS AND CONNECTIONS TO THE GRID, 1954 TO 2015

Year	Construction starts		Connections to the grid		Operational reactors	
	Number of units	Design capacity (MW(e))	Number of units	Design capacity (MW(e))	Number of units	Updated capacity (MW(e))
1954	1	60	1	5	1	5
1955	8	260			1	5
1956	5	577	1	35	2	65
1957	13	1836	3	119	5	209
1958	6	476	1	35	6	269
1959	7	976	5	176	11	548
1960	11	1010	4	438	15	1087
1961	7	1529	1	15	16	1104
1962	8	1379	9	955	25	2223
1963	5	1722	9	500	33	2677
1964	9	2932	8	1022	40	3686
1965	9	3291	8	1879	48	5910
1966	15	7052	8	1528	55	7539
1967	25	16287	11	2165	64	9595
1968	37	26859	7	1086	69	10648
1969	13	9277	10	3670	78	14121
1970	37	25453	6	3410	84	17656
1971	18	12623	16	7711	99	24320
1972	28	21163	16	8880	113	32797
1973	30	24657	20	12727	132	43761
1974	38	35222	26	17149	154	61021
1975	38	36437	15	10236	169	70414
1976	43	41755	19	14196	186	83992
1977	23	21890	18	13199	199	96202
1978	23	21735	20	15782	218	111740
1979	27	23007	8	6909	225	117814
1980	20	19084	21	15088	245	133037
1981	17	16029	23	20355	267	153832
1982	19	19765	19	15357	284	168317
1983	14	11286	23	19266	306	187756
1984	13	11332	33	30980	336	218452
1985	19	15336	33	31061	363	245779
1986	8	7201	27	27134	389	272074
1987	13	11117	22	22191	407	295812
1988	7	7722	14	13574	416	305212
1989	6	4018	12	10559	420	311942
1990	5	3267	10	10543	416	318253
1991	2	2246	4	3668	415	321924
1992	3	3094	6	4809	418	325261
1993	4	3515	9	9012	427	333914
1994	2	1334	5	4302	429	336904
1995			5	3536	434	341387
1996	1	610	6	7080	438	347281
1997	5	4410	3	3557	434	347880
1998	3	2150	4	2973	430	344900
1999	4	4540	4	2729	432	347353
2000	7	5356	6	3063	435	349984
2001	1	1304	3	2696	438	352715
2002	6	3440	6	5049	439	357481
2003	1	202	2	1627	437	359827
2004	2	1336	5	4785	438	364673
2005	3	2907	4	3823	441	368125
2006	4	3413	2	1492	435	369581
2007	8	6644	3	1842	439	371707
2008	10	10667			438	371557
2009	12	13125	2	1068	437	370697
2010	16	14517	5	3776	441	375277
2011	4	1890	7	4013	435	368921
2012	7	6984	3	2963	437	373263
2013	10	11252	4	4060	434	371793
2014	3	2479	5	4721	438	376341
2015	7	7345	10	9367	441	382855

TABLE 8. NUMBER OF NEW REACTORS CONNECTED TO THE GRID AND MEDIAN CONSTRUCTION TIME IN MONTHS

Country	1981 to 1985		1986 to 1990		1991 to 1995		1996 to 2000		2001 to 2005		2006 to 2010		2011 to 2014		2015	
	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months
ARGENTINA	1	109											1	396		
BELGIUM	4	80														
BRAZIL	1	132					1	176								
BULGARIA	1	104	1	89	1	113										
CANADA	7	98	5	101	2	97										
CHINA					3	73			6	59	4	68	10	65	8	68
CZECH REP.	1	74	3	93			1	167	1	191						
FRANCE	24	68	15	86	3	93	4	124								
GERMANY	7	100	6	103												
HUNGARY	2	112	2	90												
INDIA	2	154	1	152	3	120	4	122	1	64	4	81	2	123		
IRAN, ISL. REP.													1	222		
JAPAN	10	46	8	49	10	46	3	42	4	47	1	53				
KOREA, REP. OF	4	65	4	62	2	61	5	59	4	54	1	51	2	54	1	78
LITHUANIA	1	80	1	116												
MEXICO			1	151	1	210										
PAKISTAN							1	83					1	64		
ROMANIA							1	169			1	161				
RUSSIA	9	73	4	72	1	109			2	233	1	323	2	86	1	114
SLOVAKIA	2	99					2	150								
SLOVENIA	1	80														
SOUTH AFRICA	2	102														
SPAIN	5	112	2	96												
SWEDEN	4	74														
SWITZERLAND	1	125														
UK	6	186	4	98	1	80										
UKRAINE	7	57	6	58	1	113			2	227						

TABLE 8. NUMBER OF NEW REACTORS CONNECTED TO THE GRID AND MEDIAN CONSTRUCTION TIME IN MONTHS — continued

Country	1981 to 1985		1986 to 1990		1991 to 1995		1996 to 2000		2001 to 2005		2006 to 2010		2011 to 2014		2015	
	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months	No.	Months
USA	25	126	22	146	1	221	1	272								
TOTAL	131	84	85	93	29	82	23	121	20	59	12	77	19	67	10	69

Notes:

1. Construction time is measured from the first pouring of concrete to the connection of the unit to the grid.
2. The totals include the following data from Taiwan, China:

— 1981 to 1985: 4 units, 72 months.

TABLE 9. CONSTRUCTION STARTS DURING 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation
	Code	Name			Thermal	Gross	Net					
CHINA	CN -55	FANGCHENGGANG-3	PWR	HPR1000	3150	1150	1000	GFNPC	CFHI	2015-12	—	—
	CN -51	FUQING-5	PWR	HPR1000	2905	1087	1000	FQNP	NPIC	2015-5	—	—
	CN -52	FUQING-6	PWR	HPR1000	2905	1087	1000	FQNP	NPIC	2015-12	—	—
	CN -49	HONGYANHE-5	PWR	ACPR-1000	2905	1080	1000	LHNPC	DEC	2015-3	—	—
	CN -50	HONGYANHE-6	PWR	ACPR-1000	2905	1080	1000	LHNPC	DEC	2015-7	—	—
	CN -53	TIANWAN-5	PWR	CNP-1000	2905	1118	1000	JNPC	SHE	2015-12	—	—
UAE	AE -04	BARAKAH-4	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2015-7	—	—

Note: During 2015, construction started on 7 reactors (7345 MW).

TABLE 10. CONNECTIONS TO THE GRID DURING 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection
	Code	Name			Thermal	Gross	Net					
CHINA	CN-36	CHANGJIANG-1	PWR	CNP-600	1930	650	610	HNPC	DEC	2010-4	2015-10	2015-11
	CN-38	FANGCHENGGANG-1	PWR	CPR-1000	2905	1080	1000	GFNPC	DEC	2010-7	2015-10	2015-10
	CN-25	FANGJIASHAN-2	PWR	CPR-1000	2905	1080	1000	QNPC	NPIC	2009-7	2014-12	2015-1
	CN-21	FUQING-2	PWR	CNP-1000	2905	1080	1000	FQNP	NPIC	2009-6	2015-7	2015-8
	CN-26	HONGYANHE-3	PWR	CPR-1000	2905	1119	1000	LHNPC	DEC	2009-3	2014-10	2015-3
	CN-34	NINGDE-3	PWR	CPR-1000	2905	1080	1018	NDNP	CFHI	2010-1	2015-3	2015-3
	CN-23	YANGJIANG-2	PWR	CPR-1000	2905	1080	1000	YJNPC	CFHI	2009-6	2015-3	2015-3
	CN-40	YANGJIANG-3	PWR	CPR-1000	2905	1080	1000	YJNPC	CFHI	2010-11	2015-10	2015-10
KOREA, REP. OF	KR-24	SHIN-WOLSONG-2	PWR	OPR-1000	2825	1045	950	KHNP	DHICKOPC	2008-9	2015-2	2015-2
RUSSIA	RU-116	BELOYARSK-4	FBR	BN-800	2100	864	789	REA	ROSATOM	2006-7	2014-6	2015-12

Note: During 2015, 10 reactors (9367 MW) were newly connected to the grid.

TABLE 11. SCHEDULED CONNECTIONS TO THE GRID DURING 2016

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid date
	Code	Name		Thermal	Gross	Net					
CHINA	CN -35	NINGDE-4	PWR	2905	1080	1018	NDNP	CFHI	2010-9	2016-3	2016-3
FRANCE	FR -74	FLAMANVILLE-3	PWR	4300	1650	1630	EDF	AREVA	2007-12	2016-12	2016-12
KOREA, REP. OF	KR -27	SHIN-HANUL-1	PWR	3938	1400	1340	KHNP	DHICKOPC	2012-7	—	—
	KR -25	SHIN-KORI-3	PWR	3983	1400	1400	KHNP	DHICKOPC	2008-10	2015-12	2016-1
PAKISTAN	PK -4	CHASNUPP-3	PWR	999	340	315	PAEC	CNNC	2011-5	2016-8	2016-9
RUSSIA	RU -163	LENINGRAD 2-1	PWR	3200	1170	1085	REA	ROSATOM	2008-10	—	—
	RU -161	NOVOVORONEZH 2-1	PWR	3200	1199	1114	REA	ROSATOM	2008-6	—	—
SLOVAKIA	SK -10	MOCHOVCE-3	PWR	1375	471	440	SE,plc	SKODA	1987-1	2016-8	2016-9
UAE	AE -01	BARAKAH-1	PWR	3983	1400	1345	ENEC	KEPCO	2012-7	2016-10	2016-11

Note: During 2016, 9 reactors (9687 MW) are expected to achieve connection to grid.

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
CHINA	CN -73	BAMAOSHAN	PWR	CPR-1000	2905	1080	900			—
	CN -57	CHANGJIANG-3	PWR		1930	650	610			—
	CN -58	CHANGJIANG-4	PWR		1930	650	610			—
	CN -56	FANGCHENGGANG-4	PWR	HPR1000	3150	1150	1000	GFNPC	CFHI	—
	CN -59	FANGCHENGGANG-5	PWR				1000			—
	CN -60	FANGCHENGGANG-6	PWR				1000			—
	CN -85	GUOHE-1	PWR	CAP-1400	4040	1534	1400	SNPDP		—
	CN -86	GUOHE-2	PWR	CAP-1400	4040	1534	1400	SNPDP		—
	CN -76	HAIYANG-3	PWR	AP-1000	3415	1253	1000	SDNPC	WH	—
	CN -77	HAIYANG-4	PWR	AP-1000	3415	1253	1000	SDNPC	WH	—
	CN -80	HONGSHIDING-1	PWR				0			—
	CN -81	HONGSHIDING-2	PWR	ACPR1000			0	HSDNPC	DEC	—
	CN -65	JIYANG-1	PWR				1000			—
	CN -66	JIYANG-2	PWR				1000			—
	CN -67	JIYANG-3	PWR				1000			—
	CN -68	JIYANG-4	PWR				1000			—
	CN -87	LUFENG-1	PWR	CPR-1000			1000	LFNPC		—
	CN -88	LUFENG-2	PWR	CPR-1000			1000	LFNPC		—
	CN -61	PENGZE-1	PWR				1250			—
	CN -62	PENGZE-2	PWR				1250			—
	CN -63	PENGZE-3	PWR				1250			—
	CN -64	PENGZE-4	PWR				1250			—
	CN -78	SANMEN-3	PWR	AP-1000	3400	1250	1000	SMNPC	WH/MHI	—
	CN -79	SANMEN-4	PWR	AP-1000	3400	1250	1000	SMNPC	WH/MHI	—
	CN -71	SANMING-1	FBR	BN-800	2100	860	800	FSNPC		—
	CN -72	SANMING-2	FBR	BN-800	2100	860	800	FSNPC		—
	CN -74	TAOHUAJIANG-1	PWR				0			—
	CN -75	TAOHUAJIANG-2	PWR				0			—
	CN -54	TIANWAN-6	PWR	CPR-1000	2905	1118	1000	JNPC	CFHI	—

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
CHINA	CN -69	XIANNING-1	PWR				0			—
	CN -70	XIANNING-2	PWR				0			—
	CN -82	XUDABU-1	PWR	CPR-1000	2905	1080	1000	LNPC	DEC	—
	CN -83	XUDABU-2	PWR	CPR-1000	2905	1080	1000	LNPC	DEC	—
INDIA	IN -33	GORAKHPUR-1	PHWR	PHWR-700		700	630	NPCIL		—
	IN -34	GORAKHPUR-2	PHWR	PHWR-700		700	630	NPCIL		—
	IN -35	KUDANKULAM-3	PWR	VVER V-412	3000	1000	917	NPCIL		—
	IN -36	KUDANKULAM-4	PWR	VVER V-412	3000	1000	917	NPCIL		—
IRAN, ISL. REP.	IR -2	BUSHEHR-2	PWR	VVER V-446	3000	1000	915	NPPDCO	TBD	—
	IR -5	BUSHEHR-3	PWR	-	3000	1000	915	NPPDCO	ASE	—
	IR -9	DARKHOVAIN	PWR	IR-360	1113	360	330	NPPDCO		—
JAPAN	JP -76	HAMAOKA-6	BWR	ABWR	3926	1400	1350	CHUBU		—
	JP -69	HIGASHI DORI-1 (TEPCO)	BWR	ABWR	3926	1385	1343	TEPCO	H/G	—
	JP -74	HIGASHI DORI-2 (TEPCO)	BWR	ABWR	3926	1385	1343	TEPCO		—
	JP -72	HIGASHI DORI-2 (TOHOKU)	BWR	ABWR			1067	TOHOKU		—
	JP -62	KAMINOSEKI-1	BWR	ABWR	3926	1373	1325	CHUGOKU		—
	JP -63	KAMINOSEKI-2	BWR	ABWR	3926	1373	1325	CHUGOKU		—
	JP -75	SENDAI-3	PWR	APWR	4466	1590	1590	KYUSHU		—
	JP -67	TSURUGA-3	PWR	APWR	4466	1538	1538	JAPCO	MHI	—
	JP -68	TSURUGA-4	PWR	APWR	4466	1538	1538	JAPCO	MHI	—
RUSSIA	RU -171	BALTIC-2	PWR	VVER V-491	3200	1194	1109	REA	ROSATOM	—
	RU -202	BASHKIR-1	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—
	RU -203	BASHKIR-2	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—
	RU -207	BELOYARSK-5	FBR	BN-1200	3000	1220	0	REA	ROSATOM	—
	RU -177	CENTRAL-1	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -178	CENTRAL-2	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
RUSSIA	RU -175	KOLA 2-1	PWR	-	3200	1200	0	REA	ROSATOM	—
	RU -176	KOLA 2-2	PWR	-	3200	1200	1100	REA	ROSATOM	—
	RU -166	KURSK 2-1	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -189	KURSK 2-2	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -190	KURSK 2-3	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -191	KURSK 2-4	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -165	LENINGRAD 2-3	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	—
	RU -167	LENINGRAD 2-4	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	—
	RU -181	NIZHEGORODSK-1	PWR		3300	1255	0	REA	ROSATOM	—
	RU -182	NIZHEGORODSK-2	PWR		3300	1255	0	REA	ROSATOM	—
	RU -187	SEVERSK-1	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -188	SEVERSK-2	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -198	SMOLENSK 2-1	PWR	VVER V-510	3300	1255	0	REA	ROSATOM	—
	RU -199	SMOLENSK 2-2	PWR	VVER V-510	3200	1255	0	REA	ROSATOM	—
	RU -204	SOUTH URALS-1	FBR	BN-1200	3000	1220	0	REA	ROSATOM	—
	RU -205	SOUTH URALS-2	FBR	BN-1200	3000	1220	0	REA	ROSATOM	—
USA	US -5039	BELL BEND	PWR	EPR	4300	1720	1600		AREVA	—
	US -5034	COMANCHE PEAK-3	PWR	US-APWR			1700			—
	US -5035	COMANCHE PEAK-4	PWR	US-APWR			1700			—
	US -5033	FERMI-3	BWR	ESBWR	4500	1600	1520			—
	US -5022	HARRIS-2	PWR	AP-1000	3750	1250	1117			—
	US -5023	HARRIS-3	PWR	AP-1000	3750	1250	1117			—
	US -5029	LEVY COUNTY-1	PWR	AP-1000	3750	1250	1117	PROGRESS	WH	—
	US -5030	LEVY COUNTY-2	PWR	AP-1000	3750	1250	1117		WH	—
	US -5017	NORTH ANNA-3	PWR	US-APWR			1500			—
	US -5012	SOUTH TEXAS-3	BWR	ABWR	3926	1400	1350			—
	US -5013	SOUTH TEXAS-4	BWR	ABWR	3926	1400	1350			—
	US -5040	TURKEY POINT-6	PWR	AP-1000	3750	1250	1117			—
	US -5041	TURKEY POINT-7	PWR	AP-1000	3750	1250	1117			—

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
USA	US -5018	WILLIAM STATES LEE III-1	PWR	AP-1000	3750	1250	1117			—
	US -5019	WILLIAM STATES LEE III-2	PWR	AP-1000	3750	1250	1117			—
VIET NAM	VN -1	PHUOC DINH 1	PWR				1000	EVN	ROSATOM	—
	VN -2	PHUOC DINH 2	PWR				1000	EVN	ROSATOM	—

Note: Status as of 31 December 2015, 88 reactors (73458 MW) were known as planned.

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection	Commercial operation
	Code	Name			Thermal	Gross	Net						
ARGENTINA	AR -4	CAREM25	PWR	CAREM Prototyp	100	29	25	CNEA	CNEA	2014-2	—	—	—
BELARUS	BY -1	BELARUSIAN-1	PWR	VVER V-491	3200	1194	1109	BelNPP	ASE	2013-11	—	—	—
	BY -2	BELARUSIAN-2	PWR	VVER V-491	3200	1194	1109	BelNPP	ASE	2014-4	—	—	—
BRAZIL	BR -3	ANGRA-3	PWR	PRE KONVOI	3765	1350	1245	ELETRONU	KWU	2010-6	—	2018-12	2019-5
CHINA	CN -37	CHANGJIANG-2	PWR	CNP-600	1930	650	610	HNPC	DEC	2010-11	—	—	—
	CN -39	FANGCHENGGANG-2	PWR	CPR-1000	2905	1080	1000	GFNPC	DEC	2010-12	—	—	—
	CN -55	FANGCHENGGANG-3	PWR	HPR1000	3150	1150	1000	GFNPC	CFHI	2015-12	—	—	—
	CN -42	FUQING-3	PWR	CPR-1000	2905	1080	1000	FQNP	NPIC	2010-12	—	—	—
	CN -43	FUQING-4	PWR	CNP-1000	2905	1080	1000	FQNP	NPIC	2012-11	—	—	—
	CN -51	FUQING-5	PWR	HPR1000	2905	1087	1000	FQNP	NPIC	2015-5	—	—	—
	CN -52	FUQING-6	PWR	HPR1000	2905	1087	1000	FQNP	NPIC	2015-12	—	—	—
	CN -30	HAIYANG-1	PWR	AP-1000	3451	1250	1000	SDNPC	WH	2009-9	—	—	—
	CN -31	HAIYANG-2	PWR	AP-1000	3415	1250	1000	SDNPC	WH	2010-6	—	—	—
	CN -27	HONGYANHE-4	PWR	CPR-1000	2905	1080	1000	LHNPC	DEC	2009-8	2015-3	—	—
	CN -49	HONGYANHE-5	PWR	ACPR-1000	2905	1080	1000	LHNPC	DEC	2015-3	—	—	—
	CN -50	HONGYANHE-6	PWR	ACPR-1000	2905	1080	1000	LHNPC	DEC	2015-7	—	—	—
	CN -35	NINGDE-4	PWR	CPR-1000	2905	1080	1018	NDNP	CFHI	2010-9	2016-3	2016-3	—
	CN -28	SANMEN-1	PWR	AP-1000	3400	1250	1000	SMNPC	WH/MHI	2009-4	—	—	—
	CN -29	SANMEN-2	PWR	AP-1000	3400	1250	1000	SMNPC	WH/MHI	2009-12	—	—	—
	CN -44	SHIDAO BAY-1	HTGR	HTR-PM	500	211	200	HSNPC	Tsinghua	2012-12	—	—	—
	CN -32	TAISHAN-1	PWR	EPR-1750	4590	1750	1660	TNPC	AREVA	2009-11	—	—	—
	CN -33	TAISHAN-2	PWR	EPR-1750	4590	1750	1660	TNPC	AREVA	2010-4	—	—	—
	CN -45	TIANWAN-3	PWR	VVER V-428M	3000	1060	990	JNPC	IZ	2012-12	—	—	—
	CN -46	TIANWAN-4	PWR	VVER V-428M	3000	1060	990	JNPC	IZ	2013-9	—	—	—
	CN -53	TIANWAN-5	PWR	CNP-1000	2905	1118	1000	JNPC	SHE	2015-12	—	—	—
	CN -41	YANGJIANG-4	PWR	CPR-1000	2905	1080	1000	YJNPC	CFHI	2012-11	—	—	—

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection	Commercial operation
	Code	Name			Thermal	Gross	Net						
CHINA	CN -47	YANGJIANG-5	PWR	ACPR-1000	2905	1087	1000	YJNPC	CFHI	2013-9	—	—	—
	CN -48	YANGJIANG-6	PWR	ACPR-1000	2905	1087	1000	YJNPC	CFHI	2013-12	—	—	—
FINLAND	FI -5	OLKILUOTO-3	PWR	EPR	4300	1720	1600	TVO	AREVA	2005-8	—	—	2018-12
FRANCE	FR -74	FLAMANVILLE-3	PWR	EPR	4300	1650	1630	EDF	AREVA	2007-12	2016-12	2016-12	—
INDIA	IN -30	KAKRAPAR-3	PHWR	PHWR-700	2166	700	630	NPCIL	NPCIL	2010-11	—	—	—
	IN -31	KAKRAPAR-4	PHWR	PHWR-700	2166	700	630	NPCIL	NPCIL	2010-11	—	—	—
	IN -26	KUDANKULAM-2	PWR	VVER V-412	3000	1000	917	NPCIL	MAEP	2002-7	—	—	—
	IN -29	PFBR	FBR	Prototype	1253	500	470	BHAVINI		2004-10	—	—	—
	IN -21	RAJASTHAN-7	PHWR	Horizontal Pre	2177	700	630	NPCIL	NPCIL	2011-7	—	—	—
	IN -22	RAJASTHAN-8	PHWR	Horizontal Pre	2177	700	630	NPCIL	NPCIL	2011-9	—	—	—
JAPAN	JP -66	OHMA	BWR	ABWR	3926	1383	0	EPDC	H/G	2010-5	—	—	—
	JP -65	SHIMANE-3	BWR	ABWR	3926	1373	1325	CHUGOKU	HITACHI	2007-10	—	—	—
KOREA, REP. OF	KR -27	SHIN-HANUL-1	PWR	APR-1400	3938	1400	1340	KHNP	DHICKOPC	2012-7	—	—	2016-6
	KR -28	SHIN-HANUL-2	PWR	APR-1400	3983	1400	1340	KHNP	DHICKOPC	2013-6	—	—	2017-6
	KR -25	SHIN-KORI-3	PWR	APR-1400	3983	1400	1400	KHNP	DHICKOPC	2008-10	2015-12	2016-1	—
	KR -26	SHIN-KORI-4	PWR	APR-1400	3938	1400	1340	KHNP	DHICKOPC	2009-8	—	—	—
PAKISTAN	PK -4	CHASNUPP-3	PWR	CNP-300	999	340	315	PAEC	CNNC	2011-5	2016-8	2016-9	2016-12
	PK -5	CHASNUPP-4	PWR	CNP-300	999	340	315	PAEC	CNNC	2011-12	2017-6	2017-7	2017-10
RUSSIA	RU -151	AKADEMIK LOMONOSOV-1	PWR	KLT-40S 'Float	150	38	32	REA	ROSATOM	2007-4	—	—	2019-12
	RU -152	AKADEMIK LOMONOSOV-2	PWR	KLT-40S 'Float	150	38	32	REA	ROSATOM	2007-4	—	—	2019-12
	RU -170	BALTIC-1	PWR	VVER V-491	3200	1194	1109	REA	ROSATOM	2012-2	—	2018-12	2019-12
	RU -163	LENINGRAD 2-1	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	2008-10	—	—	2016-7
	RU -164	LENINGRAD 2-2	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	2010-4	—	—	2018-3

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection	Commercial operation
	Code	Name			Thermal	Gross	Net						
RUSSIA	RU -161	NOVOVORONEZH 2-1	PWR	VVER V-392M	3200	1199	1114	REA	ROSATOM	2008-6	—	—	2016-6
	RU -162	NOVOVORONEZH 2-2	PWR	VVER V-392M	3200	1199	1114	REA	ROSATOM	2009-7	—	—	2017-3
	RU -64	ROSTOV-4	PWR	VVER V-320	3000	1070	1011	REA	ROSATOM	2010-6	—	—	2017-7
SLOVAKIA	SK -10	MOCHOVCE-3	PWR	VVER V-213	1375	471	440	SE,plc	SKODA	1987-1	2016-8	2016-9	2016-11
	SK -11	MOCHOVCE-4	PWR	VVER V-213	1375	471	440	SE,plc	SKODA	1987-1	2017-8	2017-9	2017-11
UAE	AE -01	BARAKAH-1	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2012-7	2016-10	2016-11	2017-5
	AE -02	BARAKAH-2	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2013-4	2017-10	2017-11	2018-5
	AE -03	BARAKAH-3	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2014-9	2018-10	2018-11	—
	AE -04	BARAKAH-4	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2015-7	2019-10	—	—
UKRAINE	UA -51	KHMELNITSKI-3	PWR	VVER V-392B	3200	1000	950	NNEGC	ASE	1986-3	—	2021-1	—
	UA -52	KHMELNITSKI-4	PWR	VVER V-392B	3200	1000	950	NNEGC	ASE	1987-2	—	2021-1	—
USA	US -5027	SUMMER-2	PWR	AP-1000	3400	1250	1117	SCE&G	WH	2013-3	—	—	—
	US -5028	SUMMER-3	PWR	AP-1000	3400	1250	1117	SCE&G	WH	2013-11	—	—	—
	US -5025	VOGTLE-3	PWR	AP-1000	3400	1250	1117	SOUTHERN	WH	2013-3	—	—	—
	US -5026	VOGTLE-4	PWR	AP-1000	3400	1250	1117	SOUTHERN	WH	2013-11	—	—	—
	US -391	WATTS BAR-2	PWR	W (4-loop) (IC	3425	1218	1165	TVA	WH	1973-9	—	—	—

Note: Status as of 31 December 2015, 67 reactors (65103 MW) were under construction, including 2 units (2600 MW) in Taiwan, China.

TAIWAN, CN	TW -7	LUNGMEN 1	BWR	ABWR	3926	1350	1300	TPC	GE	1999-3	—	—	—
TAIWAN, CN	TW -8	LUNGMEN 2	BWR	ABWR	3926	1350	1300	TPC	GE	1999-8	—	—	—

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
ARGENTINA	AR -1	ATUCHA-1	PHWR	PHWR KWU	1179	357	340	NASA	SIEMENS	1968-6	1974-3	1974-6	80.2	80.6	-
	AR -3	ATUCHA-2	PHWR	PHWR KWU	2160	745	692	NASA	SIEMENS	1981-7	2014-6	—			-
	AR -2	EMBALSE	PHWR	CANDU 6	2015	648	600	NASA	AECL	1974-4	1983-4	1984-1	80.4	80.4	-
ARMENIA	AM -19	ARMENIAN-2	PWR	VVER V-270	1375	408	375	ANPPCJSC	FAEA	1975-7	1980-1	1980-5	69.9	72.1	-
BELGIUM	BE -2	DOEL-1	PWR	W (2-loop)	1311	454	433	ELECTRAB	ACECOWEN	1969-7	1974-8	1975-2	92.9	93.6	-
	BE -4	DOEL-2	PWR	W (2-loop)	1311	454	433	ELECTRAB	ACECOWEN	1971-9	1975-8	1975-12	90.0	90.5	-
	BE -5	DOEL-3	PWR	W (3-loop)	3054	1056	1006	ELECTRAB	FRAMACEC	1975-1	1982-6	1982-10	42.5	42.5	-
	BE -7	DOEL-4	PWR	W (3-loop)	2988	1090	1033	ELECTRAB	ACECOWEN	1978-12	1985-4	1985-7	81.6	81.8	-
	BE -3	TIHANGE-1	PWR	Framatome 3 lo	2873	1009	962	ELECTRAB	ACLF	1970-6	1975-3	1975-10	79.0	80.3	-
	BE -6	TIHANGE-2	PWR	W (3-loop)	3064	1055	1008	ELECTRAB	FRAMACEC	1976-4	1982-10	1983-6	45.5	45.7	-
	BE -8	TIHANGE-3	PWR	W (3-loop)	3000	1089	1038	ELECTRAB	ACECOWEN	1978-11	1985-6	1985-9	90.3	91.6	-
BRAZIL	BR -1	ANGRA-1	PWR	2-loop WE	1882	640	609	ELETRONU	WH	1971-5	1982-4	1985-1	83.7	83.8	-
	BR -2	ANGRA-2	PWR	PRE KONVOI	3764	1350	1275	ELETRONU	KWU	1976-1	2000-7	2001-2	90.9	91.5	-
BULGARIA	BG -5	KOZLODUY-5	PWR	VVER V-320	3000	1000	963	KOZNPP	AEE	1980-7	1987-11	1988-12	88.6	88.9	DH
	BG -6	KOZLODUY-6	PWR	VVER V-320	3000	1000	963	KOZNPP	AEE	1982-4	1991-8	1993-12	87.6	88.4	DH
CANADA	CA -8	BRUCE-1	PHWR	CANDU 791	2575	830	760	BRUCEPOW	OH/AECL	1971-6	1977-1	1977-9	82.8	82.8	-
	CA -9	BRUCE-2	PHWR	CANDU 791	2456	800	730	BRUCEPOW	OH/AECL	1970-12	1976-9	1977-9	89.3	89.3	-
	CA -10	BRUCE-3	PHWR	CANDU 750A	2832	830	750	BRUCEPOW	OH/AECL	1972-7	1977-12	1978-2	75.8	75.9	-
	CA -11	BRUCE-4	PHWR	CANDU 750A	2832	830	750	BRUCEPOW	OH/AECL	1972-9	1978-12	1979-1	77.6	77.7	-
	CA -18	BRUCE-5	PHWR	CANDU 750B	2832	872	817	BRUCEPOW	OH/AECL	1978-6	1984-12	1985-3	90.5	90.6	-
	CA -19	BRUCE-6	PHWR	CANDU 750B	2690	891	817	BRUCEPOW	OH/AECL	1978-1	1984-6	1984-9	89.7	89.8	-
	CA -20	BRUCE-7	PHWR	CANDU 750B	2832	872	817	BRUCEPOW	OH/AECL	1979-5	1986-2	1986-4	90.4	90.4	-
	CA -21	BRUCE-8	PHWR	CANDU 750B	2690	872	817	BRUCEPOW	OH/AECL	1979-8	1987-3	1987-5	89.6	89.6	-
	CA -22	DARLINGTON-1	PHWR	CANDU 850	2776	934	878	OPG	OH/AECL	1982-4	1990-12	1992-11	84.1	85.1	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
CANADA	CA -23	DARLINGTON-2	PHWR	CANDU 850	2776	934	878	OPG	OH/AECL	1981-9	1990-1	1990-10	87.5	88.3	-
	CA -24	DARLINGTON-3	PHWR	CANDU 850	2776	934	878	OPG	OH/AECL	1984-9	1992-12	1993-2	88.0	88.8	-
	CA -25	DARLINGTON-4	PHWR	CANDU 850	2776	934	878	OPG	OH/AECL	1985-7	1993-4	1993-6	89.0	89.7	-
	CA -4	PICKERING-1	PHWR	CANDU 500A	1744	542	515	OPG	OH/AECL	1966-6	1971-4	1971-7	67.2	67.7	-
	CA -7	PICKERING-4	PHWR	CANDU 500A	1744	542	515	OPG	OH/AECL	1968-5	1973-5	1973-6	74.2	74.5	-
	CA -13	PICKERING-5	PHWR	CANDU 500B	1744	540	516	OPG	OH/AECL	1974-11	1982-12	1983-5	71.6	72.6	-
	CA -14	PICKERING-6	PHWR	CANDU 500B	1744	540	516	OPG	OH/AECL	1975-10	1983-11	1984-2	77.8	78.4	-
	CA -15	PICKERING-7	PHWR	CANDU 500B	1744	540	516	OPG	OH/AECL	1976-3	1984-11	1985-1	82.0	82.7	-
	CA -16	PICKERING-8	PHWR	CANDU 500B	1744	540	516	OPG	OH/AECL	1976-9	1986-1	1986-2	77.7	78.2	-
	CA -17	POINT LEPREAU	PHWR	CANDU 6	2180	705	660	NBEPC	AECL	1975-5	1982-9	1983-2	47.5	47.5	-
CHINA	CN -84	CEFR	FBR	BN-20	65	25	20	CIAE	IZ	2000-5	2011-7	—			-
	CN -36	CHANGJIANG-1	PWR	CNP-600	1930	650	610	HNPC	DEC	2010-4	2015-11	2015-12			-
	CN -2	DAYA BAY-1	PWR	M310	2905	984	944	DNMC	FRAM	1987-8	1993-8	1994-2	89.6	89.8	-
	CN -3	DAYA BAY-2	PWR	M310	2905	984	944	DNMC	FRAM	1988-4	1994-2	1994-5	89.1	89.3	-
	CN -38	FANGCHENGGANG-1	PWR	CPR-1000	2905	1080	1000	GFNPC	DEC	2010-7	2015-10	2016-1			-
	CN -24	FANGJIASHAN-1	PWR	CPR-1000	2905	1080	1012	QNPC	NPIC	2008-12	2014-11	2014-12	85.7	85.7	-
	CN -25	FANGJIASHAN-2	PWR	CPR-1000	2905	1080	1012	QNPC	NPIC	2009-7	2015-1	2015-2	93.2	93.2	-
	CN -20	FUQING-1	PWR	CNP-1000	2905	1080	1000	FQNP	NPIC	2008-11	2014-8	2014-11	76.1	76.1	-
	CN -21	FUQING-2	PWR	CNP-1000	2905	1080	1000	FQNP	NPIC	2009-6	2015-8	2015-10	100.0	100.0	-
	CN -16	HONGYANHE-1	PWR	CPR-1000	2905	1119	1061	LHNPC	DEC	2007-8	2013-2	2013-6	82.7	83.3	-
	CN -17	HONGYANHE-2	PWR	CPR-1000	2905	1119	1061	LHNPC	DEC	2008-3	2013-11	2014-5	71.8	71.8	-
	CN -26	HONGYANHE-3	PWR	CPR-1000	2905	1119	1061	LHNPC	DEC	2009-3	2015-3	2015-8	100.0	100.0	-
	CN -6	LING AO-1	PWR	M310	2905	990	950	DNMC	FRAM	1997-5	2002-2	2002-5	88.6	88.9	-
	CN -7	LING AO-2	PWR	M310	2905	990	950	DNMC	FRAM	1997-11	2002-9	2003-1	92.1	92.3	-
	CN -12	LING AO-3	PWR	CPR-1000	2905	1080	1007	DNMC	DEC	2005-12	2010-7	2010-9	85.6	85.8	-
	CN -13	LING AO-4	PWR	CPR-1000	2905	1080	1007	DNMC	DEC	2006-6	2011-5	2011-8	88.3	88.6	-
	CN -18	NINGDE-1	PWR	CPR-1000	2905	1080	1018	NDNP	DEC	2008-2	2012-12	2013-4	79.9	79.9	-
	CN -19	NINGDE-2	PWR	CPR-1000	2905	1080	1018	NDNP	SHE	2008-11	2014-1	2014-5	88.3	88.3	-
	CN -34	NINGDE-3	PWR	CPR-1000	2905	1080	1018	NDNP	CFHI	2010-1	2015-3	2015-6	91.3	91.3	-

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
CHINA	CN -4	QINSHAN 2-1	PWR	CNP-600	1930	650	610	NPQJVC	CNNC	1996-6	2002-2	2002-4	83.5	83.5	-
	CN -5	QINSHAN 2-2	PWR	CNP-600	1930	650	610	NPQJVC	CNNC	1997-4	2004-3	2004-5	87.9	87.9	-
	CN -14	QINSHAN 2-3	PWR	CNP-600	1930	660	619	NPQJVC	CNNC	2006-4	2010-8	2010-10	88.6	88.7	-
	CN -15	QINSHAN 2-4	PWR	CNP-600	1930	660	610	NPQJVC	CNNC	2007-1	2011-11	2011-12	90.0	90.2	-
	CN -8	QINSHAN 3-1	PHWR	CANDU 6	2064	728	677	TQNPC	AECL	1998-6	2002-11	2002-12	91.5	91.5	-
	CN -9	QINSHAN 3-2	PHWR	CANDU 6	2064	728	677	TQNPC	AECL	1998-9	2003-6	2003-7	93.6	93.7	-
	CN -1	QINSHAN-1	PWR	CNP-300	966	310	298	CNNO	CNNC	1985-3	1991-12	1994-4	90.5	90.6	-
	CN -10	TIANWAN-1	PWR	VVER V-428	3000	1060	990	JNPC	IZ	1999-10	2006-5	2007-5	89.0	89.0	-
	CN -11	TIANWAN-2	PWR	VVER V-428	3000	1060	990	JNPC	IZ	2000-9	2007-5	2007-8	88.7	88.7	-
	CN -22	YANGJIANG-1	PWR	CPR-1000	2905	1086	1000	YJNPC	CFHI	2008-12	2013-12	2014-3	88.4	88.4	-
	CN -23	YANGJIANG-2	PWR	CPR-1000	2905	1080	1000	YJNPC	CFHI	2009-6	2015-3	2015-6	99.8	99.8	-
	CN -40	YANGJIANG-3	PWR	CPR-1000	2905	1080	1000	YJNPC	CFHI	2010-11	2015-10	2016-1			-
CZECH REP.	CZ -4	DUKOVANY-1	PWR	VVER V-213	1444	500	468	CEZ	SKODA	1979-1	1985-2	1985-5	83.2	84.0	-
	CZ -5	DUKOVANY-2	PWR	VVER V-213	1444	500	471	CEZ	SKODA	1979-1	1986-1	1986-3	80.5	81.6	-
	CZ -8	DUKOVANY-3	PWR	VVER V-213	1444	500	468	CEZ	SKODA	1979-3	1986-11	1986-12	83.2	84.3	-
	CZ -9	DUKOVANY-4	PWR	VVER V-213	1444	500	471	CEZ	SKODA	1979-3	1987-6	1987-7	89.7	90.8	-
	CZ -23	TEMELIN-1	PWR	VVER V-320	3120	1080	1026	CEZ	SKODA	1987-2	2000-12	2002-6	82.7	82.8	DH
	CZ -24	TEMELIN-2	PWR	VVER V-320	3120	1080	1026	CEZ	SKODA	1987-2	2002-12	2003-4	78.2	78.3	DH
FINLAND	FI -1	LOVIISA-1	PWR	VVER V-213	1500	520	496	FORTUMPH	AEE	1971-5	1977-2	1977-5	91.0	91.9	-
	FI -2	LOVIISA-2	PWR	VVER V-213	1500	520	496	FORTUMPH	AEE	1972-8	1980-11	1981-1	91.7	92.6	-
	FI -3	OLKILUOTO-1	BWR	ABB-III, BWR-2	2500	910	880	TVO	ASEASTAL	1974-2	1978-9	1979-10	94.2	95.1	-
	FI -4	OLKILUOTO-2	BWR	ABB-III, BWR-2	2500	910	880	TVO	ASEASTAL	1975-11	1980-2	1982-7	92.6	93.6	-
FRANCE	FR -54	BELLEVILLE-1	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1980-5	1987-10	1988-6	83.6	84.7	-
	FR -55	BELLEVILLE-2	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1980-8	1988-7	1989-1	85.6	87.6	-
	FR -32	BLAYAIS-1	PWR	CP1	2785	951	910	EDF	FRAM	1977-1	1981-6	1981-12	78.4	79.2	-
	FR -33	BLAYAIS-2	PWR	CP1	2785	951	910	EDF	FRAM	1977-1	1982-7	1983-2	78.5	80.3	-
	FR -34	BLAYAIS-3	PWR	CP1	2785	951	910	EDF	FRAM	1978-4	1983-8	1983-11	67.4	68.2	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
FRANCE	FR-35	BLAYAIS-4	PWR	CP1	2785	951	910	EDF	FRAM	1978-4	1983-5	1983-10	73.9	74.9	-
	FR-13	BUGEY-2	PWR	CP0	2785	945	910	EDF	FRAM	1972-11	1978-5	1979-3	83.1	84.9	-
	FR-14	BUGEY-3	PWR	CP0	2785	945	910	EDF	FRAM	1973-9	1978-9	1979-3	80.2	82.2	-
	FR-15	BUGEY-4	PWR	CP0	2785	917	880	EDF	FRAM	1974-6	1979-3	1979-7	77.8	79.4	-
	FR-16	BUGEY-5	PWR	CP0	2785	917	880	EDF	FRAM	1974-7	1979-7	1980-1	69.2	73.0	-
	FR-50	CATTENOM-1	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1979-10	1986-11	1987-4	74.9	76.6	-
	FR-53	CATTENOM-2	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1980-7	1987-9	1988-2	75.2	77.3	-
	FR-60	CATTENOM-3	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1982-6	1990-7	1991-2	78.5	79.8	-
	FR-65	CATTENOM-4	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1983-9	1991-5	1992-1	78.1	79.2	-
	FR-40	CHINON B-1	PWR	CP2	2785	954	905	EDF	FRAM	1977-3	1982-11	1984-2	74.2	74.7	-
	FR-41	CHINON B-2	PWR	CP2	2785	954	905	EDF	FRAM	1977-3	1983-11	1984-8	76.2	77.5	-
	FR-56	CHINON B-3	PWR	CP2	2785	954	905	EDF	FRAM	1980-10	1986-10	1987-3	79.6	80.6	-
	FR-57	CHINON B-4	PWR	CP2	2785	954	905	EDF	FRAM	1981-2	1987-11	1988-4	83.3	84.0	-
	FR-62	CHOOZ B-1	PWR	N4 REP 1450	4270	1560	1500	EDF	FRAM	1984-1	1996-8	2000-5	82.9	83.8	-
	FR-70	CHOOZ B-2	PWR	N4 REP 1450	4270	1560	1500	EDF	FRAM	1985-12	1997-4	2000-9	77.9	85.7	-
	FR-72	CIVAUX-1	PWR	N4 REP 1450	4270	1561	1495	EDF	FRAM	1988-10	1997-12	2002-1	76.7	79.6	-
	FR-73	CIVAUX-2	PWR	N4 REP 1450	4270	1561	1495	EDF	FRAM	1991-4	1999-12	2002-4	73.9	82.8	-
	FR-42	CRUAS-1	PWR	CP2	2785	956	915	EDF	FRAM	1978-8	1983-4	1984-4	71.7	74.0	-
	FR-43	CRUAS-2	PWR	CP2	2785	956	915	EDF	FRAM	1978-11	1984-9	1985-4	77.4	79.8	-
	FR-44	CRUAS-3	PWR	CP2	2785	956	915	EDF	FRAM	1979-4	1984-5	1984-9	74.7	79.2	-
	FR-45	CRUAS-4	PWR	CP2	2785	956	915	EDF	FRAM	1979-10	1984-10	1985-2	73.6	76.1	-
	FR-22	DAMPIERRE-1	PWR	CP1	2785	937	890	EDF	FRAM	1975-2	1980-3	1980-9	77.5	78.7	-
	FR-29	DAMPIERRE-2	PWR	CP1	2785	937	890	EDF	FRAM	1975-4	1980-12	1981-2	80.9	81.8	-
	FR-30	DAMPIERRE-3	PWR	CP1	2785	937	890	EDF	FRAM	1975-9	1981-1	1981-5	78.5	80.3	-
	FR-31	DAMPIERRE-4	PWR	CP1	2785	937	890	EDF	FRAM	1975-12	1981-8	1981-11	74.7	79.5	-
	FR-11	FESSENHEIM-1	PWR	CP0	2785	920	880	EDF	FRAM	1971-9	1977-4	1978-1	76.6	77.4	-
	FR-12	FESSENHEIM-2	PWR	CP0	2785	920	880	EDF	FRAM	1972-2	1977-10	1978-4	66.1	70.1	-
	FR-46	FLAMANVILLE-1	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1979-12	1985-12	1986-12	79.3	81.3	-
	FR-47	FLAMANVILLE-2	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1980-5	1986-7	1987-3	80.5	81.9	-
	FR-61	GOLFECH-1	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1982-11	1990-6	1991-2	85.1	86.1	-

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
FRANCE	FR -68	GOLFECH-2	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1984-10	1993-6	1994-3	81.0	81.7	-
	FR -20	GRAVELINES-1	PWR	CP1	2785	951	910	EDF	FRAM	1975-2	1980-3	1980-11	67.6	70.1	-
	FR -21	GRAVELINES-2	PWR	CP1	2785	951	910	EDF	FRAM	1975-3	1980-8	1980-12	71.7	73.2	-
	FR -27	GRAVELINES-3	PWR	CP1	2785	951	910	EDF	FRAM	1975-12	1980-12	1981-6	73.1	74.5	-
	FR -28	GRAVELINES-4	PWR	CP1	2785	951	910	EDF	FRAM	1976-4	1981-6	1981-10	76.6	78.0	-
	FR -51	GRAVELINES-5	PWR	CP1	2785	951	910	EDF	FRAM	1979-10	1984-8	1985-1	79.8	80.9	-
	FR -52	GRAVELINES-6	PWR	CP1	2785	951	910	EDF	FRAM	1979-10	1985-8	1985-10	82.0	84.8	-
	FR -58	NOGENT-1	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1981-5	1987-10	1988-2	79.2	82.3	-
	FR -59	NOGENT-2	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1982-1	1988-12	1989-5	81.8	82.5	-
	FR -36	PALUEL-1	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1977-8	1984-6	1985-12	84.5	86.5	-
	FR -37	PALUEL-2	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1978-1	1984-9	1985-12	73.9	75.4	-
	FR -38	PALUEL-3	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1979-2	1985-9	1986-2	77.1	79.8	-
	FR -39	PALUEL-4	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1980-2	1986-4	1986-6	84.8	87.6	-
	FR -63	PENLY-1	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1982-9	1990-5	1990-12	85.3	86.0	-
	FR -64	PENLY-2	PWR	P4 REP 1300	3817	1382	1330	EDF	FRAM	1984-8	1992-2	1992-11	79.0	81.3	-
	FR -48	ST. ALBAN-1	PWR	P4 REP 1300	3817	1381	1335	EDF	FRAM	1979-1	1985-8	1986-5	77.7	80.0	-
	FR -49	ST. ALBAN-2	PWR	P4 REP 1300	3817	1381	1335	EDF	FRAM	1979-7	1986-7	1987-3	84.1	85.4	-
	FR -17	ST. LAURENT B-1	PWR	CP2	2785	956	915	EDF	FRAM	1976-5	1981-1	1983-8	70.9	74.4	-
	FR -23	ST. LAURENT B-2	PWR	CP2	2785	956	915	EDF	FRAM	1976-7	1981-6	1983-8	68.9	71.8	-
	FR -18	TRICASTIN-1	PWR	CP1	2785	955	915	EDF	FRAM	1974-11	1980-5	1980-12	78.1	79.6	-
	FR -19	TRICASTIN-2	PWR	CP1	2785	955	915	EDF	FRAM	1974-12	1980-8	1980-12	75.6	77.8	-
	FR -25	TRICASTIN-3	PWR	CP1	2785	955	915	EDF	FRAM	1975-4	1981-2	1981-5	76.6	77.0	-
	FR -26	TRICASTIN-4	PWR	CP1	2785	955	915	EDF	FRAM	1975-5	1981-6	1981-11	78.3	80.5	-
GERMANY	DE -32	BROKDORF	PWR	PWR	3900	1480	1410	E.ON	KWU	1976-1	1986-10	1986-12	88.1	88.1	-
	DE -33	EMSLAND	PWR	Konvoi	3850	1406	1335	KLE	KWU	1982-8	1988-4	1988-6	94.0	94.0	-
	DE -27	GROHNDE	PWR	PWR	3900	1430	1360	KWG	KWU	1976-6	1984-9	1985-2	87.1	88.0	-
	DE -26	GUNDREMMINGEN-B	BWR	BWR-72	3840	1344	1284	KGG	KWU	1976-7	1984-3	1984-7	88.5	88.5	-
	DE -28	GUNDREMMINGEN-C	BWR	BWR-72	3840	1344	1288	KGG	KWU	1976-7	1984-11	1985-1	88.7	88.7	-
	DE -31	ISAR-2	PWR	Konvoi	3950	1485	1410	E.ON	KWU	1982-9	1988-1	1988-4	92.6	92.7	-

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
GERMANY	DE -44	NECKARWESTHEIM-2	PWR	Konvoi	3850	1400	1310	EnKK	KWU	1982-11	1989-1	1989-4	92.4	92.5	-
	DE -24	PHILIPPSBURG-2	PWR	PWR	3950	1468	1402	EnKK	KWU	1977-7	1984-12	1985-4	84.0	84.2	-
HUNGARY	HU -1	PAKS-1	PWR	VVER V-213	1485	500	470	PAKS Zrt	AEE	1974-8	1982-12	1983-8	87.2	87.4	-
	HU -2	PAKS-2	PWR	VVER V-213	1485	500	473	PAKS Zrt	AEE	1974-8	1984-9	1984-11	90.0	90.2	DH
	HU -3	PAKS-3	PWR	VVER V-213	1485	500	473	PAKS Zrt	AEE	1979-10	1986-9	1986-12	86.1	86.4	DH
	HU -4	PAKS-4	PWR	VVER V-213	1485	500	473	PAKS Zrt	AEE	1979-10	1987-8	1987-11	90.0	90.4	DH
INDIA	IN -13	KAIGA-1	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1989-9	2000-10	2000-11	79.9	95.7	-
	IN -14	KAIGA-2	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1989-12	1999-12	2000-3	77.3	93.6	-
	IN -15	KAIGA-3	PHWR	Horizontal Pre	800	220	202	NPCIL	NPCIL	2002-3	2007-4	2007-5	80.4	92.1	-
	IN -16	KAIGA-4	PHWR	Horizontal Pre	800	220	202	NPCIL	NPCIL	2002-5	2011-1	2011-1	75.8	88.2	-
	IN -9	KAKRAPAR-1	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1984-12	1992-11	1993-5	93.6	93.6	-
	IN -10	KAKRAPAR-2	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1985-4	1995-3	1995-9	82.1	83.0	-
	IN -25	KUDANKULAM-1	PWR	VVER V-412	3000	1000	917	NPCIL	MAEP	2002-3	2013-10	2014-12	39.7	39.7	-
	IN -5	MADRAS-1	PHWR	Horizontal Pre	801	220	205	NPCIL	NPCIL	1971-1	1983-7	1984-1	72.1	91.9	DS
	IN -6	MADRAS-2	PHWR	Horizontal Pre	801	220	205	NPCIL	NPCIL	1972-10	1985-9	1986-3	59.7	82.6	DS
	IN -7	NARORA-1	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1976-12	1989-7	1991-1	69.3	92.4	-
	IN -8	NARORA-2	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1977-11	1992-1	1992-7	66.0	92.4	-
	IN -3	RAJASTHAN-1	PHWR	Horizontal Pre	346	100	90	NPCIL	AECL	1965-8	1972-11	1973-12	0.0	0.0	PH
	IN -4	RAJASTHAN-2	PHWR	Horizontal Pre	693	200	187	NPCIL	AECL/DAE	1968-4	1980-11	1981-4	85.5	87.0	PH
	IN -11	RAJASTHAN-3	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1990-2	2000-3	2000-6	93.0	93.1	PH
	IN -12	RAJASTHAN-4	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	1990-10	2000-11	2000-12	90.8	90.8	PH
	IN -19	RAJASTHAN-5	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	2002-9	2009-12	2010-2	92.5	92.9	-
	IN -20	RAJASTHAN-6	PHWR	Horizontal Pre	801	220	202	NPCIL	NPCIL	2003-1	2010-3	2010-3	82.1	82.6	-
	IN -1	TARAPUR-1	BWR	BWR-1 (Mark 2	530	160	150	NPCIL	GE	1964-10	1969-4	1969-10	67.5	67.8	-
	IN -2	TARAPUR-2	BWR	BWR-1 (Mark 2	530	160	150	NPCIL	GE	1964-10	1969-5	1969-10	73.6	74.1	-
	IN -23	TARAPUR-3	PHWR	Horizontal Pre	1730	540	490	NPCIL	NPCIL	2000-5	2006-6	2006-8	90.7	92.8	-
	IN -24	TARAPUR-4	PHWR	Horizontal Pre	1730	540	490	NPCIL	NPCIL	2000-3	2005-6	2005-9	78.9	88.2	-
IRAN, ISL. REP.	IR -1	BUSHEHR-1	PWR	VVER V-446	3000	1000	915	NPPDCO	ASE	1975-5	2011-9	2013-9	64.3	64.5	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DS desalination, DH district heating, PH process heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
JAPAN	JP -25	FUKUSHIMA-DAINI-1	BWR	BWR-5	3293	1100	1067	TEPCO	TOSHIBA	1976-3	1981-7	1982-4	3.8	4.9	-
	JP -26	FUKUSHIMA-DAINI-2	BWR	BWR-5	3293	1100	1067	TEPCO	HITACHI	1979-5	1983-6	1984-2	3.8	4.9	-
	JP -35	FUKUSHIMA-DAINI-3	BWR	BWR-5	3293	1100	1067	TEPCO	TOSHIBA	1981-3	1984-12	1985-6	3.8	4.9	-
	JP -38	FUKUSHIMA-DAINI-4	BWR	BWR-5	3293	1100	1067	TEPCO	HITACHI	1981-5	1986-12	1987-8	2.3	3.4	-
	JP -27	GENKAI-2	PWR	M (2-loop)	1650	559	529	KYUSHU	MHI	1977-2	1980-6	1981-3	1.6	1.6	-
	JP -45	GENKAI-3	PWR	M (4-loop)	3423	1180	1127	KYUSHU	MHI	1988-6	1993-6	1994-3	0.0	0.0	DS
	JP -46	GENKAI-4	PWR	M (4-loop)	3423	1180	1127	KYUSHU	MHI	1992-7	1996-11	1997-7	18.0	18.0	DS
	JP -36	HAMAOKA-3	BWR	BWR-5	3293	1100	1056	CHUBU	TOSHIBA	1983-4	1987-1	1987-8	0.0	0.0	-
	JP -49	HAMAOKA-4	BWR	BWR-5	3293	1137	1092	CHUBU	TOSHIBA	1989-10	1993-1	1993-9	5.2	5.2	-
	JP -60	HAMAOKA-5	BWR	ABWR	3926	1380	1325	CHUBU	TOSHIBA	2000-7	2004-4	2005-1	5.8	5.8	-
	JP -58	HIGASHI DORI-1 (TOHOKU)	BWR	BWR-5	3293	1100	1067	TOHOKU	TOSHIBA	2000-11	2005-3	2005-12	2.0	2.0	-
	JP -23	IKATA-1	PWR	M (2-loop)	1650	566	538	SHIKOKU	MHI	1973-9	1977-2	1977-9	13.5	13.5	DS
	JP -32	IKATA-2	PWR	M (2-loop)	1650	566	538	SHIKOKU	MHI	1978-8	1981-8	1982-3	20.7	20.7	DS
	JP -47	IKATA-3	PWR	M (3-loop)	2660	890	846	SHIKOKU	MHI	1990-10	1994-3	1994-12	6.5	6.5	DS
	JP -33	KASHIWAZAKI KARIWA-1	BWR	BWR-5	3293	1100	1067	TEPCO	TOSHIBA	1980-6	1985-2	1985-9	11.9	11.9	-
	JP -39	KASHIWAZAKI KARIWA-2	BWR	BWR-5	3293	1100	1067	TEPCO	TOSHIBA	1985-11	1990-2	1990-9	0.0	0.0	-
	JP -52	KASHIWAZAKI KARIWA-3	BWR	BWR-5	3293	1100	1067	TEPCO	TOSHIBA	1989-3	1992-12	1993-8	0.0	0.0	-
	JP -53	KASHIWAZAKI KARIWA-4	BWR	BWR-5	3293	1100	1067	TEPCO	HITACHI	1990-3	1993-12	1994-8	0.0	0.0	-
	JP -40	KASHIWAZAKI KARIWA-5	BWR	BWR-5	3293	1100	1067	TEPCO	HITACHI	1985-6	1989-9	1990-4	21.3	21.3	-
	JP -55	KASHIWAZAKI KARIWA-6	BWR	ABWR	3926	1356	1315	TEPCO	TOSHIBA	1992-11	1996-1	1996-11	23.2	23.2	-
	JP -56	KASHIWAZAKI KARIWA-7	BWR	ABWR	3926	1356	1315	TEPCO	HITACHI	1993-7	1996-12	1997-7	12.6	12.6	-
	JP -14	MIHAMA-3	PWR	M (3-loop)	2440	826	780	KEPCO	MHI	1972-8	1976-2	1976-12	7.3	7.3	-
	JP -15	OHI-1	PWR	W (4-loop)	3423	1175	1120	KEPCO	WH	1972-10	1977-12	1979-3	6.8	6.8	DS
	JP -19	OHI-2	PWR	W (4-loop)	3423	1175	1120	KEPCO	WH	1972-12	1978-10	1979-12	19.1	19.1	DS
	JP -50	OHI-3	PWR	M (4-loop)	3423	1180	1127	KEPCO	MHI	1987-10	1991-6	1991-12	27.3	27.4	-
	JP -51	OHI-4	PWR	M (4-loop)	3423	1180	1127	KEPCO	MHI	1988-6	1992-6	1993-2	34.1	34.1	-
	JP -22	ONAGAWA-1	BWR	BWR-4	1593	524	498	TOHOKU	TOSHIBA	1980-7	1983-11	1984-6	3.8	13.8	-
	JP -54	ONAGAWA-2	BWR	BWR-5	2436	825	796	TOHOKU	TOSHIBA	1991-4	1994-12	1995-7	0.0	9.4	-
	JP -57	ONAGAWA-3	BWR	BWR-5	2436	825	796	TOHOKU	TOSHIBA	1998-1	2001-5	2002-1	3.7	13.7	-
	JP -28	SENDAI-1	PWR	M (3-loop)	2660	890	846	KYUSHU	MHI	1979-12	1983-9	1984-7	14.4	14.4	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DS desalination,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
JAPAN	JP -37	SENDAI-2	PWR	M (3-loop)	2660	890	846	KYUSHU	MHI	1981-10	1985-4	1985-11	17.0	17.0	-
	JP -48	SHIKA-1	BWR	BWR-5	1593	540	505	HOKURIKU	HITACHI	1989-7	1993-1	1993-7	3.2	3.2	-
	JP -59	SHIKA-2	BWR	ABWR	3926	1206	1108	HOKURIKU	HITACHI	2001-8	2005-7	2006-3	2.8	2.8	-
	JP -41	SHIMANE-2	BWR	BWR-5	2436	820	789	CHUGOKU	HITACHI	1985-2	1988-7	1989-2	21.4	21.4	-
	JP -8	TAKAHAMA-1	PWR	M (3-loop)	2440	826	780	KEPCO	WH/MHI	1970-4	1974-3	1974-11	0.5	0.5	-
	JP -13	TAKAHAMA-2	PWR	M (3-loop)	2440	826	780	KEPCO	MHI	1971-3	1975-1	1975-11	18.0	18.0	-
	JP -29	TAKAHAMA-3	PWR	M (3-loop)	2660	870	830	KEPCO	MHI	1980-12	1984-5	1985-1	22.8	22.8	DS
	JP -30	TAKAHAMA-4	PWR	M (3-loop)	2660	870	830	KEPCO	MHI	1981-3	1984-11	1985-6	11.1	11.1	DS
	JP -21	TOKAI-2	BWR	BWR-5	3293	1100	1060	JAPCO	GE	1973-10	1978-3	1978-11	3.8	7.7	-
	JP -43	TOMARI-1	PWR	M (2-loop)	1650	579	550	HEPCO	MHI	1985-4	1988-12	1989-6	6.1	6.1	-
	JP -44	TOMARI-2	PWR	M (2-loop)	1650	579	550	HEPCO	MHI	1985-6	1990-8	1991-4	13.0	13.0	-
	JP -64	TOMARI-3	PWR	M (3-loop)	2660	912	866	HEPCO	MHI	2004-11	2009-3	2009-12	23.5	23.5	-
	JP -34	TSURUGA-2	PWR	M (4-loop)	3411	1160	1108	JAPCO	MHI	1982-11	1986-6	1987-2	6.9	6.9	-
KOREA, REP. OF	KR -7	HANBIT-1	PWR	WH F	2787	1000	997	KHNP	WH	1981-6	1986-3	1986-8	90.9	91.2	-
	KR -8	HANBIT-2	PWR	WH F	2787	993	984	KHNP	WH	1981-12	1986-11	1987-6	86.8	87.0	-
	KR -11	HANBIT-3	PWR	OPR-1000	2825	1050	994	KHNP	DHICKAEC	1989-12	1994-10	1995-3	71.9	72.2	-
	KR -12	HANBIT-4	PWR	OPR-1000	2825	1032	980	KHNP	DHICKAEC	1990-5	1995-7	1996-1	81.1	81.7	-
	KR -17	HANBIT-5	PWR	OPR-1000	2825	1053	994	KHNP	DHICKOPC	1997-6	2001-12	2002-5	83.7	84.0	-
	KR -18	HANBIT-6	PWR	OPR-1000	2825	1052	993	KHNP	DHICKOPC	1997-11	2002-9	2002-12	89.3	89.6	-
	KR -9	HANUL-1	PWR	France CPI	2785	1003	966	KHNP	FRAM	1983-1	1988-4	1988-9	88.6	88.6	-
	KR -10	HANUL-2	PWR	France CPI	2775	1008	967	KHNP	FRAM	1983-7	1989-4	1989-9	89.9	89.9	-
	KR -13	HANUL-3	PWR	OPR-1000	2825	1050	997	KHNP	DHICKOPC	1993-7	1998-1	1998-8	80.0	80.3	-
	KR -14	HANUL-4	PWR	OPR-1000	2825	1053	999	KHNP	DHICKOPC	1993-11	1998-12	1999-12	57.6	57.7	-
	KR -19	HANUL-5	PWR	OPR-1000	2815	1051	998	KHNP	DHICKOPC	1999-10	2003-12	2004-7	92.1	92.2	-
	KR -20	HANUL-6	PWR	OPR-1000	2825	1051	997	KHNP	DHICKOPC	2000-9	2005-1	2005-4	88.5	88.6	-
	KR -1	KORI-1	PWR	W △60	1729	608	576	KHNP	WH	1972-4	1977-6	1978-4	70.9	71.2	-
	KR -2	KORI-2	PWR	WH F	1882	676	640	KHNP	WH	1977-12	1983-4	1983-7	86.4	88.2	-
	KR -5	KORI-3	PWR	WH F	2912	1042	1011	KHNP	WH	1979-10	1985-1	1985-9	86.5	86.5	-
	KR -6	KORI-4	PWR	WH F	2912	1041	1012	KHNP	WH	1980-4	1985-11	1986-4	90.1	90.2	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DS desalination,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
KOREA, REP. OF	KR -21	SHIN-KORI-1	PWR	OPR-1000	2825	1049	999	KHNP	DHICKOPC	2006-6	2010-8	2011-2	77.6	77.8	-
	KR -22	SHIN-KORI-2	PWR	OPR-1000	2825	1046	996	KHNP	DHICKOPC	2007-6	2012-1	2012-7	77.0	77.2	-
	KR -23	SHIN-WOLSONG-1	PWR	OPR-1000	2825	1045	997	KHNP	DHICKOPC	2007-11	2012-1	2012-7	72.4	72.6	-
	KR -24	SHIN-WOLSONG-2	PWR	OPR-1000	2825	1045	993	KHNP	DHICKOPC	2008-9	2015-2	2015-7	99.8	100.0	-
	KR -3	WOLSONG-1	PHWR	CANDU 6	2061	685	657	KHNP	AECL	1977-10	1982-12	1983-4	80.8	80.8	-
	KR -4	WOLSONG-2	PHWR	CANDU 6	2061	675	652	KHNP	AECL/DHI	1992-6	1997-4	1997-7	90.9	91.0	-
	KR -15	WOLSONG-3	PHWR	CANDU 6	2061	688	665	KHNP	AECL/DHI	1994-3	1998-3	1998-7	90.9	91.0	-
	KR -16	WOLSONG-4	PHWR	CANDU 6	2061	691	669	KHNP	AECL/DHI	1994-7	1999-5	1999-10	90.2	90.3	-
MEXICO	MX -1	LAGUNA VERDE-1	BWR	BWR-5	2027	700	665	CFE	GE	1976-10	1989-4	1990-7	78.2	78.8	-
	MX -2	LAGUNA VERDE-2	BWR	BWR-5	2317	810	775	CFE	GE	1977-6	1994-11	1995-4	83.5	83.9	-
NETHERLANDS	NL -2	BORSSELE	PWR	2-loops KWU	1366	515	482	EPZ	S/KWU	1969-7	1973-7	1973-10	84.9	85.7	-
PAKISTAN	PK -2	CHASNUPP-1	PWR	CNP-300	999	325	300	PAEC	CNNC	1993-8	2000-6	2000-9	81.6	81.8	-
	PK -3	CHASNUPP-2	PWR	CNP-300	999	325	300	PAEC	CNNC	2005-12	2011-3	2011-5	81.4	81.5	-
	PK -1	KANUPP	PHWR	CANDU-137 MW	337	100	90	PAEC	CGE	1966-8	1971-10	1972-12	44.0	44.0	DS
ROMANIA	RO -1	CERNAVODA-1	PHWR	CANDU 6	2180	706	650	SNN	AECL	1982-7	1996-7	1996-12	94.0	94.5	DH
	RO -2	CERNAVODA-2	PHWR	CANDU 6	2180	705	650	SNN	AECL	1983-7	2007-8	2007-10	93.4	94.2	DH
RUSSIA	RU -96	BALAKOVO-1	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1980-12	1985-12	1986-5	84.7	84.9	DH, PH
	RU -97	BALAKOVO-2	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1981-8	1987-10	1988-1	84.6	85.0	DH, PH
	RU -98	BALAKOVO-3	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1982-11	1988-12	1989-4	91.3	91.4	DH, PH
	RU -99	BALAKOVO-4	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1984-4	1993-4	1993-12	90.9	90.9	DH, PH
	RU -21	BELOYARSK-3	FBR	BN-600	1470	600	560	REA	ROSATOM	1969-1	1980-4	1981-11	80.6	80.7	DH, PH
	RU -116	BELOYARSK-4	FBR	BN-800	2100	864	789	REA	ROSATOM	2006-7	2015-12	2016-12			-
	RU -141	BILIBINO-1	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1974-1	1974-4	83.3	83.3	DH
	RU -142	BILIBINO-2	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1974-12	1975-2	80.3	80.3	DH
	RU -143	BILIBINO-3	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1975-12	1976-2	84.4	84.4	DH

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DS desalination, DH district heating, PH process heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
RUSSIA	RU -144	BILIBINO-4	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1976-12	1977-1	82.4	82.4	DH
	RU -30	KALININ-1	PWR	VVER V-338	3000	1000	950	REA	ROSATOM	1977-2	1984-5	1985-6	80.4	80.4	DH, PH
	RU -31	KALININ-2	PWR	VVER V-338	3000	1000	950	REA	ROSATOM	1982-2	1986-12	1987-3	87.5	87.5	DH, PH
	RU -36	KALININ-3	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1985-10	2004-12	2005-11	84.7	84.7	PH
	RU -37	KALININ-4	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1986-8	2011-11	2012-12	86.0	86.0	-
	RU -12	KOLA-1	PWR	VVER V-230	1375	440	411	REA	ROSATOM	1970-5	1973-6	1973-12	83.6	84.0	DH, PH
	RU -13	KOLA-2	PWR	VVER V-230	1375	440	411	REA	ROSATOM	1970-5	1974-12	1975-2	84.5	84.7	DH, PH
	RU -32	KOLA-3	PWR	VVER V-213	1375	440	411	REA	ROSATOM	1977-4	1981-3	1982-12	79.1	79.1	DH, PH
	RU -33	KOLA-4	PWR	VVER V-213	1375	440	411	REA	ROSATOM	1976-8	1984-10	1984-12	81.1	81.1	DH, PH
	RU -17	KURSK-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1972-6	1976-12	1977-10	80.2	80.7	DH, PH
	RU -22	KURSK-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1973-1	1979-1	1979-8	67.7	68.1	DH, PH
	RU -38	KURSK-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1978-4	1983-10	1984-3	85.2	85.6	DH, PH
	RU -39	KURSK-4	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1981-5	1985-12	1986-2	79.8	80.3	DH, PH
	RU -15	LENINGRAD-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1970-3	1973-12	1974-11	47.1	47.8	DH, PH
	RU -16	LENINGRAD-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1970-6	1975-7	1976-2	64.8	65.0	DH, PH
	RU -34	LENINGRAD-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1973-12	1979-12	1980-6	87.1	87.3	DH, PH
	RU -35	LENINGRAD-4	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1975-2	1981-2	1981-8	86.1	86.2	DH, PH
	RU -9	NOVOVORONEZH-3	PWR	VVER V-179	1375	417	385	REA	ROSATOM	1967-7	1971-12	1972-6	84.7	85.4	DH, PH
	RU -11	NOVOVORONEZH-4	PWR	VVER V-179	1375	417	385	REA	ROSATOM	1967-7	1972-12	1973-3	85.2	86.2	DH, PH
	RU -20	NOVOVORONEZH-5	PWR	VVER V-187	3000	1000	950	REA	ROSATOM	1974-3	1980-5	1981-2	68.7	68.8	DH, PH
	RU -59	ROSTOV-1	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1981-9	2001-3	2001-12	87.0	87.0	-
	RU -62	ROSTOV-2	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1983-5	2010-3	2010-12	89.5	89.7	-
	RU -63	ROSTOV-3	PWR	VVER V-320	3000	1100	1011	REA	ROSATOM	2009-9	2014-12	2015-9	99.7	99.7	-
	RU -23	SMOLENSK-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1975-10	1982-12	1983-9	81.1	81.4	DH, PH
	RU -24	SMOLENSK-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1976-6	1985-5	1985-7	78.0	78.3	DH, PH
	RU -67	SMOLENSK-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1984-5	1990-1	1990-10	83.3	83.3	DH, PH
SLOVAKIA	SK -13	BOHUNICE-3	PWR	VVER V-213	1471	505	471	SE,plc	SKODA	1976-12	1984-8	1985-2	88.7	91.7	DH, PH
	SK -14	BOHUNICE-4	PWR	VVER V-213	1471	505	471	SE,plc	SKODA	1976-12	1985-8	1985-12	90.6	93.4	DH, PH
	SK -6	MOCHOVCE-1	PWR	VVER V-213	1471	470	436	SE,plc	SKODA	1983-10	1998-7	1998-10	92.1	92.7	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating, PH process heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
SLOVAKIA	SK -7	MOCHOVCE-2	PWR	VVER V-213	1471	470	436	SE,plc	SKODA	1983-10	1999-12	2000-4	91.4	92.5	-
SLOVENIA	SI -1	KRSKO	PWR	W (2-loop)	1994	727	688	NEK	WH	1975-3	1981-10	1983-1	91.3	91.7	-
SOUTH AFRICA	ZA -1	KOEBERG-1	PWR	CP1	2775	970	930	ESKOM	FRAM	1976-7	1984-4	1984-7	81.2	81.2	-
	ZA -2	KOEBERG-2	PWR	CP1	2775	970	930	ESKOM	FRAM	1976-7	1985-7	1985-11	79.2	80.5	-
SPAIN	ES -6	ALMARAZ-1	PWR	W (3-loop)	2947	1049	1011	CNAT	WH	1973-7	1981-5	1983-9	86.8	88.1	-
	ES -7	ALMARAZ-2	PWR	W (3-loop)	2947	1044	1006	CNAT	WH	1973-7	1983-10	1984-7	87.3	88.2	-
	ES -8	ASCO-1	PWR	W (3-loop)	2954	1033	995	ANAV	WH	1974-5	1983-8	1984-12	85.2	86.0	-
	ES -9	ASCO-2	PWR	W (3-loop)	2941	1035	997	ANAV	WH	1975-3	1985-10	1986-3	85.8	87.2	-
	ES -10	COFRENTES	BWR	BWR-6	3237	1102	1064	ID	GE	1975-9	1984-10	1985-3	88.5	89.9	-
	ES -11	TRILLO-1	PWR	PWR 3 loops	3010	1066	1003	CNAT	KWU	1979-8	1988-5	1988-8	88.7	89.9	-
	ES -16	VANDELLOS-2	PWR	W (3-loop)	2941	1087	1045	ANAV	WH	1980-12	1987-12	1988-3	84.9	86.2	-
SWEDEN	SE -9	FORSMARK-1	BWR	ABB-III, BWR-2	2928	1022	984	FKA	ABBATOM	1973-6	1980-6	1980-12	85.2	85.9	-
	SE -11	FORSMARK-2	BWR	ABB-III, BWR-2	3253	1158	1120	FKA	ABBATOM	1975-1	1981-1	1981-7	90.0	90.7	-
	SE -14	FORSMARK-3	BWR	ABB-III, BWR-3	3300	1203	1167	FKA	ABBATOM	1979-1	1985-3	1985-8	80.8	81.6	-
	SE -2	OSKARSHAMN-1	BWR	ABB-I	1375	492	473	OKG	ABBATOM	1966-8	1971-8	1972-2	44.1	44.9	-
	SE -3	OSKARSHAMN-2	BWR	ABB-II	1800	661	638	OKG	ABBATOM	1969-9	1974-10	1975-1	35.9	36.4	-
	SE -12	OSKARSHAMN-3	BWR	ABB-III, BWR-3	3900	1450	1400	OKG	ABBATOM	1980-5	1985-3	1985-8	74.0	75.6	-
	SE -4	RINGHALS-1	BWR	ABB-I	2540	910	881	RAB	ABBATOM	1969-2	1974-10	1976-1	75.2	76.9	-
	SE -5	RINGHALS-2	PWR	W (3-loops)	2500	847	807	RAB	WH	1970-10	1974-8	1975-5	44.1	45.1	-
	SE -7	RINGHALS-3	PWR	W (3-loops)	3135	1117	1063	RAB	WH	1972-9	1980-9	1981-9	81.8	84.6	-
	SE -10	RINGHALS-4	PWR	W (3-loops)	3300	1181	1115	RAB	WH	1973-11	1982-6	1983-11	76.4	78.5	-
SWITZERLAND	CH -1	BEZNAU-1	PWR	W (2-loop)	1130	380	365	Axpo AG	WH	1965-9	1969-7	1969-9	77.9	77.9	DH
	CH -3	BEZNAU-2	PWR	W (2-loop)	1130	380	365	Axpo AG	WH	1968-1	1971-10	1971-12	84.8	84.9	DH
	CH -4	GOESGEN	PWR	PWR 3 Loop	3002	1060	1010	KKG	KWU	1973-12	1979-2	1979-11	87.9	88.1	PH
	CH -5	LEIBSTADT	BWR	BWR-6	3600	1275	1220	KKL	GETSCO	1974-1	1984-5	1984-12	85.0	86.4	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating, PH process heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor Code	Reactor Name	Type	Model	Capacity (MW) Thermal	Capacity (MW) Gross	Capacity (MW) Net	Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
SWITZERLAND	CH -2	MUEHLEBERG	BWR	BWR-4	1097	390	373	BKW	GETSCO	1967-3	1971-7	1972-11	87.8	87.8	-
UK	GB -18A	DUNGENESS B-1	GCR	AGR	1500	615	525	EDF UK	APC	1965-10	1983-4	1985-4	50.2	50.2	-
	GB -18B	DUNGENESS B-2	GCR	AGR	1500	615	525	EDF UK	APC	1965-10	1985-12	1989-4	46.1	46.1	-
	GB -19A	HARTLEPOOL A-1	GCR	AGR	1500	655	595	EDF UK	NPC	1968-10	1983-8	1989-4	67.8	67.8	-
	GB -19B	HARTLEPOOL A-2	GCR	AGR	1500	655	585	EDF UK	NPC	1968-10	1984-10	1989-4	68.7	68.7	-
	GB -20A	HEYSHAM A-1	GCR	AGR	1500	625	580	EDF UK	NPC	1970-12	1983-7	1989-4	57.2	57.2	-
	GB -20B	HEYSHAM A-2	GCR	AGR	1500	625	575	EDF UK	NPC	1970-12	1984-10	1989-4	64.6	64.6	-
	GB -22A	HEYSHAM B-1	GCR	AGR	1550	680	615	EDF UK	NPC	1980-8	1988-7	1989-4	82.3	82.3	-
	GB -22B	HEYSHAM B-2	GCR	AGR	1550	680	615	EDF UK	NPC	1980-8	1988-11	1989-4	89.5	89.5	-
	GB -16A	HINKLEY POINT B-1	GCR	AGR	1494	655	480	EDF UK	TNPG	1967-9	1976-10	1978-10	87.4	87.4	-
	GB -16B	HINKLEY POINT B-2	GCR	AGR	1494	655	475	EDF UK	TNPG	1967-9	1976-2	1976-9	84.8	84.8	-
	GB -17A	HUNTERSTON B-1	GCR	AGR	1496	644	480	EDF UK	TNPG	1967-11	1976-2	1976-2	85.2	85.6	-
	GB -17B	HUNTERSTON B-2	GCR	AGR	1496	644	485	EDF UK	TNPG	1967-11	1977-3	1977-3	83.7	83.8	-
	GB -24	SIZEWELL B	PWR	SNUPPS	3425	1250	1198	EDF UK	PPC	1988-7	1995-2	1995-9	87.8	87.8	-
	GB -23A	TORNESS-1	GCR	AGR	1623	682	590	EDF UK	NNC	1980-8	1988-5	1988-5	87.9	88.9	-
	GB -23B	TORNESS-2	GCR	AGR	1623	682	595	EDF UK	NNC	1980-8	1989-2	1989-2	81.2	82.1	-
UKRAINE	UA -40	KHMELNITSKI-1	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1981-11	1987-12	1988-8	76.9	77.6	DH
	UA -41	KHMELNITSKI-2	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1985-2	2004-8	2005-12	80.1	82.0	DH
	UA -27	ROVNO-1	PWR	VVER V-213	1375	420	381	NNEGC	PAIP	1973-8	1980-12	1981-9	85.3	85.9	DH
	UA -28	ROVNO-2	PWR	VVER V-213	1375	415	376	NNEGC	PAIP	1973-10	1981-12	1982-7	82.0	82.7	DH
	UA -29	ROVNO-3	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1980-2	1986-12	1987-5	74.6	76.3	DH
	UA -69	ROVNO-4	PWR	VVER V-320	3000	1000	950	NNEGC	PAA	1986-8	2004-10	2006-4	80.7	82.8	DH
	UA -44	SOUTH UKRAINE-1	PWR	VVER V-302	3000	1000	950	NNEGC	PAA	1976-8	1982-12	1983-12	62.4	67.6	DH
	UA -45	SOUTH UKRAINE-2	PWR	VVER V-338	3000	1000	950	NNEGC	PAA	1981-7	1985-1	1985-4	65.5	68.5	DH
	UA -48	SOUTH UKRAINE-3	PWR	VVER V-320	3000	1000	950	NNEGC	PAA	1984-11	1989-9	1989-12	67.0	72.5	DH
	UA -54	ZAPOROZHYE-1	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1980-4	1984-12	1985-12	75.6	77.5	DH
	UA -56	ZAPOROZHYE-2	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1981-1	1985-7	1986-2	76.8	79.4	DH
	UA -78	ZAPOROZHYE-3	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1982-4	1986-12	1987-3	80.5	82.6	DH

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
UKRAINE	UA -79	ZAPOROZHYE-4	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1983-4	1987-12	1988-4	78.3	79.8	DH
	UA -126	ZAPOROZHYE-5	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1985-11	1989-8	1989-10	80.1	83.2	DH
	UA -127	ZAPOROZHYE-6	PWR	VVER V-320	3000	1000	950	NNEGC	PAIP	1986-6	1995-10	1996-9	80.1	82.1	DH
USA	US -313	ANO-1	PWR	B&W (L-loop) D	2568	903	836	ENTERGY	B&W	1968-10	1974-8	1974-12	88.2	88.2	-
	US -368	ANO-2	PWR	CE (2-loop) DR	3026	1065	993	ENTERGY	CE	1968-12	1978-12	1980-3	88.4	88.4	-
	US -334	BEAVER VALLEY-1	PWR	W (3-loop)	2900	959	921	FENOC	WH	1970-6	1976-6	1976-10	92.7	92.7	-
	US -412	BEAVER VALLEY-2	PWR	W (3-loop)	2900	958	904	FENOC	WH	1974-5	1987-8	1987-11	91.5	91.5	-
	US -456	BRAIDWOOD-1	PWR	W (4-loop)	3645	1270	1194	EXELON	WH	1975-8	1987-7	1988-7	95.9	95.9	-
	US -457	BRAIDWOOD-2	PWR	W (4-loop) DRY	3645	1230	1160	EXELON	WH	1975-8	1988-5	1988-10	94.8	94.8	-
	US -259	BROWNS FERRY-1	BWR	BWR-4 (Mark 1	3458	1155	1101	TVA	GE	1967-5	1973-10	1974-8	93.2	94.5	-
	US -260	BROWNS FERRY-2	BWR	BWR-4 (Mark 1	3458	1155	1104	TVA	GE	1967-5	1974-8	1975-3	91.1	92.6	-
	US -296	BROWNS FERRY-3	BWR	BWR-4 (Mark 1	3458	1155	1105	TVA	GE	1968-7	1976-9	1977-3	92.0	93.8	-
	US -325	BRUNSWICK-1	BWR	BWR-4 (Mark 1	2923	990	938	PROGRESS	GE	1970-2	1976-12	1977-3	92.0	92.0	-
	US -324	BRUNSWICK-2	BWR	BWR-4 (Mark 1	2923	960	920	PROGRESS	GE	1970-2	1975-4	1975-11	89.4	89.4	-
	US -454	BYRON-1	PWR	W (4-loop) (DR	3645	1242	1164	EXELON	WH	1975-4	1985-3	1985-9	93.5	93.9	-
	US -455	BYRON-2	PWR	W (4-Loop) (DR	3645	1210	1136	EXELON	WH	1975-4	1987-2	1987-8	95.2	95.2	-
	US -483	CALLAWAY-1	PWR	W (4-loop) DRY	3565	1275	1215	AmerenUE	WH	1975-9	1984-10	1984-12	91.0	91.0	-
	US -317	CALVERT CLIFFS-1	PWR	CE (2-loop) DR	2737	918	866	EXELON	CE	1968-6	1975-1	1975-5	93.5	93.8	-
	US -318	CALVERT CLIFFS-2	PWR	CE (2-loop) DR	2737	911	850	EXELON	CE	1968-6	1976-12	1977-4	93.7	93.8	-
	US -413	CATAWBA-1	PWR	W (4-loop) (IC	3411	1188	1146	DUKEENER	WH	1974-5	1985-1	1985-6	90.5	90.5	-
	US -414	CATAWBA-2	PWR	W (4-loop) (IC	3411	1188	1146	DUKEENER	WH	1974-5	1986-5	1986-8	93.9	93.9	-
	US -461	CLINTON-1	BWR	BWR-6 (Mark 3	3473	1098	1065	EXELON	GE	1975-10	1987-4	1987-11	95.0	95.0	-
	US -397	COLUMBIA	BWR	BWR-5 (Mark 2	3486	1190	1107	ENERGYNW	GE	1972-8	1984-5	1984-12	84.3	84.5	-
	US -445	COMANCHE PEAK-1	PWR	W (4-loop) DRY	3612	1259	1218	LUMINANT	WH	1974-12	1990-4	1990-8	93.5	93.5	-
	US -446	COMANCHE PEAK-2	PWR	W (4-loop) DRY	3612	1250	1207	LUMINANT	WH	1974-12	1993-4	1993-8	92.9	92.9	-
	US -315	COOK-1	PWR	W (4-loop) ICE	3304	1100	1045	AEP	WH	1969-3	1975-2	1975-8	89.8	89.8	-
	US -316	COOK-2	PWR	W (4-loop) ICE	3468	1151	1107	AEP	WH	1969-3	1978-3	1978-7	93.0	93.0	-
	US -298	COOPER	BWR	BWR-4 (Mark 1	2419	801	768	ENTERGY	GE	1968-6	1974-5	1974-7	91.7	91.7	-
	US -346	DAVIS BESSE-1	PWR	B&W (R-loop)	2817	925	894	FENOC	B&W	1970-9	1977-8	1978-7	87.8	87.8	-

Note: The column "Non-electrical applications" indicates the use of the facility to provide: DH district heating,

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
USA	US-275	DIABLO CANYON-1	PWR	W (4-loop)	3411	1197	1138	PG&E	WH	1968-4	1984-11	1985-5	92.0	92.0	-
	US-323	DIABLO CANYON-2	PWR	W (4-loop)	3411	1197	1118	PG&E	WH	1970-12	1985-10	1986-3	92.2	92.3	-
	US-237	DRESDEN-2	BWR	BWR-3 (Mark 1	2957	950	894	EXELON	GE	1966-1	1970-4	1970-6	94.7	94.7	-
	US-249	DRESDEN-3	BWR	BWR-3 (Mark 1	2957	935	879	EXELON	GE	1966-10	1971-7	1971-11	97.1	97.1	-
	US-331	DUANE ARNOLD-1	BWR	BWR-4 (Mark 1	1912	624	601	NEXTERA	GE	1970-6	1974-5	1975-2	93.6	93.6	-
	US-348	FARLEY-1	PWR	W (3-loop)	2775	918	874	SOUTHERN	WH	1970-10	1977-8	1977-12	94.0	94.0	-
	US-364	FARLEY-2	PWR	W (3-loop) DRY	2775	928	883	SOUTHERN	WH	1970-10	1981-5	1981-7	93.8	93.8	-
	US-341	FERMI-2	BWR	BWR-4 (Mark 1	3486	1198	1122	DTEDISON	GE	1972-9	1986-9	1988-1	82.0	82.0	-
	US-333	FITZPATRICK	BWR	BWR-4 (Mark 1	2536	849	813	ENTERGY	GE	1968-9	1975-2	1975-7	94.2	94.2	-
	US-285	FORT CALHOUN-1	PWR	CE (2-loop)	1500	512	482	OPPD	CE	1968-6	1973-8	1973-9	41.6	41.6	-
	US-244	GINNA	PWR	W (2-loop)	1775	608	580	EXELON	WH	1966-4	1969-12	1970-7	92.9	92.9	-
	US-416	GRAND GULF-1	BWR	BWR-6 (Mark 3	4408	1500	1419	ENTERGY	GE	1974-5	1984-10	1985-7	88.9	88.9	-
	US-400	HARRIS-1	PWR	W (3-loop) DRY	2900	960	928	PROGRESS	WH	1978-1	1987-1	1987-5	91.3	91.3	-
	US-321	HATCH-1	BWR	BWR-4 (Mark 1	2804	911	876	SOUTHERN	GE	1968-9	1974-11	1975-12	94.6	94.6	-
	US-366	HATCH-2	BWR	BWR-4 (Mark 1	2804	921	883	SOUTHERN	GE	1972-2	1978-9	1979-9	92.4	92.4	-
	US-354	HOPE CREEK-1	BWR	BWR-4 (Mark 1	3840	1240	1172	PSEG	GE	1976-3	1986-8	1986-12	93.8	93.8	-
	US-247	INDIAN POINT-2	PWR	W (4-loop) DRY	3216	1067	1020	ENTERGY	WH	1966-10	1973-6	1974-8	96.0	96.0	-
	US-286	INDIAN POINT-3	PWR	W (4-loop) DRY	3216	1085	1040	ENTERGY	WH	1968-11	1976-4	1976-8	93.0	93.1	-
	US-373	LASALLE-1	BWR	BWR-5 (Mark 2	3546	1207	1137	EXELON	GE	1973-9	1982-9	1984-1	96.7	96.7	-
	US-374	LASALLE-2	BWR	BWR-5 (Mark 2	3546	1207	1140	EXELON	GE	1973-9	1984-4	1984-10	94.4	94.4	-
	US-352	LIMERICK-1	BWR	BWR-4 (Mark 2	3515	1194	1130	EXELON	GE	1974-6	1985-4	1986-2	94.7	94.7	-
	US-353	LIMERICK-2	BWR	BWR-4 (Mark 2	3515	1194	1134	EXELON	GE	1974-6	1989-9	1990-1	93.7	93.7	-
	US-369	MCGUIRE-1	PWR	W (4-loop) ICE	3411	1215	1160	DUKEENER	WH	1971-4	1981-9	1981-12	92.0	92.0	-
	US-370	MCGUIRE-2	PWR	W (4-loop) (IC	3411	1215	1158	DUKEENER	WH	1971-4	1983-5	1984-3	90.1	90.1	-
	US-336	MILLSTONE-2	PWR	COMB CE DRY	2700	918	869	DOMINION	CE	1969-11	1975-11	1975-12	89.4	89.4	-
	US-423	MILLSTONE-3	PWR	W (4-loop) DRY	3650	1280	1229	DOMINION	WH	1974-8	1986-2	1986-4	93.3	93.3	-
	US-263	MONTICELLO	BWR	BWR-3	2004	691	647	NSP	GE	1967-6	1971-3	1971-6	81.9	81.9	-
	US-220	NINE MILE POINT-1	BWR	BWR-2 (Mark 1	1850	642	613	EXELON	GE	1965-4	1969-11	1969-12	92.1	92.1	-
	US-410	NINE MILE POINT-2	BWR	BWR-5 (Mark 2	3988	1320	1277	EXELON	GE	1975-8	1987-8	1988-3	92.9	92.9	-
	US-338	NORTH ANNA-1	PWR	W (3-loop)	2940	990	948	DOMINION	WH	1971-2	1978-4	1978-6	88.9	93.4	-

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
USA	US -339	NORTH ANNA-2	PWR	W (3-loop)	2940	1011	943	DOMINION	WH	1971-2	1980-8	1980-12	89.8	94.8	-
	US -269	OCONEE-1	PWR	B&W (L-loop)	2568	891	846	DUKEENER	B&W	1967-11	1973-5	1973-7	90.6	90.6	-
	US -270	OCONEE-2	PWR	B&W (L-loop)	2568	891	848	DUKEENER	B&W	1967-11	1973-12	1974-9	93.8	93.8	-
	US -287	OCONEE-3	PWR	B&W (L-loop)	2568	900	859	DUKEENER	B&W	1967-11	1974-9	1974-12	95.0	95.0	-
	US -219	OYSTER CREEK	BWR	BWR-2 (Mark 1	1930	652	619	EXELON	GE	1964-12	1969-9	1969-12	93.5	93.6	-
	US -255	PALISADES	PWR	CE (2-loop) DR	2565	850	805	ENTERGY	CE	1967-3	1971-12	1971-12	86.6	86.6	-
	US -528	PALO VERDE-1	PWR	CE (2-loop) DR	3990	1414	1311	APS	CE	1976-5	1985-6	1986-1	93.4	93.4	-
	US -529	PALO VERDE-2	PWR	COMB CE80 D	3990	1414	1314	APS	CE	1976-6	1986-5	1986-9	91.6	91.6	-
	US -530	PALO VERDE-3	PWR	COMB CE80 D	3990	1414	1312	APS	CE	1976-6	1987-11	1988-1	93.0	93.0	-
	US -277	PEACH BOTTOM-2	BWR	BWR-4 (Mark 1	3951	1412	1308	EXELON	GE	1968-1	1974-2	1974-7	95.3	95.3	-
	US -278	PEACH BOTTOM-3	BWR	BWR-4 (Mark 1	3951	1412	1308	EXELON	GE	1968-1	1974-9	1974-12	93.9	93.9	-
	US -440	PERRY-1	BWR	BWR-6 (Mark 3	3758	1303	1256	FENOC	GE	1974-10	1986-12	1987-11	88.7	88.7	-
	US -293	PILGRIM-1	BWR	BWR-3 (Mark 1	2028	711	677	ENTERGY	GE	1968-8	1972-7	1972-12	90.6	91.4	-
	US -266	POINT BEACH-1	PWR	W (2-loop) DRY	1800	640	591	NEXTERA	WH	1967-7	1970-11	1970-12	92.3	92.3	-
	US -301	POINT BEACH-2	PWR	W (2-loop) DRY	1800	640	591	NEXTERA	WH	1968-7	1972-8	1972-10	89.3	89.3	-
	US -282	PRAIRIE ISLAND-1	PWR	W (2-loop) DRY	1677	566	522	NSP	WH	1968-6	1973-12	1973-12	87.1	87.1	-
	US -306	PRAIRIE ISLAND-2	PWR	W (2-loop) DRY	1677	560	518	NSP	WH	1969-6	1974-12	1974-12	82.6	82.6	-
	US -254	QUAD CITIES-1	BWR	BWR-3 (Mark 1	2957	940	908	EXELON	GE	1967-2	1972-4	1973-2	95.2	95.2	-
	US -265	QUAD CITIES-2	BWR	BWR-3 (Mark 1	2957	940	911	EXELON	GE	1967-2	1972-5	1973-3	96.1	96.1	-
	US -458	RIVER BEND-1	BWR	BWR-6 (Mark 3	3091	1016	967	ENTERGY	GE	1977-3	1985-12	1986-6	91.6	91.6	-
	US -261	ROBINSON-2	PWR	W (3-loop) DRY	2339	780	741	PROGRESS	WH	1967-4	1970-9	1971-3	88.3	88.3	-
	US -272	SALEM-1	PWR	W (4-loop) DRY	3459	1254	1169	PSEG	WH	1968-9	1976-12	1977-6	91.9	92.2	-
	US -311	SALEM-2	PWR	W (4-loop) DRY	3459	1200	1158	PSEG	WH	1968-9	1981-6	1981-10	88.2	88.2	-
	US -443	SEABROOK-1	PWR	W (4-loop) DRY	3648	1296	1246	NEXTERA	WH	1976-7	1990-5	1990-8	89.7	89.7	-
	US -327	SEQUOYAH-1	PWR	W (4-loop) ICE	3455	1221	1152	TVA	WH	1970-5	1980-7	1981-7	92.0	92.0	-
	US -328	SEQUOYAH-2	PWR	W (4-loop) (IC	3455	1200	1125	TVA	WH	1970-5	1981-12	1982-6	89.3	89.3	-
	US -498	SOUTH TEXAS-1	PWR	W (4-loop)	3853	1354	1280	STP	WH	1975-12	1988-3	1988-8	86.9	86.9	-
	US -499	SOUTH TEXAS-2	PWR	W (4-loop) DRY	3853	1354	1280	STP	WH	1975-12	1989-4	1989-6	80.7	80.7	-
	US -335	ST. LUCIE-1	PWR	COMB CE DRY	3020	1045	982	FPL	CE	1970-7	1976-5	1976-12	85.9	85.9	-
	US -389	ST. LUCIE-2	PWR	COMB CE DRY	3020	1050	987	FPL	CE	1977-6	1983-6	1983-8	80.1	80.3	-

TABLE 14. OPERATIONAL REACTORS, 31 DEC. 2015 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2011-2015	UCF % 2011-2015	Non-electrical applics
	Code	Name			Thermal	Gross	Net								
USA	US -395	SUMMER-1	PWR	W (3-loop) DRY	2900	1006	971	SCE&G	WH	1973-3	1982-11	1984-1	86.6	86.6	-
	US -280	SURRY-1	PWR	W (3-loop) DRY	2587	890	838	DOMINION	WH	1968-6	1972-7	1972-12	91.4	91.8	-
	US -281	SURRY-2	PWR	W (3-loop) DRY	2587	890	838	DOMINION	WH	1968-6	1973-3	1973-5	88.4	88.4	-
	US -387	SUSQUEHANNA-1	BWR	BWR-4 (Mark 2	3952	1330	1257	PPL_SUSQ	GE	1973-11	1982-11	1983-6	86.1	86.1	-
	US -388	SUSQUEHANNA-2	BWR	BWR-4 (Mark 2	3952	1330	1257	PPL_SUSQ	GE	1973-11	1984-7	1985-2	84.4	84.4	-
	US -289	THREE MILE ISLAND-1	PWR	B&W (L-loop)	2568	880	819	EXELON	B&W	1968-5	1974-6	1974-9	94.2	94.2	-
	US -250	TURKEY POINT-3	PWR	W (3-loop) DRY	2644	829	802	FPL	WH	1967-4	1972-11	1972-12	82.1	82.1	-
	US -251	TURKEY POINT-4	PWR	W (3-loop) DRY	2644	829	802	FPL	WH	1967-4	1973-6	1973-9	85.8	85.8	-
	US -424	VOGTLE-1	PWR	W (4-loop) DRY	3626	1229	1150	SOUTHERN	WH	1976-8	1987-3	1987-6	92.1	92.1	-
	US -425	VOGTLE-2	PWR	W (4-loop) DRY	3626	1229	1152	SOUTHERN	WH	1976-8	1989-4	1989-5	94.4	94.4	-
	US -382	WATERFORD-3	PWR	CE (2-loop)	3716	1250	1168	ENTERGY	CE	1974-11	1985-3	1985-9	87.1	87.4	-
	US -390	WATTS BAR-1	PWR	W (4-loop) (IC	3459	1210	1123	TVA	WH	1973-7	1996-2	1996-5	89.1	89.2	-
	US -482	WOLF CREEK	PWR	W (4-loop)	3565	1285	1200	WCNOC	WH	1977-5	1985-6	1985-9	77.5	77.5	-

Note: Status as of 31 December 2015, 441 reactors (382855 MW) were connected to the grid, including 6 units (5052 MW) in Taiwan, China.

TAIWAN, CN	TW -1	CHINSHAN-1	BWR	BWR-4	1840	636	604	TPC	GE	1972-6	1977-11	1978-12	84.1	84.2	-
TAIWAN, CN	TW -2	CHINSHAN-2	BWR	BWR-4	1840	636	604	TPC	GE	1973-12	1978-12	1979-7	90.5	90.7	-
TAIWAN, CN	TW -3	KUOSHENG-1	BWR	BWR-6	2894	1020	985	TPC	GE	1975-11	1981-5	1981-12	89.4	90.1	-
TAIWAN, CN	TW -4	KUOSHENG-2	BWR	BWR-6	2894	1020	985	TPC	GE	1976-3	1982-6	1983-3	93.6	94.1	-
TAIWAN, CN	TW -5	MAANSHAN-1	PWR	WE 312 (3 loop	2822	951	936	TPC	WH	1978-8	1984-5	1984-7	92.0	92.1	-
TAIWAN, CN	TW -6	MAANSHAN-2	PWR	WE 312 (3 loop	2822	951	938	TPC	WH	1979-2	1985-2	1985-5	87.0	87.2	-

TABLE 15. REACTORS IN LONG TERM SHUTDOWN , 31 DEC. 2015

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Long term shutdown date
	Code	Name			Thermal	Gross	Net						
JAPAN	JP -31	MONJU	FBR	-	714	280	246	JAEA	T/H/F/M	1986-5	1995-8	—	1995-12
SPAIN	ES -2	SANTA MARIA DE GARONA	BWR	BWR-3	1381	466	446	NUCLENOR	GE	1966-9	1971-3	1971-5	2013-7

Note: Status as of 31 December 2015, 2 reactors (692 MW) were in long term shutdown.

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
ARMENIA	AM -18	ARMENIAN-1	PWR	1375	408	376	ANPPCJSC	FAEA	1969-7	1976-12	1977-10	1989-2
BELGIUM	BE -1	BR-3	PWR	41	12	10	CEN/SCK	WH	1957-11	1962-10	1962-10	1987-6
BULGARIA	BG -1	KOZLODUY-1	PWR	1375	440	408	KOZNPP	AEE	1970-4	1974-7	1974-10	2002-12
	BG -2	KOZLODUY-2	PWR	1375	440	408	KOZNPP	AEE	1970-4	1975-8	1975-11	2002-12
	BG -3	KOZLODUY-3	PWR	1375	440	408	KOZNPP	AEE	1973-10	1980-12	1981-1	2006-12
	BG -4	KOZLODUY-4	PWR	1375	440	408	KOZNPP	AEE	1973-10	1982-5	1982-6	2006-12
CANADA	CA -2	DOUGLAS POINT	PHWR	704	218	206	OH	AECL	1960-2	1967-1	1968-9	1984-5
	CA -3	GENTILLY-1	HWLWR	792	266	250	HQ	AECL	1966-9	1971-4	1972-5	1977-6
	CA -12	GENTILLY-2	PHWR	2156	675	635	HQ	AECL	1974-4	1982-12	1983-10	2012-12
	CA -5	PICKERING-2	PHWR	1744	542	515	OPG	OH/AECL	1966-9	1971-10	1971-12	2007-5
	CA -6	PICKERING-3	PHWR	1744	542	515	OPG	OH/AECL	1967-12	1972-5	1972-6	2008-10
	CA -1	ROLPHTON NPD	PHWR	92	25	22	OH	CGE	1958-1	1962-6	1962-10	1987-8
FRANCE	FR -9	BUGEY-1	GCR	1954	555	540	EDF	FRAM	1965-12	1972-4	1972-7	1994-5
	FR -2	CHINON A-1	GCR	300	80	70	EDF	LEVIVIER	1957-2	1963-6	1964-2	1973-4
	FR -3	CHINON A-2	GCR	800	230	180	EDF	LEVIVIER	1959-8	1965-2	1965-2	1985-6
	FR -4	CHINON A-3	GCR	1170	480	360	EDF	GTM	1961-3	1966-8	1966-8	1990-6
	FR -5	CHOOZ-A (ARDENNES)	PWR	1040	320	305	SENA	A/F/W	1962-1	1967-4	1967-4	1991-10
	FR -6	EL-4 (MONTS D'ARREE)	HWGCR	250	75	70	EDF	GAAA	1962-7	1967-7	1968-6	1985-7
	FR -1B	G-2 (MARCOULE)	GCR	260	43	39	COGEMA	SACM	1955-3	1959-4	1959-4	1980-2
	FR -1	G-3 (MARCOULE)	GCR	260	43	40	COGEMA	SACM	1956-3	1960-4	1960-4	1984-6
	FR -10	PHENIX	FBR	345	142	130	CEA/EDF	CNCLNEY	1968-11	1973-12	1974-7	2010-2
	FR -7	ST. LAURENT A-1	GCR	1650	500	390	EDF	FRAM	1963-10	1969-3	1969-6	1990-4
	FR -8	ST. LAURENT A-2	GCR	1475	530	465	EDF	FRAM	1966-1	1971-8	1971-11	1992-5
	FR -24	SUPER-PHENIX	FBR	3000	1242	1200	EDF	ASPALDO	1976-12	1986-1	1986-12	1998-12
GERMANY	DE -4	AVR JUELICH	HTGR	46	15	13	AVR	BBK	1961-8	1967-12	1969-5	1988-12
	DE -12	BIBLIS-A	PWR	3517	1225	1167	RWE	KWU	1970-1	1974-8	1975-2	2011-8

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
GERMANY	DE -18	BIBLIS-B	PWR	3733	1300	1240	RWE	KWU	1972-2	1976-4	1977-1	2011-8
	DE -13	BRUNSBUETTEL	BWR	2292	806	771	KKB	KWU	1970-4	1976-7	1977-2	2011-8
	DE -23	GRAFENRHEINFELD	PWR	3765	1345	1275	E.ON	KWU	1975-1	1981-12	1982-6	2015-6
	DE -502	GREIFSWALD-1	PWR	1375	440	408	EWN	AtEE	1970-3	1973-12	1974-7	1990-2
	DE -503	GREIFSWALD-2	PWR	1375	440	408	EWN	AtEE	1970-3	1974-12	1975-4	1990-2
	DE -504	GREIFSWALD-3	PWR	1375	440	408	EWN	AtEE	1972-4	1977-10	1978-5	1990-2
	DE -505	GREIFSWALD-4	PWR	1375	440	408	EWN	AtEE	1972-4	1979-9	1979-11	1990-7
	DE -506	GREIFSWALD-5	PWR	1375	440	408	EWN	AtEE	1976-12	1989-4	1989-11	1989-11
	DE -3	GUNDREMMINGEN-A	BWR	801	250	237	KGB	AEG,GE	1962-12	1966-12	1967-4	1977-1
	DE -7	HDR GROSSWELZHEIM	BWR	100	27	25	HDR	AEG,KWU	1965-1	1969-10	1970-8	1971-4
	DE -16	ISAR-1	BWR	2575	912	878	E.ON	KWU	1972-5	1977-12	1979-3	2011-8
	DE -8	KNK II	FBR	58	21	17	KBG	IA	1974-9	1978-4	1979-3	1991-8
	DE -20	KRUEMMEL	BWR	3690	1402	1346	KKK	KWU	1974-4	1983-9	1984-3	2011-8
	DE -6	LINGEN	BWR	520	268	183	KWL	AEG	1964-10	1968-7	1968-10	1977-1
	DE -22	MUELHEIM-KAERLICH	PWR	3760	1302	1219	KGG	BBR	1975-1	1986-3	1987-8	1988-9
	DE -2	MZFR	PHWR	200	57	52	KBG	SIEMENS	1961-12	1966-3	1966-12	1984-5
	DE -15	NECKARWESTHEIM-1	PWR	2497	840	785	EnKK	KWU	1972-2	1976-6	1976-12	2011-8
	DE -11	NIEDERAICHBACH	HWGCR	321	106	100	KKN	SIEM,KWU	1966-6	1973-1	1973-1	1974-7
	DE -5	OBRIGHEIM	PWR	1050	357	340	EnBW	SIEM,KWU	1965-3	1968-10	1969-3	2005-5
	DE -14	PHILIPPSBURG-1	BWR	2575	926	890	EnKK	KWU	1970-10	1979-5	1980-3	2011-8
	DE -501	RHEINSBERG	PWR	265	70	62	EWN	AtEE	1960-1	1966-5	1966-10	1990-6
	DE -10	STADE	PWR	1900	672	640	E.ON	KWU	1967-12	1972-1	1972-5	2003-11
	DE -19	THTR-300	HTGR	760	308	296	HKG	HRB	1971-5	1985-11	1987-6	1988-9
	DE -17	UNTERWESER	PWR	3900	1410	1345	E.ON	KWU	1972-7	1978-9	1979-9	2011-8
	DE -1	VAK KAHL	BWR	60	16	15	VAK	GE,AEG	1958-7	1961-6	1962-2	1985-11
	DE -9	WUERGASSEN	BWR	1912	670	640	PE	AEG,KWU	1968-1	1971-12	1975-11	1994-8
ITALY	IT -4	CAORSO	BWR	2651	882	860	SOGIN	AMN/GETS	1970-1	1978-5	1981-12	1990-7
	IT -3	ENRICO FERMI	PWR	870	270	260	SOGIN	EL/WEST	1961-7	1964-10	1965-1	1990-7
	IT -2	GARIGLIANO	BWR	506	160	150	SOGIN	GE	1959-11	1964-1	1964-6	1982-3
	IT -1	LATINA	GCR	660	160	153	SOGIN	TNPG	1958-11	1963-5	1964-1	1987-12
JAPAN	JP -20	FUGEN ATR	HWLWR	557	165	148	JAEA	HITACHI	1972-5	1978-7	1979-3	2003-3

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
JAPAN	JP -5	FUKUSHIMA-DAIICHI-1	BWR	1380	460	439	TEPCO	GE/GETSC	1967-7	1970-11	1971-3	2011-5
	JP -9	FUKUSHIMA-DAIICHI-2	BWR	2381	784	760	TEPCO	GE/T	1969-6	1973-12	1974-7	2011-5
	JP -10	FUKUSHIMA-DAIICHI-3	BWR	2381	784	760	TEPCO	TOSHIBA	1970-12	1974-10	1976-3	2011-5
	JP -16	FUKUSHIMA-DAIICHI-4	BWR	2381	784	760	TEPCO	HITACHI	1973-2	1978-2	1978-10	2011-5
	JP -17	FUKUSHIMA-DAIICHI-5	BWR	2381	784	760	TEPCO	TOSHIBA	1972-5	1977-9	1978-4	2013-12
	JP -18	FUKUSHIMA-DAIICHI-6	BWR	3293	1100	1067	TEPCO	GE/T	1973-10	1979-5	1979-10	2013-12
	JP -12	GENKAI-1	PWR	1650	559	529	KYUSHU	MHI	1971-9	1975-2	1975-10	2015-4
	JP -11	HAMAOKA-1	BWR	1593	540	515	CHUBU	TOSHIBA	1971-6	1974-8	1976-3	2009-1
	JP -24	HAMAOKA-2	BWR	2436	840	806	CHUBU	TOSHIBA	1974-6	1978-5	1978-11	2009-1
	JP -1	JPDR	BWR	90	13	12	JAEA	GE	1960-12	1963-10	1965-3	1976-3
	JP -4	MIHAMA-1	PWR	1031	340	320	KEPCO	WH	1967-2	1970-8	1970-11	2015-4
	JP -6	MIHAMA-2	PWR	1456	500	470	KEPCO	MHI	1968-5	1972-4	1972-7	2015-4
	JP -7	SHIMANE-1	BWR	1380	460	439	CHUGOKU	HITACHI	1970-7	1973-12	1974-3	2015-4
	JP -2	TOKAI-1	GCR	587	166	137	JAPCO	GEC	1961-3	1965-11	1966-7	1998-3
	JP -3	TSURUGA-1	BWR	1070	357	340	JAPCO	GE	1966-11	1969-11	1970-3	2015-4
KAZAKHSTAN	KZ -10	AKTAU	FBR	1000	90	52	MAEC-KAZ	MAEC-KAZ	1964-10	1973-7	1973-7	1999-4
LITHUANIA	LT -46	IGNALINA-1	LWGR	4800	1300	1185	INPP	MAEP	1977-5	1983-12	1985-5	2004-12
	LT -47	IGNALINA-2	LWGR	4800	1300	1185	INPP	MAEP	1978-1	1987-8	1987-12	2009-12
NETHERLANDS	NL -1	DODEWAARD	BWR	183	60	55	BV GKN	RDM	1965-5	1968-10	1969-3	1997-3
RUSSIA	RU -1	APS-1 OBNINSK	LWGR	30	6	5	MSM	MSM	1951-1	1954-6	1954-12	2002-4
	RU -3	BELOYARSK-1	LWGR	286	108	102	REA	MSM	1958-6	1964-4	1964-4	1983-1
	RU -6	BELOYARSK-2	LWGR	530	160	146	REA	MSM	1962-1	1967-12	1969-12	1990-1
	RU -4	NOVOVORONEZH-1	PWR	760	210	197	REA	MSM	1957-7	1964-9	1964-12	1988-2
	RU -8	NOVOVORONEZH-2	PWR	1320	365	336	REA	MSM	1964-6	1969-12	1970-4	1990-8
SLOVAKIA	SK -1	BOHUNICE A1	HWGCR	560	143	93	JAVYS	SKODA	1958-8	1972-12	1972-12	1977-2
	SK -2	BOHUNICE-1	PWR	1375	440	408	JAVYS	AEE	1972-4	1978-12	1980-4	2006-12
	SK -3	BOHUNICE-2	PWR	1375	440	408	JAVYS	AEE	1972-4	1980-3	1981-1	2008-12

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
SPAIN	ES -1	JOSE CABRERA-1	PWR	510	150	141	UFG	WH	1964-6	1968-7	1969-8	2006-4
	ES -3	VANDELLOS-1	GCR	1670	500	480	HIFRENSA	CEA	1968-6	1972-5	1972-8	1990-7
SWEDEN	SE -1	AGESTA	PHWR	80	12	10	BKAB	ABBATOM	1957-12	1964-5	1964-5	1974-6
	SE -6	BARSEBACK-1	BWR	1800	615	600	BKAB	ASEASTAL	1971-2	1975-5	1975-7	1999-11
	SE -8	BARSEBACK-2	BWR	1800	615	600	BKAB	ABBATOM	1973-1	1977-3	1977-7	2005-5
SWITZERLAND	CH -8	LUCENS	HWGCR	28	7	6	EOS	NGA	1962-4	1968-1	NA	1969-1
UK	GB -3A	BERKELEY-1	GCR	620	166	138	ML	TNPG	1957-1	1962-6	1962-6	1989-3
	GB -3B	BERKELEY-2	GCR	620	166	138	ML	TNPG	1957-1	1962-6	1962-10	1988-10
	GB -4A	BRADWELL-1	GCR	481	146	123	ML	TNPG	1957-1	1962-7	1962-7	2002-3
	GB -4B	BRADWELL-2	GCR	481	146	123	ML	TNPG	1957-1	1962-7	1962-11	2002-3
	GB -1A	CALDER HALL-1	GCR	268	60	49	SL	UKAEA	1953-8	1956-8	1956-10	2003-3
	GB -1B	CALDER HALL-2	GCR	268	60	49	SL	UKAEA	1953-8	1957-2	1957-2	2003-3
	GB -1C	CALDER HALL-3	GCR	268	60	49	SL	UKAEA	1955-8	1958-3	1958-5	2003-3
	GB -1D	CALDER HALL-4	GCR	268	60	49	SL	UKAEA	1955-8	1959-4	1959-4	2003-3
	GB -2A	CHAPELCROSS-1	GCR	260	60	48	ML	UKAEA	1955-10	1959-2	1959-3	2004-6
	GB -2B	CHAPELCROSS-2	GCR	260	60	48	ML	UKAEA	1955-10	1959-7	1959-8	2004-6
	GB -2C	CHAPELCROSS-3	GCR	260	60	48	ML	UKAEA	1955-10	1959-11	1959-12	2004-6
	GB -2D	CHAPELCROSS-4	GCR	260	60	48	ML	UKAEA	1955-10	1960-1	1960-3	2004-6
	GB -14	DOUNREAY DFR	FBR	60	15	11	UKAEA	UKAEA	1955-3	1962-10	1962-10	1977-3
	GB -15	DOUNREAY PFR	FBR	600	250	234	UKAEA	TNPG	1966-1	1975-1	1976-7	1994-3
	GB -9A	DUNGENESS A-1	GCR	840	230	225	ML	TNPG	1960-7	1965-9	1965-10	2006-12
	GB -9B	DUNGENESS A-2	GCR	840	230	225	ML	TNPG	1960-7	1965-11	1965-12	2006-12
	GB -7A	HINKLEY POINT A-1	GCR	900	267	235	ML	EE/B&W/T	1957-11	1965-2	1965-3	2000-5
	GB -7B	HINKLEY POINT A-2	GCR	900	267	235	ML	EE/B&W/T	1957-11	1965-3	1965-5	2000-5
	GB -6A	HUNTERSTON A-1	GCR	595	173	150	ML	GEC	1957-10	1964-2	1964-2	1990-3
	GB -6B	HUNTERSTON A-2	GCR	595	173	150	ML	GEC	1957-10	1964-6	1964-7	1989-12
	GB -11A	OLDBURY A-1	GCR	730	230	217	ML	TNPG	1962-5	1967-11	1967-12	2012-2
	GB -11B	OLDBURY A-2	GCR	660	230	217	ML	TNPG	1962-5	1968-4	1968-9	2011-6
	GB -10A	SIZEWELL A-1	GCR	1010	245	210	ML	EE/B&W/T	1961-4	1966-1	1966-3	2006-12

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
UK	GB -10B	SIZEWELL A-2	GCR	1010	245	210	ML	EE/B&W/T	1961-4	1966-4	1966-9	2006-12
	GB -8A	TRAWSFYNYDD-1	GCR	850	235	195	ML	APC	1959-7	1965-1	1965-3	1991-2
	GB -8B	TRAWSFYNYDD-2	GCR	850	235	195	ML	APC	1959-7	1965-2	1965-3	1991-2
	GB -5	WINDSCALE AGR	GCR	120	36	24	UKAEA	UKAEA	1958-11	1963-2	1963-3	1981-4
	GB -12	WINFRITH SGHWR	SGHWR	318	100	92	UKAEA	ICL/FE	1963-5	1967-12	1968-1	1990-9
	GB -13A	WYLFA-1	GCR	1650	530	490	ML	EE/B&W/T	1963-9	1971-1	1971-11	2015-12
	GB -13B	WYLFA-2	GCR	1920	540	490	ML	EE/B&W/T	1963-9	1971-7	1972-1	2012-4
UKRAINE	UA -25	CHERNOBYL-1	LWGR	3200	800	740	MTE	FAEA	1970-3	1977-9	1978-5	1996-11
	UA -26	CHERNOBYL-2	LWGR	3200	1000	925	MTE	FAEA	1973-2	1978-12	1979-5	1991-10
	UA -42	CHERNOBYL-3	LWGR	3200	1000	925	MTE	FAEA	1976-3	1981-12	1982-6	2000-12
	UA -43	CHERNOBYL-4	LWGR	3200	1000	925	MTE	FAEA	1979-4	1983-12	1984-3	1986-4
USA	US -155	BIG ROCK POINT	BWR	240	71	67	CPC	GE	1960-5	1962-12	1963-3	1997-8
	US -014	BONUS	BWR	50	18	17	DOE/PRWR	GNEPRWRA	1960-1	1964-8	1965-9	1968-6
	US -302	CRYSTAL RIVER-3	PWR	2568	890	860	PROGRESS	B&W	1968-9	1977-1	1977-3	2013-2
	US -144	CVTR	PHWR	65	19	17	CVPA	WH	1960-1	1963-12	NA	1967-1
	US -10	DRESDEN-1	BWR	700	207	197	EXELON	GE	1956-5	1960-4	1960-7	1978-10
	US -011	ELK RIVER	BWR	58	24	22	RCPA	AC	1959-1	1963-8	1964-7	1968-2
	US -16	FERMI-1	FBR	200	65	61	DTEDISON	UEC	1956-12	1966-8	NA	1972-11
	US -267	FORT ST. VRAIN	HTGR	842	342	330	PSCC	GA	1968-9	1976-12	1979-7	1989-8
	US -018	GE VALLECITOS	BWR	50	24	24	GE	GE	1956-1	1957-10	1957-10	1963-12
	US -213	HADDAM NECK	PWR	1825	603	560	CYAPC	WH	1964-5	1967-8	1968-1	1996-12
	US -077	HALLAM	X	256	84	75	AEC/NPPD	GE	1959-1	1963-9	1963-11	1964-9
	US -133	HUMBOLDT BAY	BWR	220	65	63	PG&E	GE	1960-11	1963-4	1963-8	1976-7
	US -013	INDIAN POINT-1	PWR	615	277	257	ENTERGY	B&W	1956-5	1962-9	1962-10	1974-10
	US -305	KEWAUNEE	PWR	1772	595	566	DOMINION	WH	1968-8	1974-4	1974-6	2013-5
	US -409	LACROSSE	BWR	165	55	48	DPC	AC	1963-3	1968-4	1969-11	1987-4
	US -309	MAINE YANKEE	PWR	2630	900	860	MYAPC	CE	1968-10	1972-11	1972-12	1997-8
	US -245	MILLSTONE-1	BWR	2011	684	641	DOMINION	GE	1966-5	1970-11	1971-3	1998-7
	US -130	PATHFINDER	BWR	220	63	59	NMC	AC	1959-1	1966-7	NA	1967-10
	US -171	PEACH BOTTOM-1	HTGR	115	42	40	EXELON	GA	1962-2	1967-1	1967-6	1974-11

TABLE 16. REACTORS PERMANENTLY SHUT DOWN, 31 DEC. 2015 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
USA	US -012	PIQUA	X	46	12	12	CofPiqua	GE	1960-1	1963-7	1963-11	1966-1
	US -312	RANCHO SECO-1	PWR	2772	917	873	SMUD	B&W	1969-4	1974-10	1975-4	1989-6
	US -206	SAN ONOFRE-1	PWR	1347	456	436	SCE	WH	1964-5	1967-7	1968-1	1992-11
	US -361	SAN ONOFRE-2	PWR	3438	1127	1070	SCE	CE	1974-3	1982-9	1983-8	2013-6
	US -362	SAN ONOFRE-3	PWR	3438	1127	1080	SCE	CE	1974-3	1983-9	1984-4	2013-6
	US -146	SAXTON	PWR	24	3	3	SNEC	GE	1960-1	1967-3	1967-3	1972-5
	US -001	SHIPPINGPORT	PWR	236	68	60	DOE DUQU	WH	1954-1	1957-12	1958-5	1982-10
	US -322	SHOREHAM	BWR	2436	849	820	LIPA	GE	1972-11	1986-8	NA	1989-5
	US -320	THREE MILE ISLAND-2	PWR	2772	959	880	GPU	B&W	1969-11	1978-4	1978-12	1979-3
	US -344	TROJAN	PWR	3411	1155	1095	PORTGE	WH	1970-2	1975-12	1976-5	1992-11
	US -271	VERMONT YANKEE	BWR	1912	635	605	ENTERGY	GE	1967-12	1972-9	1972-11	2014-12
	US -29	YANKEE NPS	PWR	600	180	167	YAEC	WH	1957-11	1960-11	1961-7	1991-10
	US -295	ZION-1	PWR	3250	1085	1040	EXELON	WH	1968-12	1973-6	1973-12	1998-2
	US -304	ZION-2	PWR	3250	1085	1040	EXELON	WH	1968-12	1973-12	1974-9	1998-2

Note: Status as of 31 December 2015, 157 reactors (61395 MW) have been permanently shut down.

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2015

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel managemt phase	Decom. licensee	License terminated
	Code	Name							
ARMENIA	AM -18	ARMENIAN-1	1989-2	Others	Other			ANPPCJSC	
BELGIUM	BE -1	BR-3	1987-6	2,5	ID	4,9	4	CEN/SCK	
BULGARIA	BG -1	KOZLODUY-1	2002-12	7,Others	Dd+PD+SE	7	3,7	E-03492	2036
	BG -2	KOZLODUY-2	2002-12	7,Others	Dd+PD+SE	7	3,7	E-03493	2036
	BG -3	KOZLODUY-3	2006-12	7,Others	Dd+PD+SE	7	3,7	E-00174	2036
	BG -4	KOZLODUY-4	2006-12	7,Others	Dd+PD+SE	7	3,7	E-0008	2036
CANADA	CA -1	ROLPHTON NPD	1987-8	2	Dd+PD+SE	8		AECL	
	CA -2	DOUGLAS POINT	1984-5	2	Dd+SE	8	7	AECL	
	CA -3	GENTILLY-1	1977-6	2	Dd+PD+SE	8	7	AECL/HQ	
FRANCE	FR -10	PHENIX	2010-2	Others	ID			-	
	FR -2	CHINON A-1	1973-4	1,2	ID			EDF	
	FR -24	SUPER-PHENIX	1998-12	Others	ID	9	3,6	NERSA	
	FR -3	CHINON A-2	1985-6	1,2	ID			EDF	2025
	FR -4	CHINON A-3	1990-6	1,2	ID			EDF	
	FR -5	CHOOZ-A (ARDENNES)	1991-10	Others	ID	4,9		SENA	2019
	FR -6	EL-4 (MONTS D'ARREE)	1985-7	1,2	ID	9,11		EDF	2015
	FR -7	ST. LAURENT A-1	1990-4	1,2	ID			EDF	2027
	FR -8	ST. LAURENT A-2	1992-5	1,2	ID			EDF	2025
	FR -9	BUGEY-1	1994-5	1,2	ID	9		EDF	2020
GERMANY	DE -1	VAK KAHL	1985-11	Others	Other			VAK	2010
	DE -10	STADE	2003-11	2	ID			E.ON	
	DE -11	NIEDERAICHBACH	1974-7	6	Other			KIT	1995
	DE -16	ISAR-1	2011-8	7	ID			E.ON	
	DE -17	UNTERWESER	2011-8	7	ID			E.ON	
	DE -19	THTR-300	1988-9	6,Others	Other			HKG	
	DE -2	MZFR	1984-5	Others	Other			WAK	
	DE -22	MUELHEIM-KAERLICH	1988-9	7	Other			RWE	
	DE -3	GUNDREMMINGEN-A	1977-1	6,8	ID			KGG	
	DE -4	AVR JUELICH	1988-12	7	ID	3,4,9		xxxx	
	DE -501	RHEINSBERG	1990-6	1,3,6,7	ID	9	4,7	G 01 KKR	
	DE -502	GREIFSWALD-1	1990-2	1,3,6,7	ID	3,9	7	G 01 KGR	

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2015 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel managemt	Decom. licensee	License terminated
	Code	Name							
GERMANY	DE -503	GREIFSWALD-2	1990-2	1,3,6,7	ID	3,9	3,7	G 01 KGR	
	DE -504	GREIFSWALD-3	1990-2	1,3,6,7	ID	3,9	7	G 01 KGR	
	DE -505	GREIFSWALD-4	1990-7	1,3,6,7	ID	3	3,7	G 01 KGR	
	DE -506	GREIFSWALD-5	1989-11	1,2,3,6,7	ID	1,3,9	3,7	G 01 KGR	
	DE -6	LINGEN	1977-1	2,5,6	ID	7		RWE AG	
	DE -7	HDR GROSSWELZHEIM	1971-4	5	Other			KIT	1998
	DE -8	KNK II	1991-8	5	Other			WAK	
	DE -9	WUERGASSEN	1994-8	2	ID	6		E.ON	
ITALY	IT -1	LATINA	1987-12	7,Others	ID	3,9		SOGIN	2040
	IT -2	GARIGLIANO	1982-3	3,4,Others	ID	3,4,9		SOGIN	2021
	IT -3	ENRICO FERMI	1990-7	7,Others	ID	3,4,9,10		SOGIN	2024
	IT -4	CAORSO	1990-7	7,Others	ID	4,9		SOGIN	2026
JAPAN	JP -1	JPDR	1976-3	Others	ID	3		JAERI	2002
	JP -11	HAMAOKA-1	2009-1	6	Dd+SE	1,3,4,6,7		CHUBU DL	2037
	JP -17	FUKUSHIMA-DAIICHI-5	2013-12	Others	Other			TEPCO DL	
	JP -18	FUKUSHIMA-DAIICHI-6	2013-12	Others	Other			TEPCO DL	
	JP -2	TOKAI-1	1998-3	2	Dd+PD+SE	3,4,6,7,9		JAPCO	2025
	JP -20	FUGEN ATR	2003-3	2	Dd+SE	1,3,5	2,5	JAEA	2034
	JP -24	HAMAOKA-2	2009-1	6	Dd+SE	1,3,4,6,7		CHUBU DL	2037
	JP -7	SHIMANE-1	2015-4	6	Other			CHUGOKU	
KAZAKHSTAN	KZ -10	AKTAU	1999-4	2,5	Dd+PD+SE	1,6	4,7	MAEC-KAZ	
LITHUANIA	LT -46	IGNALINA-1	2004-12	7,Others	ID	3,10	3	INPP	2038
	LT -47	IGNALINA-2	2009-12	7,Others	ID	2,3	1	INPP	2038
NETHERLANDS	NL -1	DODEWAARD	1997-3	2,Others	Dd+SE	7		BV GKN	2055
RUSSIA	RU -3	BELOYARSK-1	1983-1	Others	Other			EA	
	RU -4	NOVOVORONEZH-1	1988-2	Others	Other			EA	
	RU -6	BELOYARSK-2	1990-1	Others	Other			EA	
	RU -8	NOVOVORONEZH-2	1990-8	Others	Other			EA	
SLOVAKIA	SK -1	BOHUNICE A1	1977-2	4	Dd+PD+SE	3,6		JAVYS	
	SK -2	BOHUNICE-1	2006-12	7	ID	3,4,9		JAVYS	
	SK -3	BOHUNICE-2	2008-12	7	ID	3,4,9		JAVYS	
SPAIN	ES -1	JOSE CABRERA-1	2006-4	Others	ID	11	3,7	UFG	2015

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2015 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel managemt	Decom. licensee	License terminated
	Code	Name							
SPAIN	ES -3	VANDELLOS-1	1990-7	4	Dd+PD+SE	8		ENRESA	2032
SWEDEN	SE -1	AGESTA	1974-6	2,3	Dd+SE	7		BKAB	
	SE -6	BARSEBACK-1	1999-11	Others	Other		4	BKAB	2027
	SE -8	BARSEBACK-2	2005-5	Others	Other		4	BKAB	2027
SWITZERLAND	CH -8	LUCENS	1969-1	4	Dd+SE	1		EOS	2004
UK	GB -10A	SIZEWELL A-1	2006-12	2,8	Dd+SE	3,5,6		Magnox S	2110
	GB -10B	SIZEWELL A-2	2006-12	2,8	Dd+SE	3,5,6		Magnox S	2110
	GB -12	WINFRITH SGHWR	1990-9	Others	ID	3,4,9,10		UKAEA	2019
	GB -14	DOUNREAY DFR	1977-3	Others	Dd+PD+SE	5		DSR	2333
	GB -15	DOUNREAY PFR	1994-3	Others	Dd+PD+SE	5		Magnox N	2333
	GB -1A	CALDER HALL-1	2003-3	2,8	Dd+PD+SE	8		SL	2117
	GB -1B	CALDER HALL-2	2003-3	2,8	Dd+PD+SE	8		SL	2117
	GB -1C	CALDER HALL-3	2003-3	2,8	Dd+PD+SE	8		SL	2117
	GB -1D	CALDER HALL-4	2003-3	2,8	Dd+PD+SE	8		SL	2117
	GB -2A	CHAPELCROSS-1	2004-6	2,8	Dd+PD+SE	3,5,6		Magnox N	2128
	GB -2B	CHAPELCROSS-2	2004-6	2,8	Dd+PD+SE	3,5,6		Magnox N	2128
	GB -2C	CHAPELCROSS-3	2004-6	2,8	Dd+PD+SE	3,5,6		Magnox N	2128
	GB -2D	CHAPELCROSS-4	2004-6	2,8	Dd+PD+SE	3,5,6		Magnox N	2128
	GB -3A	BERKELEY-1	1989-3	2,8	Dd+SE	8		Magnox S	2083
	GB -3B	BERKELEY-2	1988-10	2,8	Dd+SE	8		Magnox S	2083
	GB -4A	BRADWELL-1	2002-3	2,8	Dd+SE	3,5,6		Magnox S	2104
	GB -4B	BRADWELL-2	2002-3	2,8	Dd+SE	3,5,6		Magnox S	2104
	GB -5	WINDSCALE AGR	1981-4	Others	Dd+PD+SE	2,3,5,6		SL	2065
	GB -6A	HUNTERSTON A-1	1990-3	2,8	Dd+PD+SE	3,5,6		Magnox N	2090
	GB -6B	HUNTERSTON A-2	1989-12	2,8	Dd+PD+SE	3,5,6		Magnox N	2090
	GB -7A	HINKLEY POINT A-1	2000-5	2,8	Dd+PD+SE	8		Magnox S	2104
	GB -7B	HINKLEY POINT A-2	2000-5	2,8	Dd+PD+SE	8		Magnox S	2104
	GB -8A	TRAWSFYNYDD-1	1991-2	2,8	Dd+PD+SE	8		Magnox N	2098
	GB -8B	TRAWSFYNYDD-2	1991-2	2,8	Dd+PD+SE	8		Magnox N	2098
	GB -9A	DUNGENESS A-1	2006-12	2,8	Dd+PD+SE	3,5,6		Magnox S	2111
	GB -9B	DUNGENESS A-2	2006-12	2,8	Dd+PD+SE	3,5,6		Magnox S	2111
USA	US -001	SHIPPINGPORT	1982-10	3	ID			DOE DUQU	1989

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2015 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel managemt	Decom. licensee	License terminated
	Code	Name							
USA	US -011	ELK RIVER	1968-2	1,Others	ID			RCPA	1974
	US -012	PIQUA	1966-1	4,5	ISD	11		CofPiqua	
	US -013	INDIAN POINT-1	1974-10	5	Dd+PD+SE			ENTERGY	
	US -014	BONUS	1968-6	5,6	ISD			DOE/PRWR	1970
	US -018	GE VALLECITOS	1963-12	1	Dd+SE			GE&PGEC	
	US -077	HALLAM	1964-9	5	Dd+SE			AEC&NPPD	1971
	US -10	DRESDEN-1	1978-10	6	Dd+SE	11	7	EXELON	
	US -130	PATHFINDER	1967-10	5	Dd+SE	11		NMC	
	US -133	HUMBOLDT BAY	1976-7	5	Dd+PD+SE	3,4,6		PG&E	2013
	US -144	CVTR	1967-1	7,Others	Dd+SE			CVPA	2009
	US -146	SAXTON	1972-5	Others	ID			GPUNC	2005
	US -155	BIG ROCK POINT	1997-8	2,Others	ID		7	CPC	2007
	US -16	FERMI-1	1972-11	4,5	Dd+SE	9,11		DTEDISON	2025
	US -171	PEACH BOTTOM-1	1974-11	1	Dd+SE	1,9		EXELON	
	US -206	SAN ONOFRE-1	1992-11	Others	Dd+PD+SE	4		SCE	2008
	US -213	HADDAM NECK	1996-12	6	ID	4,6		CYAPC	2007
	US -245	MILLSTONE-1	1998-7	6	Dd+PD+SE			DOMINRES	
	US -267	FORT ST. VRAIN	1989-8	1,Others	ID			PSCC	1996
	US -29	YANKEE NPS	1991-10	5,7	ID	4,6		YAEC	2005
	US -295	ZION-1	1998-2	5,6	Dd+PD+SE	1,9		CommonEd	
	US -304	ZION-2	1998-2	5,6	Dd+PD+SE	1,9		COMMED	
	US -305	KEWAUNEE	2013-5	2,6	Dd+SE			DOMINRES	
	US -309	MAINE YANKEE	1997-8	6	ID	4	7	MYAPC	2005
	US -312	RANCHO SECO-1	1989-6	5,6	Dd+PD+SE			SMUD	2009
	US -320	THREE MILE ISLAND-2	1979-3	4,5	Other	9,11	4	GPU	
	US -322	SHOREHAM	1989-5	7,Others	ID			LIPA	1995
	US -344	TROJAN	1992-11	6	Dd+PD+SE			PORTGE	2005
	US -409	LACROSSE	1987-4	2	Dd+PD+SE		7	DPC	

TABLE 17. DEFINITIONS FOR REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED

Shutdown reason	Description	Decommissioning strategy	Description
1	The technology or process being used became obsolete	ID	Immediate dismantling and removal of all radioactive materials
2	The process was no longer profitable	Dd+SE	Deferred dismantling, placing all radiological areas into safe enclosure
3	Changes in licensing requirements	Dd+PD+SE	Deferred dismantling, including partial dismantling and placing
4	After an operating incident		remaining radiological areas into safe enclosure
5	Other technological reasons	ISD	In situ disposal, involving encapsulation of radioactive materials
6	Other economical reasons		and subsequent restriction of access
7	Public acceptance or political reasons	Other	None of the above
8	After major component failure or deterioration		
Other	None of the above		
Fuel Management	**Description**	**Current decommissioning phase**	**Description**
1	Transfer to a reactor facility	1	Drawing up the Final Decommissioning Plan
2	Transfer away from a reactor facility	2	Reactor core defuelling
3	Storage in an on-site facility	3	Waste conditioning on-site - only for decommissioning waste
4	Storage in an off-site facility	4	Waste shipment off-site - only for decommissioning waste
5	Shipment to a reprocessing plant	5	Safe enclosure preparation
6	Underwater storage period	6	Partial dismantling
7	Dry storage period	7	Active safe enclosure period
8	Encapsulation	8	Passive safe enclosure period
		9	Final dismantling
		10	Final survey
		11	Licence terminated - legal act at the end of the decommissioning process

TABLE 18. PERFORMANCE FACTORS BY REACTOR CATEGORY, 2013 to 2015

Reactor category	Reactors reporting to IAEA PRIS (see note)						
	Number of units	Availability factor (%)	Planned cap. loss factor (%)	Capability factor (%)	Forced loss rate (%)	Operating factor (%)	Load factor (%)
PWR	287	77.5	18.1	78.3	2.6	77.3	76.3
PWR < 600 MWe	47	70.1	26.4	70.6	2.0	71.2	67.7
PWR >= 600 MWe	240	78.2	17.4	79.0	2.6	78.5	77.0
BWR	83	61.8	36.3	62.0	2.0	61.7	61.3
BWR < 600 MWe	8	27.6	65.7	27.7	17.3	36.7	27.5
BWR >= 600 MWe	75	63.1	35.2	63.3	1.7	64.3	62.5
PHWR	48	84.2	9.6	85.4	4.4	82.3	80.1
PHWR < 600 MWe	26	78.4	10.4	81.7	7.0	81.8	78.2
PHWR >= 600 MWe	22	86.9	9.2	87.1	3.2	82.8	81.0
LWGR	15	75.8	21.9	76.2	2.0	78.5	76.8
LWGR < 600 MWe	4	81.9	17.9	81.9	0.3	78.4	44.8
LWGR >= 600 MWe	11	75.8	22.0	76.1	2.0	78.6	77.0
GCR	15	73.4	14.3	73.6	8.5	80.5	73.8
FBR	1	81.7	15.9	81.8	2.7	84.7	83.5
TOTAL	449	74.6	21.3	75.2	2.8	75.1	73.4

Notes:

1. 2015 is the latest year for which operating experience data is currently available to the IAEA.
2. Reactors permanently shut down during 2013 to 2015 (17 units) are considered.

TABLE 19. FULL OUTAGE STATISTICS DURING 2015

Reactor type	Number of operating reactors	Full outage hours per operating reactor	Planned outages (%)	Unplanned outages (%)	External outages (%)
PWR	283	1959	81.2	14.4	4.4
PWR < 600 MWe	46	2521	76.7	13.5	9.8
PWR >= 600 MWe	237	1850	82.4	14.7	2.9
BWR	80	3325	92.7	4.8	2.5
BWR < 600 MWe	8	4509	93.6	6.4	0.0
BWR >= 600 MWe	72	3193	92.6	4.6	2.8
PHWR	48	1590	63.1	24.5	12.4
PHWR < 600 MWe	26	1597	65.2	33.7	1.1
PHWR >= 600 MWe	22	1581	60.7	13.4	25.9
LWGR	15	1500	92.8	4.7	2.5
LWGR < 600 MWe	4	2024	96.8	0.6	2.6
LWGR >= 600 MWe	11	1310	90.6	7.1	2.3
GCR	15	1445	75.9	23.3	0.8
FBR	1	1349	99.9	0.1	0.0
ALL REACTORS	442	2132	83.2	12.5	4.3

Notes:

1. 2015 is the latest year for which outage information is currently available to the IAEA.
2. Only reactors in commercial operation are considered.
3. Reactors shut down during 2015 (7 units) are considered.

TABLE 20. DIRECT CAUSES OF FULL OUTAGES DURING 2015

Direct cause	Planned full outages				Unplanned full outages			
	Energy lost		Time lost		Energy lost		Time lost	
	GW·h	%	Hours	%	GW·h	%	Hours	%
Plant equipment problem/failure					55287	91.89	68847	89.28
Refuelling without a maintenance	18362	2.55	18182	2.19				
Inspection, maintenance or repair combined with refuelling	295741	41.11	338227	40.67				
Inspection, maintenance or repair without refuelling	29278	4.07	46789	5.63				
Testing of plant systems or components	528	0.07	441	0.05	52	0.09	181	0.23
Major back-fitting, refurbishment or upgrading activities with refuelling	40932	5.69	50463	6.07				
Major back-fitting, refurbishment or upgrading activities without refuelling	333248	46.32	367497	44.19				
Nuclear regulatory requirements	185	0.03	878	0.11	479	0.80	716	0.93
Human factor related					4265	7.09	6978	9.05
Fuel management limitation (including high flux tilt, stretch out or coast-down operation)	283	0.04	266	0.03				
Other	822	0.11	8869	1.07	84	0.14	389	0.51
TOTAL	719379	100.00	831612	100.00	60167	100.00	77111	100.00

Note: Only reactors which have achieved full commercial operation in or before 2015 are counted.

TABLE 21. DIRECT CAUSES OF FULL OUTAGES, 2011 TO 2015

Direct outage cause	Planned full outages				Unplanned full outages			
	Energy lost		Time lost		Energy lost		Time lost	
	GW(e).h	%	Hours	%	GW(e).h	%	Hours	%
Plant equipment problem/failure					274393	91.67	343309	91.12
Refuelling without a maintenance	141721	4.03	146703	3.59				
Inspection, maintenance or repair combined with refuelling	1494865	42.50	1686639	41.24				
Inspection, maintenance or repair without refuelling	158789	4.51	246388	6.02				
Testing of plant systems or components	7752	0.22	10789	0.26	733	0.24	1377	0.37
Major back-fitting, refurbishment or upgrading activities with refuelling	185385	5.27	232049	5.67				
Major back-fitting, refurbishment or upgrading activities without refuelling	1521690	43.27	1716024	41.96				
Nuclear regulatory requirements	502	0.01	2471	0.06	12793	4.27	14091	3.74
Human factor related					8074	2.70	12653	3.36
Fire					1505	0.50	2028	0.54
Fuel management limitation (including high flux tilt, stretch out or coast-down operation)	2256	0.06	4688	0.11	707	0.24	544	0.14
Other	3978	0.11	43933	1.07	1123	0.38	2779	0.74
TOTAL	3516938	100.00	4089684	100.00	299328	100.00	376781	100.00

Note: Only reactors which have achieved full commercial operation in or before 2015 are counted.

TABLE 22. COUNTRIES: ABBREVIATIONS AND SUMMARY

Country code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
AR	ARGENTINA	3	1			
AM	ARMENIA	1			1	
BY	BELARUS		2			
BE	BELGIUM	7			1	
BR	BRAZIL	2	1			
BG	BULGARIA	2			4	
CA	CANADA	19			6	
CN	CHINA	31	24			33
CZ	CZECH REPUBLIC	6				
FI	FINLAND	4	1			
FR	FRANCE	58	1		12	
DE	GERMANY	8			28	
HU	HUNGARY	4				
IN	INDIA	21	6			4
IR	IRAN, ISLAMIC REPUBLIC OF	1				3
IT	ITALY				4	
JP	JAPAN	43	2	1	16	9
KZ	KAZAKHSTAN				1	
KR	KOREA, REPUBLIC OF	24	4			
LT	LITHUANIA				2	
MX	MEXICO	2				
NL	NETHERLANDS	1			1	
PK	PAKISTAN	3	2			
RO	ROMANIA	2				
RU	RUSSIA	35	8		5	22
SK	SLOVAKIA	4	2		3	
SI	SLOVENIA	1				
ZA	SOUTH AFRICA	2				
ES	SPAIN	7		1	2	
SE	SWEDEN	10			3	

TABLE 22. COUNTRIES: ABBREVIATIONS AND SUMMARY — continued

Country code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
CH	SWITZERLAND	5			1	
UA	UKRAINE	15	2		4	
AE	UNITED ARAB EMIRATES		4			
GB	UNITED KINGDOM	15			30	
US	UNITED STATES OF AMERICA	99	5		33	15
VN	VIET NAM					2
TOTAL		441	67	2	157	88

Note: The total includes the following data from Taiwan, China:
— 6 units in operation; 2 units under construction.

TABLE 23. REACTOR TYPES: ABBREVIATIONS AND SUMMARY

Type code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
BWR	Boiling Light-Water-Cooled and Moderated Reactor	78	4	1	36	9
FBR	Fast Breeder Reactor	3	1	1	7	5
GCR	Gas-Cooled, Graphite-Moderated Reactor	14			38	
HTGR	High-Temperature Gas-Cooled Reactor		1		4	
HWGCR	Heavy-Water-Moderated, Gas-Cooled Reactor				4	
HWLWR	Heavy-Water-Moderated, Boiling Light-Water-Cooled Reactor				2	
LWGR	Light-Water-Cooled, Graphite-Moderated Reactor	15			9	
PHWR	Pressurized Heavy-Water-Moderated and Cooled Reactor	49	4		8	2
PWR	Pressurized Light-Water-Moderated and Cooled Reactor	282	57		46	72
SGHWR	Steam-Generating Heavy-Water Reactor				1	
X	Other				2	
TOTAL		441	67	2	157	88

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
AEC/NPPD	ATOMIC ENERGY COMMISSION AND NEBRASKA PUBLIC POWER DISTRICT				1	
AEP	AMERICAN ELECTRIC POWER COMPANY, INC.	2				
AmerenUE	AMEREN UE, UNION ELECTRIC COMPANY	1				
ANAV	ASOCIACION NUCLEAR ASCO-VANDELLOS A.I.E. (ENDESA/ID)	3				
ANPPCJSC	CLOSED JOINT STOCK COMPANY ARMENIAN NPP	1			1	
APS	ARIZONA PUBLIC SERVICE CO.	3				
AVR	ARBEITSGEMEINSCHAFT VERSUCHSREAKTOR GMBH				1	
Axpo AG	KERNKRAFTWERK BEZNAUCH-5312 DÖTTINGEN	2				
BelNPP	REPUBLICAN UNITARY ENTERPRISE BELARUSIAN NUCLEAR POWER PLANT		2			
BHAVINI	BHARATIYA NABHIKIYA VIDYUT NIGAM LIMITED		1			
BKAB	BARSEBÄCK KRAFT AB				3	
BKW	BKW ENERGIE AG	1				
BRUCEPOW	BRUCE POWER	8				
BV GKN	BV GEMEENSCHAPPELIJKE KERNENERGIECENTRALE NEDERLAND (BV GKN)				1	
CEA/EDF	COMMISSARIAT À L'ENERGIE ATOMIQUE (80%)ELECTRICITÉ DE FRANCE (20%)				1	
CEN/SCK	CENTRE D'ETUDE DE L'ENERGIE NUCLEAIRE / STUDIECENTRUM VOOR KERNENERGIE				1	
CEZ	CZECH POWER CO., CEZ A.S.	6				
CFE	COMISION FEDERAL DE ELECTRICIDAD	2				
CHUBU	CHUBU ELECTRIC POWER CO.,INC	3			2	1
CHUGOKU	THE CHUGOKU ELECTRIC POWER CO.,INC.	1	1		1	2
CIAE	CHINA INSTITUTE OF ATOMIC ENERGY	1				
CNAT	CENTRALES NUCLEARES ALMARAZ-TRILLO(ID/UFG/ENDESA/HC/NUCLENOR)	3				
CNEA	COMISION NACIONAL DE ENERGIA ATOMICA		1			
CNNO	CNNC NUCLEAR OPERARION MANAGEMENT COMPANY LIMITED.	1				
CofPiqua	CITY OF PIQUA GOVERNMENT				1	
COGEMA	COMPAGNIE GENERALE DES MATIERES NUCLEAIRES				2	
CPC	CONSUMERS POWER CO.				1	
CVPA	CAROLINAS-VIRGINIA NUCLEAR POWER ASSOC.				1	
CYAPC	CONNECTICUT YANKEE ATOMIC POWER CO.				1	

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
DNMC	DAYA BAY NUCLEAR POWER OPERATIONS AND MANAGEMENT CO,LTD.	6				
DOE DUQU	DEPARTMENT OF ENERGY AND DUQUESNE LIGHT CO.				1	
DOE/PRWR	DOE & PUERTO RICO WATER RESOURCES				1	
DOMINION	DOMINION GENERATION	6			2	
DPC	DAIRYLAND POWER COOPERATIVE				1	
DTEDISON	DETROIT EDISON CO.	1			1	
DUKEENER	DUKE ENERGY CORP.	7				
E.ON	E.ON KERNKRAFT GMBH	2			4	
EDF	ELECTRICITE DE FRANCE	58	1		8	
EDF UK	EDF ENERGY	15				
ELECTRAB	ELECTRABEL	7				
ELETRONU	ELETROBRAS ELETRONUCLEAR S.A.	2	1			
EnBW	ENBW KRAFTWERKE AG				1	
ENEC	EMIRATES NUCLEAR ENERGY CORPORATION		4			
ENERGYNW	ENERGY NORTHWEST	1				
EnKK	ENBW KERNKRAFT GMBH	2			2	
ENTERGY	ENTERGY NUCLEAR OPERATIONS, INC.	11			2	
EOS	ENERGIE DE L'OUEST SUISSE				1	
EPDC	ELECTRIC POWER DEVELOPMENT CO.,LTD.		1			
EPZ	N.V. ELEKTRICITEITS-PRODUKTIEMAATSCHAPPIJ ZUID-NEDERLAND	1				
ESKOM	ESKOM	2				
EVN	VIETNAM ELECTRICITY					2
EWN	ENERGIEWERKE NORD GMBH				6	
EXELON	EXELON GENERATION CO., LLC	22			4	
FENOC	FIRST ENERGY NUCLEAR OPERATING CO.	4				
FKA	FORSMARK KRAFTGRUPP AB	3				
FORTUMPH	FORTUM POWER AND HEAT OY (FORMER IVO)	2				
FPL	FLORIDA POWER & LIGHT CO.	4				
FQNP	CNNC FUJIAN FUQING NUCLEAR POWER CO.,LTD	2	4			
FSNPC	FUJIAN SANMING NUCLEAR POWER CO.,LTD.					2
GE	GENERAL ELECTRIC				1	

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
GFNPC	GUANGXI FANGCHENGGANG NUCLEAR POWER COMPANY LTD	1	2			1
GPU	GENERAL PUBLIC UTILITIES(OWNED BY FIRSTENERGY CORP.)				1	
HDR	HEISSDAMPFREAKTOR-BETRIEBSGESELLSCHAFT MBH.				1	
HEPCO	HOKKAIDO ELECTRIC POWER CO.,INC.	3				
HIFRENSA	HISPANO-FRANCESA DE ENERGIA NUCLEAR, S.A.				1	
HKG	HOCHTEMPERATUR-KERNKRAFTWERK GMBH				1	
HNPC	HAINAN NUCLEAR POWER COMPANY	1	1			
HOKURIKU	HOKURIKU ELECTRIC POWER CO.	2				
HQ	HYDRO QUEBEC				2	
HSDNPC	SHANDONG HONGSHIDING NUCLEAR POWER PLANT					1
HSNPC	HUANENG SHANDONG SHIDAO BAY NUCLEAR POWER COMPANY,LTD.		1			
ID	IBERDROLA, S.A.	1				
INPP	IGNALINA NUCLEAR POWER PLANT				2	
JAEA	JAPAN ATOMIC ENERGY AGENCY			1	2	
JAPCO	JAPAN ATOMIC POWER CO.	2			2	2
JAVYS	JADROVA A VYRADOVACIA SPOLOCNOST/NUCLEAR AND DECOMMISSIONING COMPANY, PLC./				3	
JNPC	JIANGSU NUCLEAR POWER CORPORATION	2	3			1
KBG	KERNKRAFTWERK-BETRIEBSGESELLSCHAFT MBH				2	
KEPCO	KANSAI ELECTRIC POWER CO.	9			2	
KGB	KERNKRAFTWERKE GUNDREMMINGEN BETRIEBSGESELLSCHAFT MBH				1	
KGG	KERNKRAFTWERK GUNDREMMINGEN GMBH	2			1	
KHNP	KOREA HYDRO AND NUCLEAR POWER CO.	24	4			
KKB	KERNKRAFTWERK BRUNSBÜTTEL GMBH				1	
KKG	KERNKRAFTWERK GOESGEN-DAENIKEN AG	1				
KKK	KERNKRAFTWERK KRÜMMEL GMBH & CO. OHG				1	
KKL	KERNKRAFTWERK LEIBSTADT	1				
KKN	KERNKRAFTWERK NIEDERAICHBACH GMBH				1	
KLE	KERNKRAFTWERKE LIPPE-EMS GMBH	1				
KOZNPP	KOZLODUY NPP PLC	2			4	
KWG	GEMEINSCHAFTSKERNKRAFTWERK GROHNDE GMBH & CO. OHG	1				
KWL	KERNKRAFTWERK LINGEN GMBH				1	

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
KYUSHU	KYUSHU ELECTRIC POWER CO.,INC.	5			1	1
LFNPC	CGN LUFENG NUCLEAR POWER CO.LTD					2
LHNPC	LIAONING HONGYANHE NUCLEAR POWER CO. LTD. (LHNPC)	3	3			
LIPA	LONG ISLAND POWER AUTHORITY				1	
LNPC	LIAONIN NUCLEAR POWER COMPANY,LMT.					2
LUMINANT	LUMINANT GENERATION COMPANY LLC	2				
MAEC-KAZ	MANGISHLAK ATOMIC ENERGY COMPLEX-KAZATOMPROM,LIMITED LIABILITY COMPANY				1	
ML	MAGNOX LIMITED				22	
MSM	MINISTRY OF MEDIUM MACHINE BUILDING OF THE USSR (MINSREDMASH)				1	
MTE	MINTOPENERGO OF UKRAINE - MINISTRY OF FUEL AND ENERGY OF UKRAINE				4	
MYAPC	MAINE YANKEE ATOMIC POWER CO.				1	
NASA	NUCLEOELECTRICA ARGENTINA S.A.	3				
NBEPC	NEW BRUNSWICK ELECTRIC POWER COMMISSION	1				
NDNP	FUJIAN NINGDE NUCLEAR POWER COMPANY LTD.	3	1			
NEK	NUKLERANA ELEKTRARNA KRŠKO	1				
NEXTERA	NEXTERA ENERGY RESOURCES, LLC	4				
NMC	NUCLEAR MANAGEMENT CO.				1	
NNEGC	STATE ENTERPRISE "NATIONAL NUCLEAR ENERGY GENERATING COMPANY 'ENERGOATOM"	15	2			
NPCIL	NUCLEAR POWER CORPORATION OF INDIA LTD.	21	5			4
NPPDCO	NUCLEAR POWER PRODUCTION & DEVELOPEMENT CO. OF IRAN	1				3
NPQJVC	NUCLEAR POWER PLANT QINSHAN JOINT VENTURE COMPANY LTD.	4				
NSP	NORTHERN STATES POWER CO.(SUBSIDIARY OF XCEL ENERGY)	3				
NUCLENOR	NUCLENOR, S.A.			1		
OH	ONTARIO HYDRO				2	
OKG	OKG AKTIEBOLAG	3				
OPG	ONTARIO POWER GENERATION	10			2	
OPPD	OMAHA PUBLIC POWER DISTRICT	1				
PAEC	PAKISTAN ATOMIC ENERGY COMMISSION	3	2			
PAKS Zrt	PAKS NUCLEAR POWER PLANT LTD	4				
PE	PREUSSENELEKTRA KERNKRAFT GMBH&CO KG				1	
PG&E	PACIFIC GAS AND ELECTRIC COMPANY	2			1	

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
PORTGE	PORTLAND GENERAL ELECTRIC CO.				1	
PPL_SUSQ	PPL SUSQUEHANNA, LLC	2				
PROGRESS	PROGRESS ENERGY	4			1	1
PSCC	PUBLIC SERVICE CO. OF COLORADO				1	
PSEG	PSEG NUCLEAR LLC	3				
QNPC	QINSHAN NUCLEAR POWER COMPANY	2				
RAB	RINGHALS AB	4				
RCPA	RURAL COOPERATIVE POWER ASSOC.				1	
REA	JOINT STOCK COMPANY 'CONCERN ROSENERGOATOM'	35	8		4	22
RWE	RWE POWER AG				2	
SCE	SOUTHERN CALIFORNIA EDISON CO.				3	
SCE&G	SOUTH CAROLINA ELECTRIC & GAS CO.	1	2			
SDNPC	SHANDONG NUCLEAR POWER COMPANY LTD		2			2
SE,plc	SLOVENSKÉ ELEKTRÁRNE, A.S.	4	2			
SENA	SOCIETE D'ENERGIE NUCLEAIRE FRANCO-BELGE DES ARDENNES				1	
SHIKOKU	SHIKOKU ELECTRIC POWER CO.,INC	3				
SL	SELLAFIELD LIMITED				4	
SMNPC	SANMEN NUCLEAR POWER CO.,LTD.		2			2
SMUD	SACRAMENTO MUNICIPAL UTILITY DISTRICT				1	
SNEC	SAXTON NUCLEAR EXPIRAMENTAL REACTOR CORPORATION				1	
SNN	SOCIETATEA NATIONALA NUCLEARELECTRICA S.A.	2				
SNPDP	STATE NUCLEAR POWER DEMONSTRATION PLANT CO,LTD					2
SOGIN	SOCIETA GESTIONE IMPANTI NUCLEARI S.P.A.				4	
SOUTHERN	SOUTHERN NUCLEAR OPERATING COMPANY, INC.	6	2			
STP	STP NUCLEAR OPERATING CO.	2				
TEPCO	TOKYO ELECTRIC POWER COMPANY	11			6	2
TNPC	GUANGDONG TAISHAN NUCLEAR POWER JOINT VENTURE COMPANY LIMITED (TNPC)		2			
TOHOKU	TOHOKU ELECTRIC POWER CO., INC	4				1
TPC	TAIWAN POWER CO.	6	2			
TQNPC	THE THIRD QINSHAN JOINTED VENTURE COMPANY LTDA.	2				
TVA	TENNESSEE VALLEY AUTHORITY	6	1			

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
TVO	TEOLLISUUDEN VOIMA OYJ	2	1			
UFG	UNION FENOSA GENERATION S.A.				1	
UKAEA	UNITED KINGDOM ATOMIC ENERGY AUTHORITY				4	
VAK	VERSUCHSATOMKRAFTWERK KAHL GMBH				1	
WCNOC	WOLF CREEK NUCLEAR OPERATION CORP.	1				
YAEC	YANKEE ATOMIC ELECTRIC CO.				1	
YJNPC	YANGJIANG NUCLEAR POWER COMPANY	3	3			
not specified						32
TOTAL		441	67	2	157	88

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY

NSSS supplier code	Full name of nuclear steam supply system supplier	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
A/F/W	ASSOCIATION ACEC,FRAMATOME ET WESTINGHOUSE.				1	
ABBATOM	ABBATOM (FORMERLY ASEA-ATOM)	7			2	
AC	ALLIS CHALMERS				3	
ACECOWEN	ACECOWEN (ACEC-COCKERILL-WESTINGHOUSE)	4				
ACLF	(ACECOWEN - CREUSOT LOIRE - FRAMATOME)	1				
AECL	ATOMIC ENERGY OF CANADA LTD.	8			3	
AECL/DAE	ATOMIC ENERGY OF CANADA LTDA AND DEPARTMENT OF ATOMIC ENERGY(INDIA)	1				
AECL/DHI	ATOMIC ENERGY OF CANADA LTD./DOOSAN HEAVY INDUSTRY & CONSTRUCTION	3				
AEE	ATOMENERGOEXPORT	8			6	
AEG	ALLGEMEINE ELEKTRICITAETS-GESELLSCHAFT				1	
AEG,GE	ALLGEMEINE ELECTRICITAETS-GESELLSCHAFT, GENERAL ELECTRIC COMPANY (US)				1	
AEG,KWU	ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT, KRAFTWERK UNION AG				2	
AMN/GETS	ANSALDO MECCANICO NUCLEARE SPA / GENERAL ELECTRIC TECHNICAL SERVICES CO				1	
APC	ATOMIC POWER CONSTRUCTION LTD.	2			2	
AREVA	AREVA, 27-29, RUE LE PELETIER, 75433 PARIS CEDEX 09URL: WWW.AREVA.COM		4			1
ASE	JOINT-STOCK COMPANY ATOMSTROYEXPORT	1	4			1
ASEASTAL	ASEA-ATOM / STAL-LAVAL	2			1	
ASPALDO	ASPALDO				1	
AtEE	ATOMENERGOEXPORT				6	
B&W	BABCOCK & WILCOX CO.	6			4	
BBK	BROWN BOVERI-KRUPP REAKTORBAU GMBH				1	
BBR	BROWN BOVERI REAKTOR GMBH				1	
CE	COMBUSTION ENGINEERING CO.	12			3	
CEA	COMMISSARIAT A L'ENERGIE ATOMIQUE				1	
CFHI	CHINA FIRST HEAVY INDUSTRIES	4	5			2
CGE	CANADIAN GENERAL ELECTRIC	1			1	
CNCLNEY	CNIM-CONSTRUCTIONS NAVALES ET INDUSTRIELLES DE MEDITERRANEE CL - CREUSOT LOI				1	
CNEA	COMISIÓN NACIONAL DE ENERGÍA ATÓMICA		1			
CNNC	CHINA NATIONAL NUCLEAR CORPORATION	7	2			
DEC	DONGFANG ELECTRIC CORPORATIONDEC-NPIC-FANP	8	5			3

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY — continued

NSSS supplier code	Full name of nuclear steam supply system supplier	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
DHICKAEC	DOOSAN HEAVY INDUSTRIES & CONSTRUCTION CO.LTD./KOREA ATOMICENERGY RESEARCH I	2				
DHICKOPC	DOOSAN HEAVY INDUSTRIES & CONSTRUCTION CO.LTD./KOREA POWER ENGINEERING COMPA	10	4			
EE/B&W/T	THE ENGLISH ELECTRIC CO. LTD / BABCOCK & WILCOX CO. / TAYLOR WOODROW CONSTRU				6	
EL/WEST	ELETTRONUCLEARE ITALIANA / WESTINGHOUSE ELECTRIC CORP.				1	
FAEA	FEDERAL ATOMIC ENERGY AGENCY	1			5	
FRAM	FRAMATOME	66			3	
FRAMACEC	FRAMACECO (FRAMATOME-ACEC-COCKERILL)	2				
GA	GENERAL ATOMIC CORP.				2	
GAAA	GROUPEMENT ATOMIQUE ALSACIENNE ATLANTIQUE				1	
GE	GENERAL ELECTRIC CO.	44	2	1	13	
GE,AEG	GENERAL ELECTRIC COMPANY (US), ALLGEMEINE ELEKTRICITAETS- GESELLSCHAFT				1	
GE/GETSC	GENERAL ELECTRIC CO. / GENERAL ELECTRIC TECHNICAL SERVICES CO.				1	
GE/T	GENERAL ELECTRIC CO. / TOSHIBA CORPORATION				2	
GEC	GENERAL ELECTRIC COMPANY (UK)				3	
GETSCO	GENERAL ELECTRIC TECHNICAL SERVICES CO.	2				
GNEPRWRA	GENERAL NUCLEAR ENGINEERING & PUERTO RICO WATER RESOURCES AUTHORITY (US)				1	
GTM	GRANDS TRAVAUX DE MARSEILLE				1	
H/G	HITACHI GE NUCLEAR ENERGY, LTD.		1			1
HITACHI	HITACHI LTD.	8	1		3	
HRB	HOCHTEMPERATUR-REAKTORBAU GMBH				1	
IA	INTERATOM INTERNATIONALE ATOMREAKTORBAU GMBH				1	
ICL/FE	INTERNATIONAL COMBUSTION LTD. / FAIREY ENGINEERING LTD.				1	
IZ	IZHORSKIYE ZAVODY	3	2			
KEPCO	KOREA ELECTRIC POWER CORPORATION		4			
KWU	SIEMENS KRAFTWERK UNION AG	11	1		10	
LEVIVIER	LEVIVIER				2	
MAEC-KAZ	MAEC-KAZATOMPROMMANGISHLAK ATOMIC ENERGY COMPLEX-KAZATOMPROM,LIMITED LIABILI				1	
MAEP	MINATOMENERGOPROM, MINISTRY OF NUCLEAR POWER AND INDUSTRY	1	1		2	
MHI	MITSUBISHI HEAVY INDUSTRIES LTD.	18			2	2
MSM	MINISTRY OF MEDIUM MACHINE BUILDING OF THE USSR (MINSREDMASH)				5	
NGA	NATIONALE GESELLSCHAFT ZUR FÖRDERUNG DER INDUSTRIELLEN ATOMTECHNIK				1	

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY — continued

NSSS supplier code	Full name of nuclear steam supply system supplier	Number of reactors, as of 31 Dec. 2015				
		Operational	Construction	LT shut down	Shut down	Planned
NNC	NATIONAL NUCLEAR CORPORATION	2				
NPC	NUCLEAR POWER CO. LTD.	6				
NPCIL	NUCLEAR POWER CORPORATION OF INDIA LTD.VIKRAM SARABHAI BHAVAN, ANUSHAKTI NAG	16	4			
NPIC	NUCLEAR POWER INSTITUTE OF CHINA	4	4			
OH/AECL	ONTARIO HYDRO / ATOMIC ENERGY OF CANADA LTD.	18			2	
PAA	PRODUCTION AMALGAMATION 'ATOMMASH', VOLGODONSK	4				
PAIP	PRODUCTION AMALGAMATION IZHORSKY PLANT ATOMMASH,VOLGODONSK,RUSSIA	11				
PPC	PWR POWER PROJECTS LTD	1				
RDM	ROTTERDAMSE DROOGDOK MAATSCHAPPIJ (RDM) IN ROTTERDAM (NL)				1	
ROSATOM	STATE ATOMIC ENERGY CORPORATION ROSATOM	35	8			24
S/KWU	SIEMENS/KRAFTWERK UNION AG	1				
SACM	SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES				2	
SHE	SHANGHAI ELECTRIC	1	1			
SIEM,KWU	SIEMENS AG, KRAFTWERK UNION AG				2	
SIEMENS	SIEMENS AG, POWER GENERATION	2			1	
SKODA	SKODA CONCERN NUCLEAR POWER PLANT WORKS	10	2		1	
T/H/F/M	TOSHIBA / HITACHI / FUJI ELECTRIC HOLDINGS / MITSUBISHI HEAVY INDUSTRIES			1		
TBD	TBD					1
TNPG	THE NUCLEAR POWER GROUP LTD.	4			10	
TOSHIBA	TOSHIBA CORPORATION	13			4	
Tsinghua	TSINGHUA UNIVERSITY		1			
UEC	UNITED ENGINEERS AND CONTRACTORS				1	
UKAEA	UNITED KINGDOM ATOMIC ENERGY AUTHORITY				10	
WH	WESTINGHOUSE ELECTRIC CORPORATION	69	7		12	4
WH/MHI	WESTINGHOUSE ELECTRIC CORPORATION / MITSUBISHI HEAVY INDUSTRIES LTD.	1	2			2
not specified			1			47
TOTAL		441	67	2	157	88

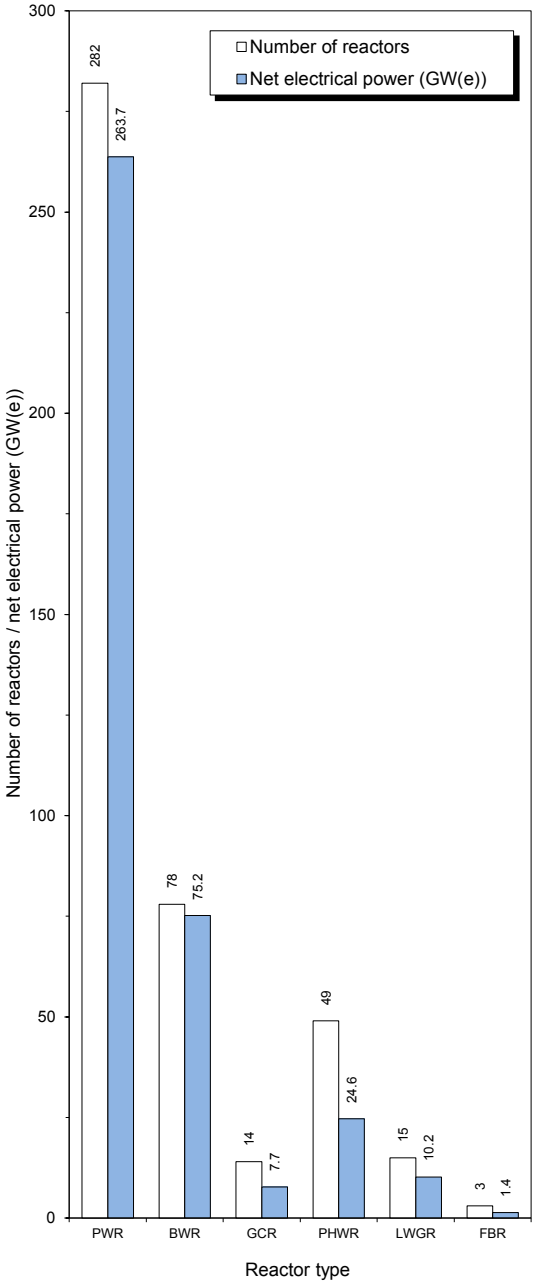

Figure 1. Number of operational reactors by type and net electrical power (as of 31 Dec. 2015).

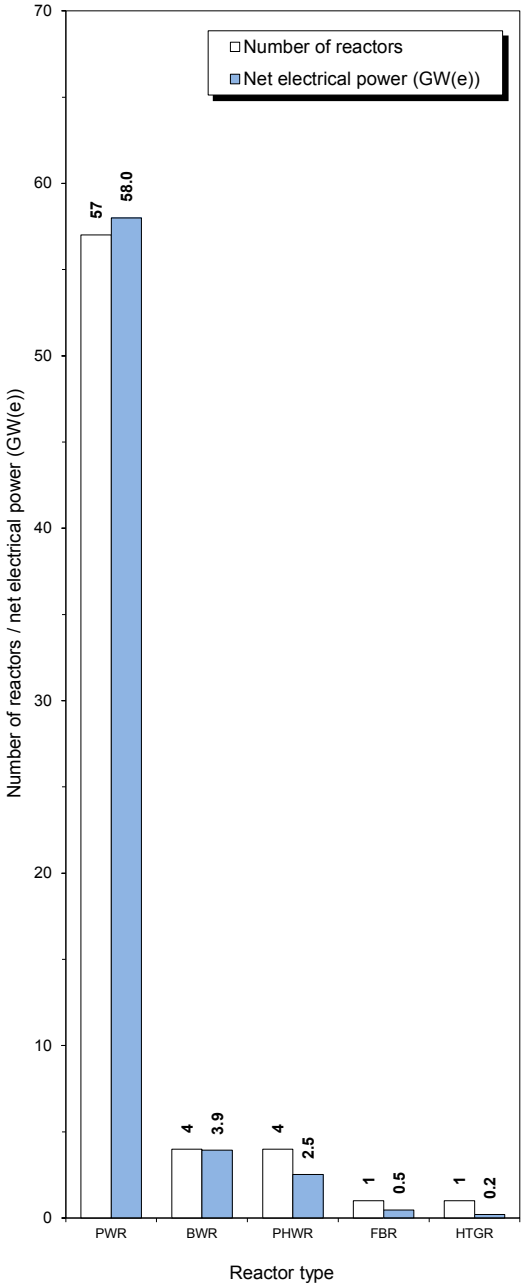

Figure 2. Reactors under construction by type and net electrical power (as of 31 Dec. 2015).

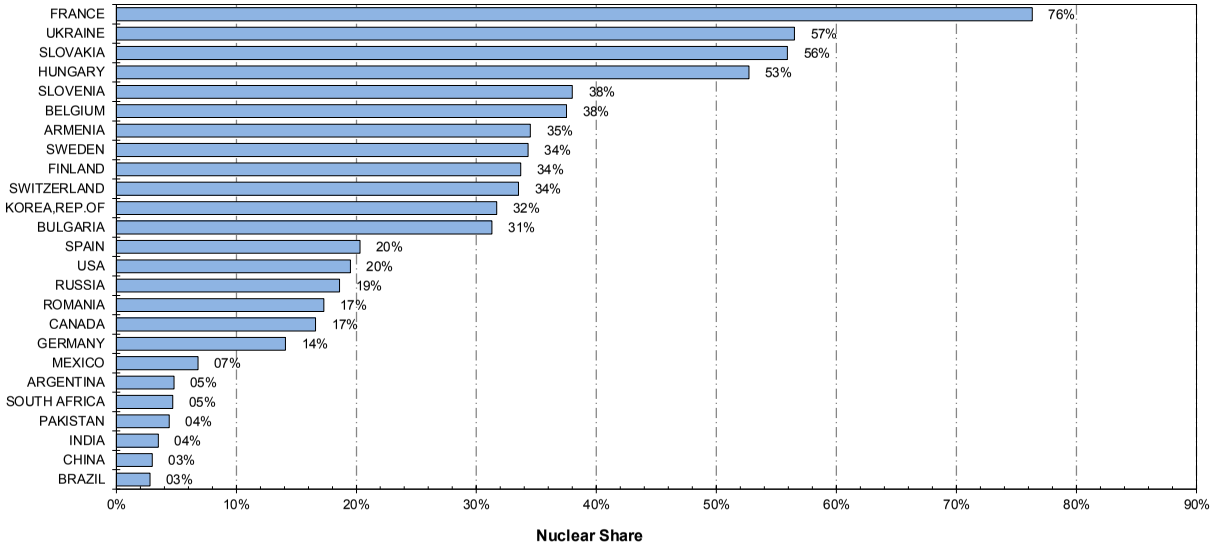

Figure 3. Nuclear share of electricity generation (as of 31 Dec. 2015).
Note: The nuclear share of electricity supplied in Taiwan, China was 16.3% of the total.

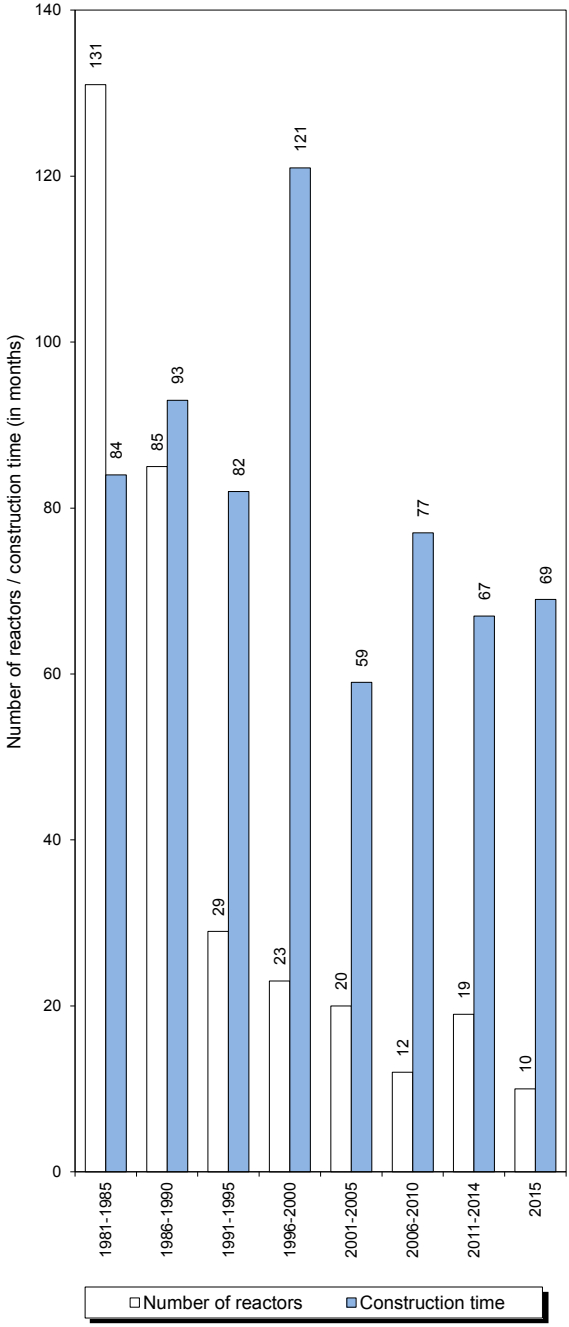

Figure 4. Worldwide median construction time in months (as of 31 Dec. 2015).

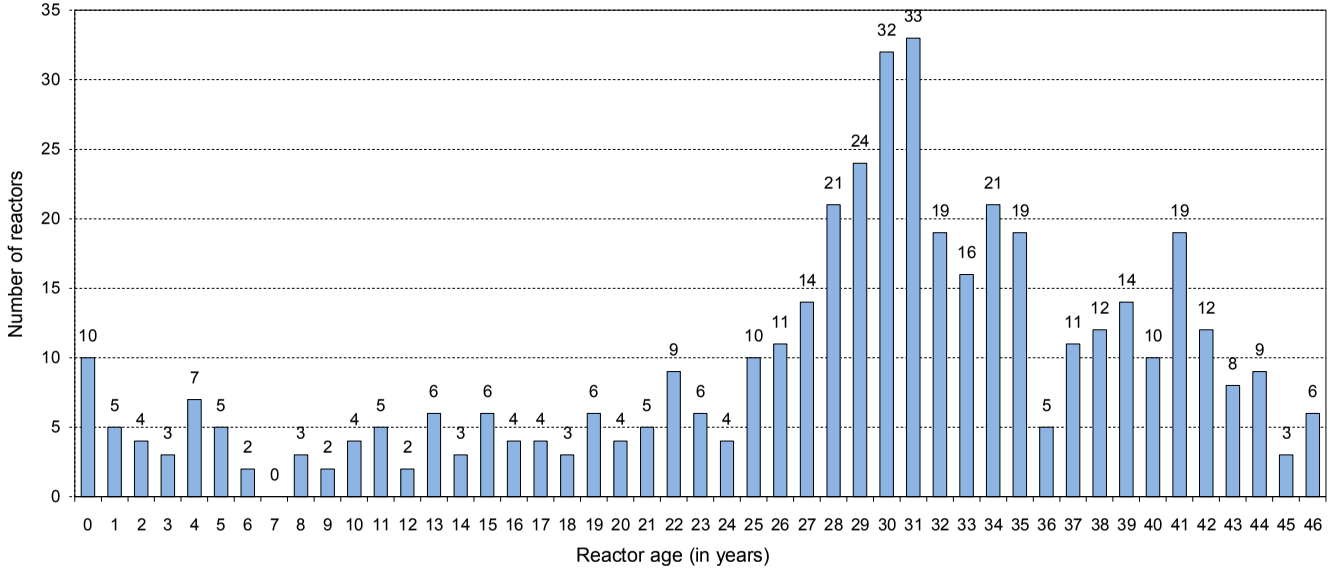

Figure 5. Number of operational reactors by age (as of 31 Dec. 2015).

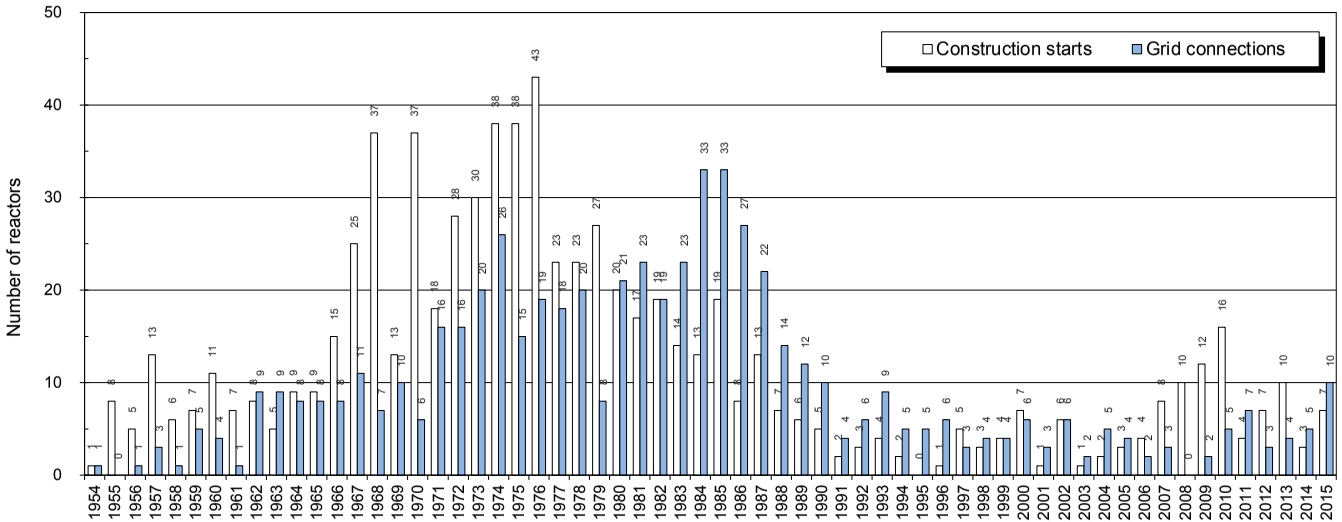

Figure 6. Annual construction starts and connections to the grid (1954 to 2015).

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