

REFERENCE DATA SERIES No. 2
2014 Edition

Nuclear Power Reactors in the World



IAEA

International Atomic Energy Agency

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NUCLEAR POWER REACTORS IN THE WORLD

2014 Edition

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INTRODUCTION

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

This thirty-fourth edition of Reference Data Series No. 2 provides a detailed comparison of various statistics up to and including 31 December 2013. 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. The IAEA collects this data through 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 during 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 license application has been submitted to the relevant national regulatory authorities until the construction start date.

Construction Start

Date when first major placing of concrete, usually for the base mat of the reactor building, takes place.

First Criticality

Date when the reactor is made critical for the first time.

Grid Connection

Date when the plant is first connected to the electrical grid for the supply of power. After this date, the plant is considered to be in operation.

Commercial Operation

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

Permanent Shutdown

Date when the plant is officially declared to be shut down by the owner and taken out of operation permanently.

Long Term Shutdown

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

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. REACTORS IN OPERATION, IN LONG TERM SHUTDOWN AND UNDER CONSTRUCTION, 31 DEC. 2013

Country	Reactors in operation		Reactors in long term shutdown		Reactors under construction		Nuclear electricity supplied in 2013	
	No. of units	Total MW(e)	No. of units	Total MW(e)	No. of units	Total MW(e)	TW(e)-h	% of total
ARGENTINA	2	935			1	692	5.7	4.4
ARMENIA	1	375					2.2	29.2
BELARUS					1	1109	NA	NA
BELGIUM	7	5927					40.6	52.1
BRAZIL	2	1884			1	1245	13.8	2.8
BULGARIA	2	1906					13.3	30.7
CANADA	19	13500					94.3	16.0
CHINA	20	15977			29	28774	104.8	2.1
CZECH REP.	6	3884					29.0	35.9
FINLAND	4	2752			1	1600	22.7	33.3
FRANCE	58	63130			1	1630	405.9	73.3
GERMANY	9	12068					92.1	15.4
HUNGARY	4	1889					14.5	50.7
INDIA	21	5308			6	3907	30.0	3.5
IRAN, ISL. REP.	1	915					3.9	1.5
JAPAN	48	42388			2	1325	13.9	1.7
KOREA, REP. OF	23	20721	1	246	5	6370	132.5	27.6
MEXICO	2	1330					11.4	4.6
NETHERLANDS	1	482					2.7	2.8
PAKISTAN	3	690			2	630	4.4	4.4
ROMANIA	2	1300					10.7	19.8
RUSSIA	33	23643			10	8382	161.7	17.5
SLOVAKIA	4	1815			2	880	14.6	51.7
SLOVENIA	1	688					5.0	33.6
SOUTH AFRICA	2	1860					13.6	5.7
SPAIN	7	7121	1	446			54.3	19.7
SWEDEN	10	9474					63.7	42.7
SWITZERLAND	5	3308					25.0	36.4

TABLE 1. REACTORS IN OPERATION, IN LONG TERM SHUTDOWN AND UNDER CONSTRUCTION, 31 DEC. 2013 — continued

Country	Reactors in operation		Reactors in long term shutdown		Reactors under construction		Nuclear electricity supplied in 2013	
	No. of units	Total MW(e)	No. of units	Total MW(e)	No. of units	Total MW(e)	TW(e)-h	% of total
UAE						2690	NA	NA
UK	16	9243					64.1	18.3
UKRAINE	15	13107				1900	78.2	43.6
USA	100	99081			5	5653	790.2	19.4
Total	434	371733	2	692	72	69367	2358.9	NA

Note:

The total includes the following data from Taiwan, China:

— 6 units, 5032 MW in operation; 2 units, 2600 MW under construction;

— 39.8 TW(e)-h of nuclear electricity generation, representing 19.1% of the total electricity generated there.

TABLE 2. TYPE AND NET ELECTRICAL POWER OF REACTORS CONNECTED TO THE GRID, 31 DEC. 2013

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														
ARMENIA	1	375											2	935
BELGIUM	7	5927						2					1	375
BRAZIL	2	1884											7	5927
BULGARIA	2	1906											2	1884
CANADA								19	13500				2	1906
CHINA	17	14657					2	1300				1	20	13500
CZECH REP.	6	3884											6	3884
FINLAND	2	992	2	1760									4	2752
FRANCE	58	63130											58	63130
GERMANY	7	9496	2	2572									9	12068
HUNGARY	4	1889											4	1889
INDIA	1	917	2	300			18	4091					21	5308
IRAN, ISL. REP.	1	915											1	915
JAPAN	24	19284	24	23104									48	42388
KOREA, REP. OF	19	18037					4	2684					23	20721
MEXICO			2	1330									2	1330
NETHERLANDS	1	482											1	482
PAKISTAN	2	600					1	90					3	690
ROMANIA							2	1300					2	1300
RUSSIA	17	12864							15	10219	1	560	33	23643
SLOVAKIA	4	1815											4	1815
SLOVENIA	1	688											1	688
SOUTH AFRICA	2	1860											2	1860
SPAIN	6	6057	1	1064									7	7121
SWEDEN	3	2811	7	6663									10	9474
SWITZERLAND	3	1715	2	1593									5	3308
UK	1	1198			15	8045							16	9243
UKRAINE	15	13107											15	13107
USA	65	64687	35	34394									100	99081
TOTAL	273	253031	81	75958	15	8045	48	23900	15	10219	2	580	434	371733

Notes:

1. The totals include 6 units, 5032 MW in Taiwan, China.
2. During 2013, 4 reactors, 3941 MW were newly connected to the grid.

TABLE 3. TYPE AND NET ELECTRICAL POWER OF REACTORS UNDER CONSTRUCTION, 31 DEC. 2013

Country	PWR		BWR		PHWR		FBR		HTGR		Total	
	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)	No.	MW(e)
ARGENTINA					1	692					1	692
BELARUS	1	1109									1	1109
BRAZIL	1	1245									1	1245
CHINA	28	28574							1	200	29	28774
FINLAND	1	1600									1	1600
FRANCE	1	1630									1	1630
INDIA	1	917			4	2520		1	470		6	3907
JAPAN											2	1325
KOREA, REP. OF	5	6370	2	1325							5	6370
PAKISTAN	2	630									2	630
RUSSIA	9	7593						1	789		10	8382
SLOVAKIA	2	880									2	880
UAE	2	2690									2	2690
UKRAINE	2	1900									2	1900
USA	5	5633									5	5633
TOTAL	60	60771	(*) 4	3925	5	3212	2	1259	1	200	72	69367

Notes:

1. The totals include 2 units (2 x BWR), 2600 MW in Taiwan, China.
2. During 2013, construction started on 10 reactors, 11252 MW.

TABLE 4. REACTOR YEARS OF EXPERIENCE, UP TO 31 DEC. 2013

Country	Operating reactors		Reactors in long term shutdown		Permanently shut down reactors		Total, operating and shut down			
	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	2	935					2	935	70	7
ARMENIA	1	375			1	376	1	751	39	8
BELGIUM	7	5927			1	10	1	5937	261	7
BRAZIL	2	1884					2	1884	45	3
BULGARIA	2	1906			4	1632	2	3538	155	3
CANADA	19	13500			6	2143	6	15643	655	7
CHINA	20	15977					20	15977	160	7
CZECH REP.	6	3884					6	3884	134	10
FINLAND	4	2752			4		4	2752	139	4
FRANCE	58	63130			12	3789	12	66919	1932	3
GERMANY	9	12068			27	14301	36	26369	799	1
HUNGARY	4	1889			4		4	1889	114	2
INDIA	21	5308					21	5308	397	6
IRAN, ISL. REP.	1	915			4		1	915	2	4
ITALY									1423	8
JAPAN	48	42388			11	1423	4	42388	80	8
KAZAKHSTAN			1	246			1	246	6164	4
KOREA, REP. OF	23	20721					23	20721	52	10
LITHUANIA					2	2370	2	2370	427	1
MEXICO	2	1330					2	1330	43	6
NETHERLANDS	1	482			1	55	1	537	69	11
PAKISTAN	3	690					3	690	58	8
ROMANIA	2	1300					2	1300	23	11
RUSSIA	33	23643			5	786	38	24429	1124	2
SLOVAKIA	4	1815			3	909	7	2724	148	7
SLOVENIA	1	688					1	688	32	3
SOUTH AFRICA	2	1860					2	1860	58	3
SPAIN	7	7121	1	446	2	621	10	8188	301	1

TABLE 4. REACTOR YEARS OF EXPERIENCE, UP TO 31 DEC. 2013 — continued

Country	Operating reactors		Reactors in long term shutdown		Permanently shut down reactors		Total, operating and shut down			
	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	9474		1210	3	10684	13	10684	412	6
SWITZERLAND	5	3308		6	1	3314	6	3314	194	11
UK	16	9243		4225	29	13468	45	13468	1527	7
UKRAINE	15	13107		3515	4	16622	19	16622	428	6
USA	100	99081		13340	32	112421	132	112421	3912	4
Total	434	371733	2	692	149	429352	585	429352	15660	7

Notes:

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

— Reactors connected to the grid: 6 units, 5032 MW

— E: experience: 194 years, 1 month.

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

TABLE 5. OPERATING REACTORS AND NET ELECTRICAL POWER, FROM 1985 TO 2013

Country	Number of units and net capacity (MW(e)) connected to the grid at 31 Dec. of given year															
	1985		1990		1995		2000		2005		2010		2012		2013	
	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	978	2	935	2	935	2	935	2	935	2	935
ARMENIA	2	816	1	376	1	376	1	376	1	376	1	376	1	376	1	375
BELGIUM	8	5464	7	5631	7	5712	7	5801	7	5926	7	5927	7	5927	7	5927
BRAZIL	1	626	1	626	1	1976	1	1901	1	1901	2	1884	2	1884	2	1884
BULGARIA	4	1632	5	2585	6	3538	6	3760	4	2722	2	1906	2	1906	2	1906
CANADA	16	9741	20	13993	21	14902	14	9998	18	12584	18	12604	19	13500	19	13500
CHINA																
CZECH REP.	1	391	4	1632	3	2188	3	2188	9	6587	13	10065	17	12860	20	15977
FINLAND	4	2300	4	2310	4	2656	4	2656	4	2676	4	2716	4	2752	4	2752
FRANCE	43	37478	56	58573	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	12068	9	12068
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	20	4391	21	5308
IRAN, ISL. REP.																
ITALY	3	1273														
JAPAN	33	23612	41	30867	50	39625	52	43245	55	47593	54	48621	50	44215	48	42388
KAZAKHSTAN	1	135	1	135	1	50										
KOREA, REP. OF	5	3692	9	7220	11	9115	16	12990	20	16810	21	18698	23	20739	23	20721
LITHUANIA	1	1380	2	2760	2	2370	2	2370	1	1185	2	1300	2	1530	2	1330
MEXICO	2	508	1	640	2	1256	2	1290	2	1380	2	1300	2	1530	2	1330
NETHERLANDS	2	508	2	539	2	510	1	449	1	450	1	482	1	482	1	482
PAKISTAN	1	137	1	125	1	125	1	655	2	425	2	425	3	725	3	690
ROMANIA																
RUSSIA	28	15841	29	18898	30	19848	30	19848	31	21743	32	22693	33	23643	33	23643
SLOVAKIA	4	1632	4	1632	4	1632	6	2440	6	2442	4	1816	4	1816	4	1815
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	8	7560	7	7121
SWEDEN	12	9455	12	9826	12	10043	11	9412	10	8905	10	9303	10	9395	10	9474

TABLE 5. OPERATING REACTORS AND NET ELECTRICAL POWER, FROM 1985 TO 2013 — continued

Country	Number of units and net capacity (MW(e)) connected to the grid at 31 Dec. of given year																	
	1985		1990		1995		2000		2005		2010		2012		2013			
	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	3278	5	3308		
UK	38	10077	37	11360	35	12910	33	12490	23	11852	19	10137	16	9231	16	9243		
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	104	102330	100	99081		
WORLD	363	245779	416	318253	434	341402	435	349999	441	368125	441	375277	437	373263	434	371733		

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; 2012: 6 units, 5028 MW; 2013: 6 units, 5032 MW.

TABLE 6. NUCLEAR ELECTRICITY PRODUCTION AND SHARE, FROM 1985 TO 2013

Country	Nuclear capacity (TWE/h) of reactors connected to the grid at 31 Dec. of given year															
	1985		1990		1995		2000		2005		2010		2012		2013	
	TW(e)h	% of total	TW(e)h	% of total	TW(e)h	% of total	TW(e)h	% of total	TW(e)h	% of total	TW(e)h	% of total	TW(e)h	% of total	TW(e)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	4.7	5.74	4.4	
ARMENIA							1.84	33.0	3.0	42.7	2.29	39.4	2.12	26.6	2.17	29.2
BELGIUM	29.25	59.8	40.59	60.1	39.30	55.5	45.81	56.8	45.34	55.6	45.73	51.2	38.46	51.0	40.63	52.1
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	15.17	3.1	13.78	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	14.86	31.7	13.32	30.7
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	89.06	15.3	94.29	16.0
CHINA					12.13	1.2	16.02	1.2	50.33	2.0	70.96	1.8	92.65	2.0	104.84	2.1
CZECH REP.	1.99	NA	11.77	NA	12.23	20.0	12.71	18.7	23.25	30.5	26.44	33.3	28.60	35.3	29.01	35.9
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	22.06	32.6	22.67	33.3
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	407.44	74.8	405.90	73.3
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	94.10	16.1	92.14	15.5
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	14.76	45.9	14.54	50.7
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	29.66	3.6	30.01	3.5
IRAN, ISL. REP.													1.33	0.6	3.89	1.5
ITALY	6.46	3.8			275.51	33.4	306.24	33.8	280.50	29.3	280.25	29.2	17.23	2.1	13.95	1.7
JAPAN	145.37	22.7	187.19	27.1	0.08	0.1										
KAZAKHSTAN					60.21	36.1	103.54	40.7	137.59	44.7	141.89	32.2	143.55	30.4	132.47	27.6
KOREA, REP. OF	12.36	23.2	50.26	49.1	10.64	86.1	7.42	73.9	9.54	70.3						
LITHUANIA	8.75	NA	15.70	NA	7.53	6.0	7.92	3.9	10.32	5.0	5.59	3.6	8.41	4.7	11.38	4.6
MEXICO	3.69	6.1	3.29	4.9	3.78	4.9	3.70	4.3	3.77	3.9	3.75	3.4	3.71	4.4	2.74	2.8
NETHERLANDS	0.26	1.0	0.38	1.1	0.46	0.9	0.90	1.7	2.41	2.8	2.56	2.8	5.27	5.3	4.37	4.4
PAKISTAN							5.05	10.9	5.11	8.6	10.70	19.5	10.56	19.4	10.70	19.8
ROMANIA	88.26	NA	109.62	NA	91.59	11.8	120.10	15.0	137.64	15.8	159.41	17.1	166.29	17.8	161.72	17.5
RUSSIA	8.70	NA	11.16	NA	11.35	44.1	15.17	53.4	16.34	56.1	13.54	51.8	14.41	53.8	14.62	51.7
SLOVAKIA	3.85	NA	4.39	NA	4.57	39.5	4.55	37.4	5.61	42.4	5.38	37.3	5.24	38.0	5.04	33.6
SLOVENIA	5.39	4.2	8.47	5.6	11.29	6.5	13.00	6.6	12.24	5.5	12.90	5.2	12.40	5.1	13.64	5.7
SOUTH AFRICA	26.83	24.0	51.98	35.9	53.49	34.1	59.49	27.6	54.99	19.6	59.26	20.1	58.70	20.5	54.31	19.7
SPAIN	55.89	42.3	65.27	45.9	67.17	46.6	51.88	39.0	69.58	44.9	55.73	38.1	61.47	38.1	63.72	42.7
SWEDEN																

TABLE 6. NUCLEAR ELECTRICITY PRODUCTION AND SHARE, FROM 1985 TO 2013 — continued

Country	Nuclear capacity (TWE-h) of reactors connected to the grid at 31 Dec. of given year															
	1985		1990		1995		2000		2005		2010		2012		2013	
	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-h	% of total	TW(e)-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	24.45	35.9	24.99	36.4
UK	53.73	19.6	58.77	19.7	70.64	25.4	72.99	21.9	75.34	20.0	56.85	18.7	63.96	18.7	64.13	18.3
UKRAINE	35.81	NA	71.26	NA	65.78	37.8	72.56	47.3	83.40	48.5	83.95	48.1	84.89	46.2	78.17	43.6
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	770.72	19.0	790.19	19.4
WORLD	1327.63		1890.35		2190.94		2440.92		2626.34		2629.82		2346.19		2358.86	NA

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

1990: 31.54 TW(e)-h of nuclear electricity generation, representing 38.3% of the total electricity generated there;

1995: 33.80 TW(e)-h of nuclear electricity generation, representing 28.8% of the total electricity generated there;

2000: 37.00 TW(e)-h of nuclear electricity generation, representing 21.2% of the total electricity generated there;

2005: 38.40 TW(e)-h of nuclear electricity generation, representing 17.9% 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;

2012: 38.73 TW(e)-h of nuclear electricity generation, representing 18.4% of the total electricity generated there;

2013: 39.82 TW(e)-h of nuclear electricity generation, representing 19.1% of the total electricity generated there.

TABLE 7. ANNUAL CONSTRUCTION STARTS AND CONNECTIONS TO THE GRID, 1954 TO 2013

Year	Construction starts		Connections to the grid		Reactors in operation	
	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	29	22328	16	8880	113	32797
1973	29	23492	20	12727	132	43761
1974	38	35222	26	17149	154	61021
1975	38	36437	15	10236	169	70414
1976	43	41774	19	14196	186	83992
1977	23	21895	18	13199	199	96202
1978	23	21735	20	15782	218	111740
1979	27	22909	8	6909	225	117814
1980	20	19084	21	15088	245	133037
1981	17	16029	23	20355	267	153832
1982	19	19765	19	15332	284	168317
1983	16	12124	23	19266	306	187756
1984	11	10478	33	30992	336	218452
1985	19	15346	33	30963	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	10566	420	311942
1990	5	3267	10	10543	416	318253
1991	2	2246	4	3678	415	321924
1992	3	3107	6	4809	418	325261
1993	4	3515	9	9012	427	333914
1994	2	1330	5	4332	429	336934
1995			5	3536	434	341402
1996	1	610	6	7080	438	347296
1997	5	4410	3	3570	434	347895
1998	3	2096	4	2952	430	344915
1999	4	4540	4	2704	432	347368
2000	7	5356	6	3063	435	349999
2001	1	1304	3	2696	438	352730
2002	6	3440	6	5022	439	357496
2003	1	202	2	1600	437	359842
2004	2	1336	5	4785	438	364688
2005	3	2907	4	3823	441	368125
2006	4	3356	2	1492	435	369581
2007	8	6553	3	1842	439	371645
2008	10	10630			438	371495
2009	12	13125	2	1068	437	370702
2010	16	14517	5	3719	441	375277
2011	4	1890	7	4004	435	368921
2012	7	6984	3	2918	437	373263
2013	10	11252	4	3986	434	371733

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 2012	2013
	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months
ARGENTINA	109							
BELGIUM	4	80		1	176			
BRAZIL	1	132						
BULGARIA	1	104	1	113				
CANADA	7	98	2	97				
CHINA			3	73	6	59	4	60
CZECH REP.	1	74	3	93	1	191		67
FRANCE	24	68	3	93				
GERMANY	7	100	3	124				
HUNGARY	2	112	2	90				
INDIA	2	154	3	120	1	64	4	81
IRAN, ISL. REP.								
JAPAN	10	46	10	46	4	47	1	105
KOREA, REP. OF	4	65	2	61	4	54	1	222
LITHUANIA	1	80	5	59	4	51	2	54
MEXICO			1	210				
PAKISTAN							1	64
ROMANIA	9	73	1	83			1	161
RUSSIA	2	99	1	109	2	233	1	323
SLOVAKIA	1	80						
SLOVENIA	2	102						
SOUTH AFRICA	5	112						
SPAIN	4	74	2	96				
SWEDEN	1	125						
SWITZERLAND	6	186	4	98				
UK	7	57	1	80	2	227		
UKRAINE			1	113				

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 2012		2013	
	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months	No. Months
USA	25	126	22	146	1	221	1	278	20	59	12	77	10	62	4	68
TOTAL	131	84	85	93	29	82	23	121	20	59	12	77	10	62	4	68

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 2013

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation
	Code	Name			Thermal	Gross					
BELARUS	BY-1	BELARUSIAN-1	PWR	WVERV-491	3200	1194	1109	DSAE	ASE	2013-11	—
CHINA	CN-73	TIANWAN-4	PWR	VVER V-428M	3000	1060	990	JNPC	IZ	2013-9	—
	CN-46	YANGJIANG-5	PWR	ACPR-1000	2905	1087	1000	Y.JNPC	CFHI	2013-9	—
	CN-69	YANGJIANG-6	PWR	ACPR-1000	2905	1087	1000	Y.JNPC	CFHI	2013-12	—
KOREA, REP. OF	KR-28	SHIN-HANUL-2	PWR	APR-1400	3983	1400	1340	KHNP	DHICKOPC	2013-6	2017-6
UAE	AE-02	BARAKAH-2	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2013-5	2017-11
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	—

Note: During 2013, construction started on 10 reactors (11252 MW).

TABLE 10. CONNECTIONS TO THE GRID DURING 2013

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection
	Code	Name			Thermal	Gross	Net					
CHINA	CN-16	HONGYANHE-1	PWR	CPR-1000	2905	1119	1024	LHNPC	DEC	2007-8	2013-1	2013-2
	CN-17	HONGYANHE-2	PWR	CPR-1000	2905	1119	1024	LHNPC	DEC	2008-3	2013-10	2013-11
	CN-22	YANGJIANG-1	PWR	CPR-1000	2905	1086	1021	YJNPC	CFHI	2008-12	2013-12	2013-12
INDIA	IN-25	KUDANKULAM-1	PWR	VVER V-412	3000	1000	917	NPCIL	MAEP	2002-3	2013-7	2013-10

Note: During 2013, 4 reactors (3986 MW) were newly connected to the grid.

TABLE 11. SCHEDULED CONNECTIONS TO THE GRID DURING 2014

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid date
	Code	Name		Thermal	Gross	Net					
CHINA	CN-19	NINGDE-2	PWR	2905	1080	1018	NDNP	SHE	2008-11	2013-12	2014-1
INDIA	IN-26	KUDANKULAM-2	PWR	3000	1000	917	NPCIL	MAEP	2002-7	—	—
SLOVAKIA	SK-10	MOCHOVCE-3	PWR	1375	471	440	SE,plc	SKODA	1987-1	2014-10	2014-10

Note: During 2014, 3 reactors (2375 MW) are expected to achieve connection to grid.

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2013

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
ARGENTINA	AR-4	CAREM25	PWR	CAREM Prototyp	100	29	25	CNEA	CNEA	2014-2
CHINA	CN-72	BAMAOSHAN	PWR	CPR-1000	2905	1080	900			
	CN-53	CHANGJIANG-3	PWR		1930	650	610			
	CN-54	CHANGJIANG-4	PWR		1930	650	610			
	CN-57	FANGCHENGANG-3	PWR				1000			
	CN-58	FANGCHENGANG-4	PWR				1000			
	CN-59	FANGCHENGANG-5	PWR				1000			
	CN-60	FANGCHENGANG-6	PWR				1000			
	CN-49	FUJING-5	PWR	ACP-1000	2905	1087	1000	FQNP	NPIC	
	CN-50	FUJING-6	PWR	ACP-1000	2905	1087	1000	FQNP	NPIC	2014-10
	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-51	HONGSHIDING-1	PWR				0	HONGYANH	DEC	
	CN-52	HONGSHIDING-2	PWR				0	HONGYANH	DEC	
	CN-80	HONGYANHE-5	PWR	CPR-1000	2905	1080	1000	LHNPC	DEC	
	CN-81	HONGYANHE-6	PWR	CPR-1000	2905	1080	1000	LHNPC	DEC	
	CN-85	JIYANG-1	PWR				1000			
	CN-86	JIYANG-2	PWR				1000			
	CN-67	JIYANG-3	PWR				1000			
	CN-68	JIYANG-4	PWR				1000			
	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	SMNPC	WHIMHI		
CN-79	SANMEN-4	PWR	AP-1000		3400	1250	SMNPC	WHIMHI		
CN-70	SANMING-1	FBR	BN-800		2100	860	FSNPC	FSNPC		
CN-71	SANMING-2	FBR	BN-800		2100	860	FSNPC	FSNPC		

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Expected construction start	
	Code	Name			Thermal	Gross				Net
	CN-55	TAOHUAIJIANG-1	PWR			0				
	CN-56	TAOHUAIJIANG-2	PWR			0				
	CN-74	TIANWAN-5	PWR	CNP-1000		1080	1000	JNPC		
	CN-75	TIANWAN-6	PWR	CNP-1000		1080	1000	JNPC		
	CN-47	XIANNING-1	PWR			0	0			
	CN-48	XIANNING-2	PWR			0	0			
	CN-82	XUDABU-1	PWR	CPR-1000		1080	1000	LNPC		
	CN-83	XUDABU-2	PWR	CPR-1000		1080	1000	LNPC		
	INDIA	IN-35	KUDANKULAM-3	PWR	VVER V-412		1000	917	NPCIL	
		IN-36	KUDANKULAM-4	PWR	VVER V-412		1000	917	NPCIL	
	IRAN, ISL. REP.	IR-2	BUSHEHR-2	PWR	VVER V-446		1000	915	NPPDCO	
		IR-5	BUSHEHR-3	PWR			1000	915	NPPDCO	
		IR-9	DARKHOVAIN	PWR	IR-360		1113	360	NPPDCO	
JAPAN	JP-76	HAMAOKA-6	BWR	ABWR		3926	1400	CHUBU		
	JP-69	HIGASHI DORI-1 (TEPCO)	BWR	ABWR		3926	1385	TEPCO		
	JP-74	HIGASHI DORI-2 (TEPCO)	BWR	ABWR		3926	1343	TEPCO		
	JP-72	HIGASHI DORI-2 (TOHOKU)	BWR	ABWR		1067	1067	TOHOKU		
	JP-62	KAMINOSEKI-1	BWR	ABWR		3926	1373	CHUGOKU		
	JP-63	KAMINOSEKI-2	BWR	ABWR		3926	1373	CHUGOKU		
	JP-75	SENDAI-3	PWR	APWR		4466	1590	KYUSHU		
	JP-67	TSURUGA-3	PWR	APWR		4466	1538	JAPCO		
JP-68	TSURUGA-4	PWR	APWR		4466	1538	JAPCO			
RUSSIA	RU-171	BALTIC-2	PWR	VVER V-491		3200	1194	REA		
	RU-202	BASHKIR-1	PWR	VVER V-510		3300	1255	REA		
	RU-203	BASHKIR-2	PWR	VVER V-510		3300	1255	REA		
	RU-207	BELOYARSK-5	FBR	BN-1200		3000	1220	REA		

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start	
	Code	Name			Thermal	Gross	Net				
	RU-177	CENTRAL-1	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-178	CENTRAL-2	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-175	KOLA 2-1	PWR	—	3200	1200	1100	REA	ROSATOM	—	
	RU-176	KOLA 2-2	PWR	—	3200	1200	1100	REA	ROSATOM	—	
	RU-166	KURSK 2-1	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-189	KURSK 2-2	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-190	KURSK 2-3	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-191	KURSK 2-4	PWR	VVER V-510	3300	1255	1115	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	1115	REA	ROSATOM	—	
	RU-182	NIZHEGORODSK-2	PWR	—	3300	1255	1115	REA	ROSATOM	—	
	RU-187	SEVERSK-1	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-188	SEVERSK-2	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-198	SMOLENSK 2-1	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-199	SMOLENSK 2-2	PWR	VVER V-510	3300	1255	1115	REA	ROSATOM	—	
	RU-204	SOUTH URALS-1	FBR	BN-1200	3000	1220	1115	REA	ROSATOM	—	
	RU-205	SOUTH URALS-2	FBR	BN-1200	3000	1220	1115	REA	ROSATOM	—	
	UAE	AE-03	BARAKAH-3	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2014-6
		AE-04	BARAKAH-4	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2015-6
USA	US-5039	BELL BEND	PWR	EPR	4300	1720	1600	—	AREVA	—	
	US-5016	CALVERT CLIFFS-3	PWR	US-EPR	4300	1720	1600	—	—	—	
	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	—	

TABLE 12. REACTORS PLANNED FOR CONSTRUCTION AS KNOWN ON 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Expected construction start
	Code	Name			Thermal	Gross	Net			
	US-5030	LEVY COUNTY-2	PWR	AP-1000	3750	1250	1117			
	US-5017	NORTH ANNA-3	PWR	US-APWR			1500		WH	
	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			
	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			
	VN-2	PHUOC DINH 2	PWR				1000			

Note: Status as of 31 December 2013. 92 reactors (94423 MW) were known as planned.

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2013

Country	Reactor		Type	Model	Capacity (MW)			Operator	NSSS supplier	Construction start	First criticality	Grid connection	Commercial operation
	Code	Name			Thermal	Gross	Net						
ARGENTINA	AR-3	ATUCHA-2	PHWR	PHWR KWU	2160	745	692	NASA	SIEMENS	1981-7	2014-5	—	—
BELARUS	BY-1	BELARUSIAN-1	PWR	VVER V-491	3200	1194	1109	DSAE	ASE	2013-11	—	—	—
BRAZIL	BR-3	ANGRA-3	PWR	PRE KONVOI	3765	1350	1245	ELETRONU KWU	—	2010-6	—	—	2016-1
CHINA	CN-36	CHANGJIANG-1	PWR	CNP-600	1930	650	610	HNPC	DEC	2010-4	—	—	—
	CN-37	CHANGJIANG-2	PWR	CNP-600	1930	650	610	HNPC	DEC	2010-11	—	—	2015-12
	CN-38	FANGCHENGANG-1	PWR	CPR-1000	2905	1080	1000	GFNPC	DEC	2010-7	—	—	—
	CN-39	FANGCHENGANG-2	PWR	CPR-1000	2905	1080	1000	GFNPC	DEC	2010-12	—	—	—
	CN-24	FANGJIAZHAN-1	PWR	CPR-1000	2905	1080	1000	QNPC	NPIC	2008-12	—	—	—
	CN-25	FANGJIAZHAN-2	PWR	CPR-1000	2905	1080	1000	QNPC	NPIC	2009-7	—	—	—
	CN-20	FUQING-1	PWR	CPR-1000	2905	1080	1000	FQNP	NPIC	2008-11	—	—	—
	CN-21	FUQING-2	PWR	CPR-1000	2905	1080	1000	FQNP	NPIC	2009-6	—	—	—
	CN-42	FUQING-3	PWR	CPR-1000	2905	1080	1000	FQNP	NPIC	2010-12	—	—	2015-7
	CN-43	FUQING-4	PWR	CPR-1000	2905	1080	1000	FQNP	NPIC	2012-11	—	—	—
	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-26	HONGYANHE-3	PWR	CPR-1000	2905	1080	1000	LHNPC	DEC	2009-3	—	—	—
	CN-27	HONGYANHE-4	PWR	CPR-1000	2905	1080	1000	LHNPC	DEC	2009-8	—	—	—
	CN-19	NINGDE-2	PWR	CPR-1000	2905	1080	1018	NDNP	SHE	2008-11	—	2013-12	—
	CN-34	NINGDE-3	PWR	CPR-1000	2905	1080	1018	NDNP	SHE	2010-1	—	—	—
	CN-35	NINGDE-4	PWR	CPR-1000	2905	1080	1018	NDNP	CFHI	2010-9	—	—	—
	CN-28	SANMEN-1	PWR	AP-1000	3400	1250	1000	SMNPC	WH/WHI	2009-4	—	—	—
	CN-29	SANMEN-2	PWR	AP-1000	3400	1250	1000	SMNPC	WH/WHI	2009-12	—	—	—
	CN-44	SHIDAO BAY-1	HTR	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	TAIWAN-3	PWR	VVER V-428M	3000	1060	990	JNPC	IZ	2012-12	—	—	—	

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	First criticality	Grid connection	Commercial operation	
	Code	Name			Thermal	Gross							Net
	CN -73	TIANWAN-4	PWR	VVER V-428M	3000	1060	990	JNPC	2013-9	—	—	—	
	CN -23	YANGJIANG-2	PWR	CPR-1000	2905	1080	1000	YJNPC	2009-6	—	—	—	
	CN -40	YANGJIANG-3	PWR	CPR-1000	2905	1080	1000	YJNPC	2010-11	—	—	—	
	CN -41	YANGJIANG-4	PWR	CPR-1000	2905	1080	1000	YJNPC	2012-11	—	—	—	
	CN -46	YANGJIANG-5	PWR	ACPR-1000	2905	1087	1000	YJNPC	2013-9	—	—	—	
	CN -69	YANGJIANG-6	PWR	ACPR-1000	2905	1087	1000	YJNPC	2013-12	—	—	—	
	FINLAND	FI-5	OLKILUOTO-3	PWR	EPR	4300	1720	1600	TVO	2005-8	—	—	2016-1
	FRANCE	FR -74	FLAMANVILLE-3	PWR	EPR	4300	1650	1630	EDF	2007-12	2016-12	2016-12	—
	INDIA	IN -30	KAKRAPAR-3	PHWR	PHWR-700	2166	700	630	NPCIL	2010-11	2014-12	2015-3	2015-6
	IN -31	KAKRAPAR-4	PHWR	PHWR-700	2166	700	630	NPCIL	2010-11	2015-6	2015-9	2015-12	
	IN -26	KUDANKULAM-2	PWR	VVER V-412	3000	1000	917	NPCIL	2002-7	—	—	2014-12	
	IN -29	PFBR	FBR	Prototype	1253	500	470	BHAVINI	2004-10	—	—	—	
	IN -21	RAJASTHAN-7	PHWR	Horizontal Pre	2177	700	630	NPCIL	2011-7	2015-12	2016-3	2016-6	
	IN -22	RAJASTHAN-8	PHWR	Horizontal Pre	2177	700	630	NPCIL	2011-9	2016-6	2016-9	2016-12	
JAPAN	JP -66	OHMA	BWR	ABWR	3926	1383	0	EPDC	2010-5	—	—	—	
	JP -65	SHIMANE-3	BWR	ABWR	3926	1373	1325	CHUGOKU	2007-10	—	—	—	
KOREA, REP. OF	KR -27	SHIN-HANUL-1	PWR	APR-1400	3938	1400	1340	KHNP	2012-7	—	—	2016-6	
	KR -28	SHIN-HANUL-2	PWR	APR-1400	3983	1400	1340	KHNP	2013-6	—	—	2017-6	
	KR -25	SHIN-KORI-3	PWR	APR-1400	3983	1400	1400	KHNP	2008-10	—	—	—	
	KR -26	SHIN-KORI-4	PWR	APR-1400	3938	1400	1340	KHNP	2009-8	—	—	—	
	KR -24	SHIN-WOLSONG-2	PWR	OPR-1000	2825	1000	950	KHNP	2008-9	—	—	—	
	PAKISTAN	PK -4	CHASNUPP-3	PWR	CNP-300	999	340	315	PAEC	2011-5	2016-8	2016-9	2016-12
	PK -5	CHASNUPP-4	PWR	CNP-300	999	340	315	PAEC	2011-12	2017-6	2017-7	2017-10	
RUSSIA	RU -151	AKADEMIK LOMONOSOV-1	PWR	KL-40S 'Float	150	35	32	REA	2007-4	—	—	2019-12	

TABLE 13. REACTORS UNDER CONSTRUCTION, 31 DEC. 2013 — 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 -152	AKADEMIK LOMONOSOV-2	PWR	KLT-40S/Float	150	35	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 -116	BELOYARSK-4	FBR	BN-800	2100	864	789	REA	ROSATOM	2006-7	—	—	2015-12	
	RU -163	LENINGRAD 2-1	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	2008-10	—	—	2018-12	
	RU -164	LENINGRAD 2-2	PWR	VVER V-491	3200	1170	1085	REA	ROSATOM	2010-4	—	—	2018-12	
	RU -161	NOVOVORONEZH 2-1	PWR	VVER V-392M	3200	1199	1114	REA	ROSATOM	2008-6	—	—	2015-12	
	RU -162	NOVOVORONEZH 2-2	PWR	VVER V-392M	3200	1199	1114	REA	ROSATOM	2009-7	—	—	2017-12	
	RU -63	ROSTOV-3	PWR	VVER V-320	3000	1100	1011	REA	ROSATOM	2009-9	—	—	2015-12	
	RU -64	ROSTOV-4	PWR	VVER V-320	3000	1100	1011	REA	ROSATOM	2010-6	—	—	2018-12	
	SLOVAKIA	SK -10	MOCHOVCE-3	PWR	VVER V-213	1375	471	440	SE,plc	SKODA	1987-1	2014-10	2014-10	2014-12
		SK -11	MOCHOVCE-4	PWR	VVER V-213	1375	471	440	SE,plc	SKODA	1987-1	2015-10	2015-10	2015-12
	UAE	AE -01	BARAKAH-1	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2012-7	2016-10	2016-11	2017-6
		AE -02	BARAKAH-2	PWR	APR-1400	3983	1400	1345	ENEC	KEPCO	2013-5	2017-10	2017-11	—
	UKRAINE	UA -51	KHMELNITSKI-3	PWR	VVER V-392B	3200	1000	950	NNEG	ASE	1986-3	—	2015-1	—
UA -52		KHMELNITSKI-4	PWR	VVER V-392B	3200	1000	950	NNEG	ASE	1987-2	—	2016-1	—	
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	WH	2013-3	—	—	—	
	US -5026	VOGTLE-4	PWR	AP-1000	3400	1250	1117	SOUTHERN WH	WH	2013-11	—	—	—	
	US -391	WATTS BAR-2	PWR	W (4-loop)/IC	3425	1218	1165	TVA	WH	1972-12	—	2015-8	—	

Note: Status as of 31 December 2013. 72 reactors (69367 MW) were under construction, including 2 units (2600 MW) in Taiwan, China.

TAIWAN, CN
TW -7 LUNG MEN 1
TW -8 LUNG MEN 2

BWR
ABWR
ABWR

3926
1350
1350

1999-3
1999-8

—
—
—

—
—
—

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
ARGENTINA	AR-1	ATUCHA-1	PHWR	KWU	1179	357	335	SIEMENS	1968-6	1974-3	1974-6	84.8	85.1	-
	AR-2	EMBALSE	PHWR	CANDU 6	2015	648	600	AECL	1974-4	1983-4	1984-1	75.1	75.2	-
ARMENIA	AM-19	ARMENIAN-2	PWR	VVER V-270	1375	408	375	ANPPCJSC	1975-7	1980-1	1980-5	68.8	70.7	-
BELGIUM	BE-2	DOEL-1	PWR	WE (2 loops)	1311	454	433	ELECTRAB	1969-7	1974-8	1975-2	89.5	89.7	-
	BE-4	DOEL-2	PWR	WE (2 loops)	1311	454	433	ELECTRAB	1971-9	1975-8	1975-12	90.4	90.5	-
	BE-5	DOEL-3	PWR	WE 3-loops	3054	1056	1006	ELECTRAB	1975-1	1982-6	1982-10	73.4	73.7	-
	BE-7	DOEL-4	PWR	WE 3-loops	2988	1039	1039	ELECTRAB	1978-12	1985-4	1985-7	85.8	85.8	-
	BE-3	TIHANGE-1	PWR	Framatome 3 lo	2873	1009	962	ELECTRAB	1970-6	1975-3	1975-10	85.0	86.5	-
	BE-6	TIHANGE-2	PWR	WE 3-loops	3064	1055	1008	ELECTRAB	1976-4	1982-10	1983-6	77.2	77.5	-
	BE-8	TIHANGE-3	PWR	WE 3-loops	3000	1094	1046	ELECTRAB	1978-11	1985-6	1986-9	88.1	88.8	-
	BRAZIL	BR-1	ANGRA-1	PWR	2-loop WE	1882	640	609	ELETRONU	1971-5	1982-4	1985-1	78.4	78.4
	BR-2	ANGRA-2	PWR	PRE KONVOI	3764	1350	1275	ELETRONU	1976-1	2000-7	2001-2	91.8	91.8	-
BULGARIA	BG-5	KOZLODUY-5	PWR	VVER V-320	3000	1000	953	KOZNP	1980-7	1987-11	1988-12	87.5	88.0	DH
	BG-6	KOZLODUY-6	PWR	VVER V-320	3000	1000	953	KOZNP	1982-4	1991-8	1993-12	87.0	87.6	DH
CANADA	CA-8	BRUCE-1	PHWR	CANDU 791	2575	824	772	BRUCEPOW	1971-6	1977-1	1977-9	77.3	77.4	-
	CA-9	BRUCE-2	PHWR	CANDU 791	2456	786	734	BRUCEPOW	1970-12	1976-9	1977-9	87.8	87.9	-
	CA-10	BRUCE-3	PHWR	CANDU 750A	2832	805	730	BRUCEPOW	1972-7	1977-12	1978-2	74.8	75.1	-
	CA-11	BRUCE-4	PHWR	CANDU 750A	2832	805	730	BRUCEPOW	1972-9	1978-12	1979-1	78.3	78.6	-
	CA-18	BRUCE-5	PHWR	CANDU 750B	2832	872	817	BRUCEPOW	1978-6	1984-12	1985-3	93.8	93.9	-
	CA-19	BRUCE-6	PHWR	CANDU 750B	2680	891	817	BRUCEPOW	1978-1	1984-6	1984-9	88.5	88.6	-
	CA-20	BRUCE-7	PHWR	CANDU 750B	2832	872	817	BRUCEPOW	1979-5	1986-2	1986-4	94.3	94.4	-
	CA-21	BRUCE-8	PHWR	CANDU 750B	2690	845	817	BRUCEPOW	1979-8	1987-3	1987-5	87.3	87.4	-
	CA-22	DARLINGTON-1	PHWR	CANDU 850	2776	934	878	OPG	1982-4	1990-12	1992-11	91.5	92.6	-
	CA-23	DARLINGTON-2	PHWR	CANDU 850	2776	934	878	OPG	1981-9	1990-1	1990-10	85.3	86.2	-

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applies		
	Code	Name			Thermal	Gross									Net	
CHINA	CA-24	DARLINGTON-3	PHWR	CANDU 850	2776	934	878	OPG	OHA/ECL	1984-9	1992-12	1993-2	89.6	90.5	-	
	CA-25	DARLINGTON-4	PHWR	CANDU 850	2776	934	878	OPG	OHA/ECL	1985-7	1993-4	1993-6	85.4	86.2	-	
	CA-4	PICKERING-1	PHWR	CANDU 500A	1744	542	515	OPG	OHA/ECL	1968-6	1971-4	1971-7	67.2	67.5	-	
	CA-7	PICKERING-4	PHWR	CANDU 500A	1744	542	515	OPG	OHA/ECL	1968-5	1973-5	1973-6	64.0	64.3	-	
	CA-13	PICKERING-5	PHWR	CANDU 500B	1744	540	516	OPG	OHA/ECL	1974-11	1982-12	1983-5	70.3	71.2	-	
	CA-14	PICKERING-6	PHWR	CANDU 500B	1744	540	516	OPG	OHA/ECL	1975-10	1983-11	1984-2	79.4	80.0	-	
	CA-15	PICKERING-7	PHWR	CANDU 500B	1744	540	516	OPG	OHA/ECL	1976-3	1984-11	1985-1	82.9	83.5	-	
	CA-16	PICKERING-8	PHWR	CANDU 500B	1744	540	516	OPG	OHA/ECL	1976-9	1986-1	1986-2	79.9	80.5	-	
	CA-17	POINT LEPREAU	PHWR	CANDU 6	2180	705	660	NBEPCC	AECL	1975-5	1982-9	1983-2	16.1	16.1	-	
	CN-84	CEFR	FBR	BN-20	65	25	20	CIAE	IZ	2000-5	2011-7	—	—	—	—	—
	CN-2	DAYA BAY-1	PWR	M310	2905	984	944	DNMC	FRAM	1987-8	1993-8	1994-2	89.9	90.1	-	
	CN-3	DAYA BAY-2	PWR	M310	2905	984	944	DNMC	FRAM	1988-4	1994-2	1994-5	92.8	92.9	-	
	CN-16	HONGYANHE-1	PWR	CPR-1000	2905	1119	1024	LHNPC	DEC	2007-8	2013-2	2013-6	97.6	99.5	-	
	CN-17	HONGYANHE-2	PWR	CPR-1000	2905	1119	1024	LHNPC	DEC	2008-3	2013-11	—	—	—	—	—
	CN-6	LING AO-1	PWR	M310	2905	990	950	DNMC	FRAM	1997-5	2002-2	2002-5	90.2	90.3	-	
	CN-7	LING AO-2	PWR	M310	2905	990	950	DNMC	FRAM	1997-11	2002-9	2003-1	90.9	91.0	-	
	CN-12	LING AO-3	PWR	CPR-1000	2905	1080	1007	DNMC	DEC	2005-12	2010-7	2010-9	82.5	82.7	-	
CN-13	LING AO-4	PWR	CPR-1000	2905	1080	1007	DNMC	DEC	2006-6	2011-5	2011-8	86.9	87.3	-		
CN-18	NINGDE-1	PWR	CPR-1000	2905	1080	1018	NDNP	DEC	2008-2	2012-12	2013-4	99.9	99.9	-		
CN-4	QINSHAN 2-1	PWR	CNP-600	1930	650	610	NPQJVC	CNNC	1986-6	2002-2	2002-4	83.8	83.8	-		
CN-5	QINSHAN 2-2	PWR	CNP-600	1930	650	610	NPQJVC	CNNC	1987-4	2004-3	2004-5	86.8	86.8	-		
CN-14	QINSHAN 2-3	PWR	CNP-600	1930	650	610	NPQJVC	CNNC	2006-4	2010-8	2010-10	88.8	88.9	-		
CN-15	QINSHAN 2-4	PWR	CNP 600	1930	650	610	NPQJVC	CNNC	2007-1	2011-11	2011-12	90.0	90.0	-		
CN-8	QINSHAN 3-1	PHWR	CANDU 6	2064	700	650	TGNPC	AECL	1998-6	2002-11	2002-12	92.1	92.1	-		
CN-9	QINSHAN 3-2	PHWR	CANDU 6	2064	700	650	TGNPC	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	87.8	88.0	-		
CN-10	TIANWAN-1	PWR	VVER V-428	3000	1060	990	JNPC	IZ	1989-10	2006-5	2007-5	85.1	85.1	-		
CN-11	TIANWAN-2	PWR	VVER V-428	3000	1060	990	JNPC	IZ	2000-9	2007-5	2007-8	85.5	85.5	-		
CN-22	YANGJIANG-1	PWR	CPR-1000	2905	1086	1000	YJNPC	CFHI	2008-12	2013-12	—	—	—	—	—	

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics	
	Code	Name			Thermal	Gross									Net
CZECH REP.	CZ-4	DUKOVANY-1	PWR	VVER V-213	1444	500	468	CEZ	SKODA	1979-1	1985-2	1985-5	89.1	89.6	-
	CZ-5	DUKOVANY-2	PWR	VVER V-213	1444	500	471	CEZ	SKODA	1979-1	1986-1	1986-3	87.7	88.4	-
	CZ-8	DUKOVANY-3	PWR	VVER V-213	1444	500	468	CEZ	SKODA	1979-3	1986-11	1986-12	83.9	84.9	-
	CZ-9	DUKOVANY-4	PWR	VVER V-213	1444	500	471	CEZ	SKODA	1979-3	1987-6	1987-7	85.3	86.1	-
	CZ-23	TEMLIN-1	PWR	VVER V-320	3120	1056	1003	CEZ	SKODA	1987-2	2000-12	2002-6	79.4	79.6	DH
	CZ-24	TEMLIN-2	PWR	VVER V-320	3120	1056	1003	CEZ	SKODA	1987-2	2002-12	2003-4	80.5	80.9	DH
FINLAND	FI-1	LOVISA-1	PWR	VVER V-213	1500	520	496	FORTUMPH AEE	AEE	1971-5	1977-2	1977-5	91.3	91.8	-
	FI-2	LOVISA-2	PWR	VVER V-213	1500	520	496	FORTUMPH AEE	AEE	1972-8	1980-11	1981-1	91.9	92.7	-
	FI-3	OLKILUOTO-1	BWR	BWR-2500	2500	910	880	TVO	ASEASTAL	1974-2	1978-9	1979-10	93.9	94.6	-
	FI-4	OLKILUOTO-2	BWR	BWR-2500	2500	910	880	TVO	ASEASTAL	1975-11	1980-2	1982-7	93.4	94.3	-
FRANCE	FR-54	BELLEVILLE-1	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1980-5	1987-10	1988-6	79.8	81.1	-
	FR-55	BELLEVILLE-2	PWR	P4 REP 1300	3817	1363	1310	EDF	FRAM	1980-8	1988-7	1989-1	74.6	78.1	-
	FR-32	BLAYAIS-1	PWR	CP1	2785	951	910	EDF	FRAM	1977-1	1981-6	1981-12	73.0	76.4	-
	FR-33	BLAYAIS-2	PWR	CP1	2785	951	910	EDF	FRAM	1977-1	1982-7	1983-2	75.5	78.7	-
	FR-34	BLAYAIS-3	PWR	CP1	2785	951	910	EDF	FRAM	1978-4	1983-8	1983-11	82.4	85.7	-
	FR-35	BLAYAIS-4	PWR	CP1	2785	951	910	EDF	FRAM	1978-4	1983-5	1983-10	74.3	77.9	-
	FR-13	BUGEY-2	PWR	CP0	2785	945	910	EDF	FRAM	1972-11	1978-5	1979-3	72.5	74.7	-
	FR-14	BUGEY-3	PWR	CP0	2785	945	910	EDF	FRAM	1973-9	1978-9	1979-3	48.8	53.9	-
	FR-15	BUGEY-4	PWR	CP0	2785	917	880	EDF	FRAM	1974-6	1979-3	1979-7	80.7	83.4	-
	FR-16	BUGEY-5	PWR	CP0	2785	917	880	EDF	FRAM	1974-6	1979-3	1979-7	75.1	78.3	-
	FR-50	CATTENOM-1	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1979-10	1986-11	1987-4	74.4	76.7	-
	FR-53	CATTENOM-2	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1980-7	1987-9	1988-2	78.2	81.3	-
	FR-60	CATTENOM-3	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1982-6	1990-7	1991-2	71.4	72.9	-
	FR-65	CATTENOM-4	PWR	P4 REP 1300	3817	1362	1300	EDF	FRAM	1983-9	1991-5	1992-1	78.2	78.2	-
	FR-40	CHINON B-1	PWR	CP2	2785	954	905	EDF	FRAM	1977-3	1982-11	1984-2	64.1	69.0	-
	FR-41	CHINON B-2	PWR	CP2	2785	954	905	EDF	FRAM	1977-3	1983-11	1984-8	77.7	79.9	-
	FR-56	CHINON B-3	PWR	CP2	2785	954	905	EDF	FRAM	1980-10	1986-10	1987-3	72.9	75.4	-
FR-57	CHINON B-4	PWR	CP2	2785	954	905	EDF	FRAM	1981-2	1987-11	1988-4	74.1	78.2	-	

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applies
	Code	Name			Thermal	Gross								
	FR-52	CHOZ B-1	PWR	N4 REP 1450	4270	1560	EDF	FRAM	1984-1	1996-8	2000-5	77.6	78.4	-
	FR-70	CHOZ B-2	PWR	N4 REP 1450	4270	1560	EDF	FRAM	1985-12	1997-4	2000-9	72.7	81.1	-
	FR-72	CIVAUX-1	PWR	N4 REP 1450	4270	1561	EDF	FRAM	1988-10	1997-12	2002-1	75.5	78.5	-
	FR-73	CIVAUX-2	PWR	N4 REP 1450	4270	1561	EDF	FRAM	1991-4	1999-12	2002-4	74.1	83.2	-
	FR-42	CRUAS-1	PWR	CP2	2785	956	EDF	FRAM	1978-8	1983-4	1984-4	74.4	79.6	-
	FR-43	CRUAS-2	PWR	CP2	2785	956	EDF	FRAM	1978-11	1984-9	1985-4	74.2	77.9	-
	FR-44	CRUAS-3	PWR	CP2	2785	956	EDF	FRAM	1979-4	1984-5	1984-9	79.2	84.5	-
	FR-45	CRUAS-4	PWR	CP2	2785	956	EDF	FRAM	1979-10	1984-10	1985-2	74.3	78.3	-
	FR-22	DAMPIERRE-1	PWR	CP1	2785	937	EDF	FRAM	1975-2	1980-3	1980-9	74.4	77.2	-
	FR-29	DAMPIERRE-2	PWR	CP1	2785	937	EDF	FRAM	1975-4	1980-12	1981-2	80.2	81.7	-
	FR-30	DAMPIERRE-3	PWR	CP1	2785	937	EDF	FRAM	1975-9	1981-5	1981-5	76.2	78.6	-
	FR-31	DAMPIERRE-4	PWR	CP1	2785	937	EDF	FRAM	1981-8	1981-8	1981-11	79.8	85.2	-
	FR-11	FESSENHEIM-1	PWR	CP0	2785	920	EDF	FRAM	1971-9	1977-4	1978-1	71.3	72.1	-
	FR-12	FESSENHEIM-2	PWR	CP0	2785	920	EDF	FRAM	1972-2	1977-10	1978-4	58.6	62.0	-
	FR-46	FLAMANVILLE-1	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1979-12	1985-12	1986-12	76.9	79.6	-
	FR-47	FLAMANVILLE-2	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1980-5	1986-7	1987-3	81.3	84.1	-
	FR-61	GOLFECH-1	PWR	P4 REP 1300	3817	1363	EDF	FRAM	1982-11	1990-6	1991-2	83.9	85.3	-
	FR-68	GOLFECH-2	PWR	P4 REP 1300	3817	1363	EDF	FRAM	1984-10	1993-6	1994-3	87.5	88.8	-
	FR-20	GRAVELINES-1	PWR	CP1	2785	951	EDF	FRAM	1975-2	1980-3	1980-11	69.4	69.4	-
	FR-21	GRAVELINES-2	PWR	CP1	2785	951	EDF	FRAM	1975-3	1980-8	1980-12	72.1	73.7	-
	FR-27	GRAVELINES-3	PWR	CP1	2785	951	EDF	FRAM	1975-12	1980-12	1981-6	68.2	69.9	-
	FR-28	GRAVELINES-4	PWR	CP1	2785	951	EDF	FRAM	1976-4	1981-6	1981-10	82.6	84.3	-
	FR-51	GRAVELINES-5	PWR	CP1	2785	951	EDF	FRAM	1979-10	1984-8	1985-1	79.9	81.3	-
	FR-52	GRAVELINES-6	PWR	CP1	2785	951	EDF	FRAM	1979-10	1985-8	1985-10	83.8	84.2	-
	FR-58	NOGENT-1	PWR	P4 REP 1300	3817	1363	EDF	FRAM	1981-5	1987-10	1988-2	79.3	83.4	-
	FR-59	NOGENT-2	PWR	P4 REP 1300	3817	1363	EDF	FRAM	1982-1	1988-12	1989-5	79.8	80.7	-
	FR-36	PALUEL-1	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1977-8	1984-6	1985-12	77.0	82.3	-
	FR-37	PALUEL-2	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1978-1	1984-9	1985-12	84.1	86.2	-
	FR-38	PALUEL-3	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1979-2	1985-9	1986-2	65.7	67.6	-
	FR-39	PALUEL-4	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1980-2	1986-4	1986-6	81.1	82.6	-

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics	
	Code	Name			Thermal	Gross									Net
GERMANY	FR -63	PENLY-1	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1982-9	1990-5	1990-12	78.2	79.1	-	
	FR -64	PENLY-2	PWR	P4 REP 1300	3817	1382	EDF	FRAM	1984-8	1992-2	1992-11	84.4	86.8	-	
	FR -48	ST. ALBAN-1	PWR	P4 REP 1300	3817	1381	EDF	FRAM	1979-1	1985-8	1986-5	80.3	81.7	-	
	FR -49	ST. ALBAN-2	PWR	P4 REP 1300	3817	1381	EDF	FRAM	1979-7	1986-7	1987-3	77.9	79.7	-	
	FR -17	ST. LAURENT B-1	PWR	CP2	2785	956	EDF	FRAM	1976-5	1981-1	1983-8	76.4	81.1	-	
	FR -23	ST. LAURENT B-2	PWR	CP2	2785	956	EDF	FRAM	1976-7	1981-6	1983-8	70.2	73.5	-	
	FR -18	TRICASTIN-1	PWR	CP1	2785	955	EDF	FRAM	1974-11	1980-5	1980-12	75.5	77.6	-	
	FR -19	TRICASTIN-2	PWR	CP1	2785	955	EDF	FRAM	1974-12	1980-8	1980-12	76.0	78.2	-	
	FR -25	TRICASTIN-3	PWR	CP1	2785	955	EDF	FRAM	1975-4	1981-2	1981-5	74.9	75.8	-	
	FR -26	TRICASTIN-4	PWR	CP1	2785	955	EDF	FRAM	1975-5	1981-6	1981-11	82.3	84.9	-	
	DE -32	BROKDORF	PWR	PWR	3900	1480	E.ON	KWU	1976-1	1986-10	1986-12	88.4	88.5	-	
	DE -33	EMSLAND	PWR	Konvoi	3850	1400	KLE	KWU	1982-8	1988-4	1988-6	94.4	94.4	-	
	DE -23	GRAFENRHEINFELD	PWR	PWR	3765	1345	E.ON	KWU	1975-1	1982-8	1988-6	83.9	84.0	-	
	DE -27	GROHNDE	PWR	PWR	3900	1430	KWG	KWU	1976-6	1984-9	1985-2	90.0	91.3	-	
	DE -26	GUNDREMMINGEN-B	BWR	BWR-72	3840	1344	GGG	KWU	1976-7	1984-3	1984-7	87.9	87.9	-	
	DE -28	GUNDREMMINGEN-C	BWR	BWR-72	3840	1344	GGG	KWU	1976-7	1984-11	1985-1	89.4	89.5	-	
	DE -31	ISAR-2	PWR	Konvoi	3950	1485	E.ON	KWU	1982-9	1988-1	1988-4	94.3	94.3	-	
	DE -44	NECKARWESTHEIM-2	PWR	Konvoi	3850	1400	EnKK	KWU	1982-11	1989-1	1989-4	92.0	92.2	-	
	DE -24	PHILIPPSBURG-2	PWR	PWR	3950	1488	EnKK	KWU	1977-7	1984-12	1985-4	86.3	86.7	-	
	HUNGARY	HU -1	PAKS-1	PWR	VVER V-213	1485	500	PAKS Zrt	AEE	1974-8	1982-12	1983-8	89.1	89.2	-
		HU -2	PAKS-2	PWR	VVER V-213	1485	500	PAKS Zrt	AEE	1974-8	1984-9	1984-11	89.3	89.4	DH
		HU -3	PAKS-3	PWR	VVER V-213	1485	500	PAKS Zrt	AEE	1979-10	1986-9	1986-12	85.5	85.6	DH
		HU -4	PAKS-4	PWR	VVER V-213	1485	500	PAKS Zrt	AEE	1979-10	1987-8	1987-11	88.6	88.7	DH
	INDIA	IN -13	KAIGA-1	PHWR	Horizontal Pre	801	220	NPCIL	NPCIL	1989-9	2000-10	2000-11	65.4	91.7	-
		IN -14	KAIGA-2	PHWR	Horizontal Pre	801	220	NPCIL	NPCIL	1989-12	1999-12	2000-3	65.0	93.3	-
		IN -15	KAIGA-3	PHWR	Horizontal Pre	800	220	NPCIL	NPCIL	2002-3	2007-4	2007-5	66.0	89.0	-
IN -16		KAIGA-4	PHWR	Horizontal Pre	800	220	NPCIL	NPCIL	2002-5	2011-1	2011-1	68.9	89.2	-	

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics	
	Code	Name			Thermal	Gross									Net
JAPAN	IN-9	KAKRAPAR-1	PHWR	Horizontal Pre	801	220	202	NPCIL	1984-12	1992-11	1993-5	57.2	57.2	-	
	IN-10	KAKRAPAR-2	PHWR	Horizontal Pre	801	220	202	NPCIL	1985-4	1995-3	1995-9	74.9	92.4	-	
	IN-25	KUDANKULAM-1	PWR	VVER V-412	3000	1000	917	NPCIL	2002-3	2013-10	2014-4	60.5	90.0	DS	
	IN-5	MADRAS-1	PHWR	Horizontal Pre	801	220	205	NPCIL	1971-1	1983-7	1984-1	51.6	83.2	DS	
	IN-6	MADRAS-2	PHWR	Horizontal Pre	801	220	205	NPCIL	1972-10	1985-9	1986-3	56.2	88.2	-	
	IN-7	NARORA-1	PHWR	Horizontal Pre	801	220	202	NPCIL	1976-12	1989-7	1991-1	38.5	61.2	-	
	IN-8	NARORA-2	PHWR	Horizontal Pre	801	220	202	NPCIL	1977-11	1992-1	1992-7	78.6	80.1	PH	
	IN-3	RAJASTHAN-1	PHWR	Horizontal Pre	346	100	90	NPCIL	1965-8	1972-11	1973-12	0.0	0.0	PH	
	IN-4	RAJASTHAN-2	PHWR	Horizontal Pre	693	200	187	NPCIL	1968-4	1980-11	1981-4	84.6	93.5	PH	
	IN-11	RAJASTHAN-3	PHWR	Horizontal Pre	801	220	202	NPCIL	1990-2	2000-3	2000-6	83.1	91.4	PH	
	IN-12	RAJASTHAN-4	PHWR	Horizontal Pre	801	220	202	NPCIL	1990-10	2000-11	2000-12	92.2	92.6	-	
	IN-19	RAJASTHAN-5	PHWR	Horizontal Pre	801	220	202	NPCIL	2002-9	2009-12	2010-2	78.4	79.0	-	
	IN-20	RAJASTHAN-6	PHWR	Horizontal Pre	801	220	202	NPCIL	2003-1	2010-3	2010-3	79.0	79.3	-	
	IN-1	TARAPUR-1	BWR	BWR-1, Mark 2	530	160	150	NPCIL	1964-10	1969-4	1969-10	80.4	81.1	-	
	IN-2	TARAPUR-2	BWR	BWR-1, Mark 2	530	160	150	NPCIL	1964-10	1969-5	1969-10	77.8	91.0	-	
	IN-23	TARAPUR-3	PHWR	Horizontal Pre	1730	540	490	NPCIL	2000-5	2006-6	2006-8	68.0	87.9	-	
	IN-24	TARAPUR-4	PHWR	Horizontal Pre	1730	540	490	NPCIL	2000-3	2005-6	2005-9	95.1	95.1	-	
	IRAN, ISL. REP.	IR-1	BUSHEHR-1	PWR	VVER V-446	3000	1000	915	NPPDCO	1975-5	2011-9	2013-9	34.2	35.3	-
	JAPAN	JP-25	FUKUSHIMA-DAINI-1	BWR	BWR-5	3293	1100	1067	TEPCO	1976-3	1981-7	1982-4	38.2	39.3	-
		JP-26	FUKUSHIMA-DAINI-2	BWR	BWR-5	3293	1100	1067	TEPCO	1979-5	1983-6	1984-2	40.0	41.2	-
		JP-35	FUKUSHIMA-DAINI-3	BWR	BWR-5	3293	1100	1067	TEPCO	1981-3	1984-12	1985-6	33.6	34.7	-
		JP-38	FUKUSHIMA-DAINI-4	BWR	BWR-5	3293	1100	1067	TEPCO	1981-5	1986-12	1987-8	50.0	50.0	-
		JP-12	GENKAI-1	PWR	M (2-loop)	1650	559	529	KYUSHU	1971-9	1975-2	1975-10	36.6	36.6	-
		JP-27	GENKAI-2	PWR	M (2-loop)	1650	559	529	KYUSHU	1972-2	1980-6	1981-3	34.8	34.8	DS
JP-45		GENKAI-3	PWR	M (4-loop)	3423	1180	1127	KYUSHU	1988-6	1993-6	1994-3	51.3	51.3	DS	
JP-46		GENKAI-4	PWR	M (4-loop)	3423	1180	1127	KYUSHU	1992-7	1996-11	1997-7	32.0	32.0	-	
JP-36		HAMAOKA-3	BWR	BWR-5	3293	1100	1056	CHUBU	1983-4	1987-1	1987-8	65.8	65.8	-	
JP-49		HAMAOKA-4	BWR	BWR-5	3293	1137	1092	CHUBU	1989-10	1993-1	1993-9			-	

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
	JP-60	HAMAOKA-5	BWR	ABWR	3926	1380	1325	TOSHIBA	2000-7	2004-4	2005-1	42.2	53.4	-
	JP-58	HIGASHI DORI-1 (TOHOKU)	BWR	BWR-5	3293	566	1067	TOHOKU	2000-11	2005-3	2005-12	37.1	37.1	-
	JP-23	IKATA-1	PWR	M (2-loop)	1650	518	538	SHIKOKU	1973-9	1977-9	1977-9	43.1	43.2	DS
	JP-32	IKATA-2	PWR	M (2-loop)	1650	566	538	SHIKOKU	1978-8	1981-8	1982-3	49.4	49.4	DS
	JP-47	IKATA-3	PWR	M (3-loop)	2660	890	846	SHIKOKU	1990-10	1994-3	1994-12	43.4	43.4	DS
	JP-33	KASHIWAZAKI KARIWA-1	BWR	BWR-5	3293	1100	1067	TOSHIBA	1980-6	1985-2	1985-9	23.1	23.1	-
	JP-39	KASHIWAZAKI KARIWA-2	BWR	BWR-5	3293	1100	1067	TEPCO	1985-11	1990-2	1990-9	0.0	0.0	-
	JP-52	KASHIWAZAKI KARIWA-3	BWR	BWR-5	3293	1100	1067	TOSHIBA	1989-3	1992-12	1993-8	0.0	0.0	-
	JP-53	KASHIWAZAKI KARIWA-4	BWR	BWR-5	3293	1100	1067	HITACHI	1990-3	1993-12	1993-8	0.0	0.0	-
	JP-40	KASHIWAZAKI KARIWA-5	BWR	BWR-5	3293	1100	1067	TEPCO	1985-6	1989-9	1990-4	23.0	23.0	-
	JP-55	KASHIWAZAKI KARIWA-6	BWR	ABWR	3926	1356	1315	TEPCO	1992-11	1996-1	1996-11	45.5	45.5	-
	JP-56	KASHIWAZAKI KARIWA-7	BWR	ABWR	3926	1356	1315	TEPCO	1993-7	1996-12	1997-7	37.2	37.2	-
	JP-4	MIHAMA-1	PWR	W (2-loop)	1031	340	320	WH	1967-2	1970-8	1970-11	32.1	32.3	-
	JP-6	MIHAMA-2	PWR	M (2-loop)	1456	500	470	KEPCO	1968-5	1972-4	1972-7	44.9	45.1	-
	JP-14	MIHAMA-3	PWR	M (3-loop)	2440	826	780	KEPCO	1972-8	1976-2	1976-12	41.7	41.7	-
	JP-15	OHI-1	PWR	W (4-loop)	3423	1175	1120	KEPCO	1972-10	1977-12	1979-3	33.7	33.7	DS
	JP-19	OHI-2	PWR	W (4-loop)	3423	1175	1120	KEPCO	1972-12	1978-10	1979-12	41.8	41.8	DS
	JP-50	OHI-3	PWR	M (4-loop)	3423	1180	1127	KEPCO	1987-10	1991-6	1991-12	60.4	60.5	-
	JP-51	OHI-4	PWR	M (4-loop)	3423	1180	1127	KEPCO	1988-6	1992-6	1993-2	66.0	68.0	-
	JP-22	ONAGAWA-1	BWR	BWR-4	1593	524	498	TOHOKU	1980-7	1983-11	1984-6	30.1	40.1	-
	JP-54	ONAGAWA-2	BWR	BWR-5	2436	825	796	TOHOKU	1991-4	1994-12	1994-12	26.7	36.1	-
	JP-57	ONAGAWA-3	BWR	BWR-5	2436	825	796	TOHOKU	1998-1	2001-5	2002-1	28.0	38.0	-
	JP-28	SENDAI-1	PWR	M (3-loop)	2660	890	846	KYUSHU	1979-12	1983-9	1984-7	39.6	39.6	-
	JP-37	SENDAI-2	PWR	M (3-loop)	2660	890	846	KYUSHU	1981-10	1985-4	1985-11	44.9	44.9	-
	JP-48	SHIKA-1	BWR	BWR-5	1593	530	505	HOKURIKU	1989-7	1993-1	1993-7	31.9	31.9	-
	JP-59	SHIKA-2	BWR	ABWR	3926	1150	1108	HOKURIKU	2001-8	2005-7	2006-3	32.3	32.3	-
	JP-7	SHIMANE-1	BWR	BWR-3	1380	460	439	HITACHI	1970-7	1973-12	1974-3	17.8	17.8	-
	JP-41	SHIMANE-2	BWR	BWR-5	2436	820	789	CHUGOKU	1985-2	1988-7	1989-2	42.4	42.4	-
	JP-8	TAKAHAMA-1	PWR	M (3-loop)	2440	826	780	KEPCO	1970-4	1974-3	1974-11	36.8	36.8	-
	JP-13	TAKAHAMA-2	PWR	M (3-loop)	2440	826	780	KEPCO	1971-3	1975-1	1975-11	47.5	47.5	-

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applies
	Code	Name			Thermal	Gross								
	JP-29	TAKAHAMA-3	PWR	M (3-loop)	2660	870	830	KEPCO	MHI	1980-12	1985-5	53.5	53.5	DS
	JP-30	TAKAHAMA-4	PWR	M (3-loop)	2660	870	830	KEPCO	MHI	1981-3	1984-11	44.9	44.9	DS
	JP-21	TOKAI-2	BWR	BWR-5	3293	1100	1060	JAPCO	GE	1973-10	1978-3	26.3	30.2	-
	JP-43	TOMARI-1	PWR	M (2-loop)	1650	579	550	HEPCO	MHI	1985-4	1988-12	42.3	42.3	-
	JP-44	TOMARI-2	PWR	M (2-loop)	1650	579	550	HEPCO	MHI	1985-6	1989-8	43.3	43.3	-
	JP-64	TOMARI-3	PWR	M (3-loop)	2660	912	866	HEPCO	MHI	2004-11	2009-3	54.3	54.3	-
	JP-3	TSURUGA-1	BWR	BWR-2	1070	357	340	JAPCO	GE	1966-11	1968-11	19.7	18.8	-
	JP-34	TSURUGA-2	PWR	M (4-loop)	3411	1160	1108	JAPCO	MHI	1982-11	1986-6	36.7	36.7	-
KOREA, REP. OF	KR-7	HANBIT-1	PWR	WH F	2787	996	960	KHNP	WH	1981-6	1986-3	90.6	91.0	-
	KR-8	HANBIT-2	PWR	WH F	2787	993	958	KHNP	WH	1981-12	1986-11	90.4	90.6	-
	KR-11	HANBIT-3	PWR	OPR-1000	2825	1050	997	KHNP	WH	1981-12	1987-6	82.8	83.1	-
	KR-12	HANBIT-4	PWR	OPR-1000	2825	1049	997	KHNP	DHICKAEC	1989-12	1994-10	90.5	90.7	-
	KR-17	HANBIT-5	PWR	OPR-1000	2825	1053	997	KHNP	DHICKAEC	1990-5	1995-7	89.3	89.5	-
	KR-18	HANBIT-6	PWR	OPR-1000	2825	1052	995	KHNP	DHICKOPC	1997-6	2001-12	92.4	92.7	-
	KR-9	HANUL-1	PWR	France CPI	2785	1003	960	KHNP	FRAM	1997-11	2002-9	88.8	89.0	-
	KR-10	HANUL-2	PWR	France CPI	2775	1008	962	KHNP	FRAM	1983-1	1988-9	91.3	91.3	-
	KR-13	HANUL-3	PWR	OPR-1000	2825	1050	994	KHNP	DHICKOPC	1993-7	1998-4	90.4	90.5	-
	KR-14	HANUL-4	PWR	OPR-1000	2825	1053	998	KHNP	DHICKOPC	1993-11	1998-12	57.9	57.9	-
	KR-19	HANUL-5	PWR	OPR-1000	2815	1051	996	KHNP	DHICKOPC	1993-11	2004-7	92.3	92.4	-
	KR-20	HANUL-6	PWR	OPR-1000	2825	1051	996	KHNP	DHICKOPC	1998-10	2005-1	94.3	94.3	-
	KR-1	KORI-1	PWR	WH △60	1729	608	576	KHNP	WH	2000-9	2005-1	94.2	94.3	-
	KR-2	KORI-2	PWR	WH F	1882	676	639	KHNP	WH	1972-4	1977-6	76.1	76.2	-
	KR-5	KORI-3	PWR	WH F	2912	1042	1011	KHNP	WH	1977-12	1983-4	88.9	88.9	-
	KR-6	KORI-4	PWR	WH F	2912	1041	1010	KHNP	WH	1979-10	1985-1	91.4	91.4	-
	KR-21	SHINKORI-1	PWR	OPR-1000	2825	1048	1000	KHNP	WH	1980-4	1985-11	90.1	90.2	-
	KR-22	SHINKORI-2	PWR	OPR-1000	2825	1045	1000	KHNP	DHICKOPC	2006-6	2010-8	67.2	67.4	-
	KR-23	SHINWOLSONG-1	PWR	OPR-1000	2825	1043	991	KHNP	DHICKOPC	2007-6	2012-1	58.0	58.1	-
	KR-3	WOLSONG-1	PHWR	CANDU 6	2061	687	657	KHNP	AECL	2007-11	2012-1	54.8	55.0	-
KR-4	WOLSONG-2	PHWR	CANDU 6	2061	678	655	KHNP	AECL/DHI	1977-10	1982-12	52.3	52.3	-	
										1992-6	1997-4	92.1	92.2	-

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics	
	Code	Name			Thermal	Gross									Net
MEXICO	KR-15	WOLSONG-3	PHWR	CANDU 6	2061	698	KHNP	AECL/DHI	1994-3	1998-3	1998-7	93.3	93.3	-	
	KR-16	WOLSONG-4	PHWR	CANDU 6	2061	703	KHNP	AECL/DHI	1994-7	1999-5	1999-10	93.3	93.5	-	
	MX-1	LAGUNA VERDE-1	BWR	BWR-5	2027	700	CFE	GE	1976-10	1989-4	1990-7	73.4	74.2	-	
	MX-2	LAGUNA VERDE-2	BWR	BWR-5	2027	700	CFE	GE	1977-6	1994-11	1995-4	78.8	79.4	-	
NETHERLANDS	NL-2	BORSSELE	PWR	LWR - PWR	1366	515	EPZ	SKWU	1969-7	1973-7	1973-10	85.3	85.9	-	
PAKISTAN	PK-2	CHASNUPP-1	PWR	CNP-300	999	325	PAEC	CNNC	1993-8	2000-6	2000-9	84.3	84.3	-	
	PK-3	CHASNUPP-2	PWR	CNP-300	999	325	PAEC	CNNC	2005-12	2011-3	2011-5	77.4	77.4	-	
	PK-1	KANUPP	PHWR	CANDU-137 MW	337	100	90	PAEC	1966-8	1971-10	1972-12	46.6	46.6	DS	
ROMANIA	RO-1	CERNAVODA-1	PHWR	CANDU 6	2180	706	650	SNN	AECL	1982-7	1986-7	1986-12	94.6	94.9	DH
	RO-2	CERNAVODA-2	PHWR	CANDU 6	2180	705	650	SNN	AECL	1983-7	2007-8	2007-10	93.0	93.6	DH
RUSSIA	RU-96	BALAKOVO-1	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1980-12	1985-12	1986-5	87.7	87.8	DH, PH
	RU-97	BALAKOVO-2	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1981-8	1987-10	1988-1	91.6	92.0	DH, PH
	RU-98	BALAKOVO-3	PWR	VVER V-320	3000	1000	950	REA	ROSATOM	1982-11	1988-12	1989-4	88.4	88.6	DH, PH
	RU-99	BALAKOVO-4	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1984-4	1989-4	1989-12	88.5	88.5	DH, PH
	RU-21	BELOYARSK-3	FBR	BN-600	1470	600	560	REA	ROSATOM	1969-1	1980-4	1981-11	76.9	77.0	DH, PH
	RU-141	BILIBINO-1	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1974-1	1974-4	54.8	54.8	DH
	RU-142	BILIBINO-2	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1974-12	1975-2	83.4	83.4	DH
	RU-143	BILIBINO-3	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1975-12	1976-2	85.8	85.8	DH
	RU-144	BILIBINO-4	LWGR	EGP-6	62	12	11	REA	ROSATOM	1970-1	1976-12	1977-1	85.3	85.3	DH
	RU-30	KALININ-1	PWR	VVER V-338	3000	1000	950	REA	ROSATOM	1977-2	1984-5	1985-6	82.8	82.8	DH, PH
	RU-31	KALININ-2	PWR	VVER V-338	3000	1000	950	REA	ROSATOM	1982-2	1986-12	1987-3	87.9	87.9	DH, PH
	RU-36	KALININ-3	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1985-10	2004-12	2005-11	84.2	84.2	PH
	RU-37	KALININ-4	PWR	VVER V-320	3200	1000	950	REA	ROSATOM	1986-8	2011-11	2012-12	75.7	75.7	-
	RU-12	KOLA-1	PWR	VVER V-230	1375	440	411	REA	ROSATOM	1970-5	1973-6	1973-12	83.8	83.9	DH, PH
RU-13	KOLA-2	PWR	VVER V-230	1375	440	411	REA	ROSATOM	1970-5	1974-12	1975-2	83.5	83.8	DH, PH	

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics		
	Code	Name			Thermal	Gross									Net	
SLOVAKIA	RU-32	KOLA-3	PWR	VVER V-213	1375	440	411	REA	ROSATOM	1977-4	1981-3	1982-12	75.6	75.8	DH, PH	
	RU-33	KOLA-4	PWR	VVER V-213	1375	440	411	REA	ROSATOM	1976-8	1984-10	1984-12	83.1	83.2	DH, PH	
	RU-17	KURSK-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1972-6	1976-12	1977-10	80.5	80.8	DH, PH	
	RU-22	KURSK-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1973-1	1979-1	1979-8	69.2	69.3	DH, PH	
	RU-38	KURSK-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1978-4	1983-10	1984-3	83.5	83.8	DH, PH	
	RU-39	KURSK-4	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1981-5	1985-12	1986-2	74.3	74.6	DH, PH	
	RU-15	LENINGRAD-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1970-3	1973-12	1974-11	53.1	53.9	DH, PH	
	RU-16	LENINGRAD-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1970-6	1975-7	1976-2	74.9	75.2	DH, PH	
	RU-34	LENINGRAD-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1973-12	1979-12	1980-6	84.4	84.6	DH, PH	
	RU-35	LENINGRAD-4	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1975-2	1981-2	1981-8	75.2	75.4	DH, PH	
	RU-9	NOVOVORONEZH-3	PWR	VVER V-179	1375	417	385	REA	ROSATOM	1967-7	1971-12	1972-6	74.8	75.5	DH, PH	
	RU-11	NOVOVORONEZH-4	PWR	VVER V-179	1375	417	385	REA	ROSATOM	1967-7	1972-12	1973-6	85.6	86.8	DH, PH	
	RU-20	NOVOVORONEZH-5	PWR	VVER V-187	3000	1000	950	REA	ROSATOM	1974-3	1980-5	1981-2	67.9	68.4	DH, PH	
	RU-59	ROSTOV-1	PWR	VVER V-320I	3200	1000	950	REA	ROSATOM	1981-9	2001-3	2001-12	90.3	90.4	-	
	RU-62	ROSTOV-2	PWR	VVER V-320I	3200	1000	950	REA	ROSATOM	1983-5	2010-3	2010-12	90.2	90.5	-	
	RU-23	SMOLENSK-1	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1975-10	1982-12	1983-9	74.7	75.1	DH, PH	
	RU-24	SMOLENSK-2	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1976-6	1985-5	1985-7	76.8	77.1	DH, PH	
	RU-67	SMOLENSK-3	LWGR	RBMK-1000	3200	1000	925	REA	ROSATOM	1984-5	1990-1	1990-10	81.5	81.6	DH, PH	
	SLOVENIA	SK-13	BOHUNICE-3	PWR	VVER V-213	1471	505	472	SE,plc	SKODA	1976-12	1984-8	1985-2	88.3	91.1	DH, PH
		SK-14	BOHUNICE-4	PWR	VVER V-213	1471	505	471	SE,plc	SKODA	1976-12	1985-8	1985-12	89.1	91.5	DH, PH
SK-6		MOCHOVCE-1	PWR	VVER V-213	1471	470	436	SE,plc	SKODA	1983-10	1998-7	1998-10	90.1	90.6	-	
SK-7		MOCHOVCE-2	PWR	VVER V-213	1471	470	436	SE,plc	SKODA	1983-10	1999-12	2000-4	90.1	91.1	-	
SLOVENIA	SI-1	KRSKO	PWR	Westinghouse 2	1994	727	688	NEK	WH	1975-3	1981-10	1983-1	89.6	89.9	-	
	ZA-1	KOEBERG-1	PWR	CP1	2775	970	930	ESKOM	FRAM	1976-7	1984-4	1984-7	75.8	76.2	-	
SOUTH AFRICA	ZA-2	KOEBERG-2	PWR	CP1	2775	970	930	ESKOM	FRAM	1976-7	1985-7	1985-11	84.1	84.9	-	
	ES-6	ALMARAZ-1	PWR	WE 3-bops	2947	1049	1011	CNAT	WH	1973-7	1981-5	1983-9	85.9	87.1	-	

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
SWEDEN	ES-7	ALMARAZ-2	PWR	WE 3-loops	2947	1044	CNAT	WH	1973-7	1983-10	1984-7	85.1	86.2	-
	ES-8	ASCO-1	PWR	WE 3-loops	2954	1033	ANAV	WH	1974-5	1983-8	1984-12	83.1	84.2	-
	ES-9	ASCO-2	PWR	WE 3-loops	2941	1035	ANAV	WH	1975-3	1985-10	1986-3	85.5	87.7	-
	ES-10	COFRENTES	BWR	BWR-6	3237	1102	ID	GE	1975-9	1984-10	1985-3	89.3	90.8	-
	ES-11	TRILLO-1	PWR	PWR 3 loops	3010	1066	CNAT	KWU	1979-8	1988-5	1988-8	87.0	87.9	-
	ES-16	VANDELLOS-2	PWR	WE 3-loops	2941	1087	ANAV	WH	1980-12	1987-12	1988-3	79.1	80.9	-
	SE-9	FORSMARK-1	BWR	BWR-75	2928	1022	FKA	ABBATOM	1973-6	1980-6	1980-12	86.8	87.4	-
	SE-11	FORSMARK-2	BWR	BWR-75	3253	1158	FKA	ABBATOM	1975-1	1981-1	1981-7	74.6	75.2	-
	SE-14	FORSMARK-3	BWR	BWR-3000	3300	1212	FKA	ABBATOM	1979-1	1985-3	1985-8	86.0	86.9	-
	SE-2	OSKARSHAMN-1	BWR	ABB BWR	1375	492	OKG	ABBATOM	1966-8	1971-8	1972-2	46.9	47.5	-
	SE-3	OSKARSHAMN-2	BWR	ABB BWR	1800	661	OKG	ABBATOM	1969-9	1974-10	1975-1	69.4	70.4	-
	SE-12	OSKARSHAMN-3	BWR	BWR-75	3900	1450	OKG	ABBATOM	1980-5	1985-3	1985-8	54.2	55.0	-
	SE-4	RINGHALS-1	BWR	BWR	2540	910	RAB	ABBATOM	1969-2	1974-10	1976-1	59.3	60.3	-
	SE-5	RINGHALS-2	PWR	WE (3 loops)	2500	847	RAB	WH	1970-10	1974-8	1975-5	55.1	56.3	-
	SE-7	RINGHALS-3	PWR	WE (3 loops)	3135	1117	RAB	WH	1972-9	1980-9	1981-9	82.3	84.6	-
	SE-10	RINGHALS-4	PWR	WE (3 loops)	2775	990	RAB	WH	1973-11	1982-6	1983-11	80.0	81.9	-
SWITZERLAND	CH-1	BEZNAU-1	PWR	WH - 2 loops	1130	380	Axpo AG	WH	1965-9	1969-7	1969-9	91.6	91.6	DH
	CH-3	BEZNAU-2	PWR	WH - 2 loops	1130	380	Axpo AG	WH	1968-1	1971-10	1971-12	88.1	88.2	DH
	CH-4	GOESGEN	PWR	PWR 3 Loop	3002	1035	KKG	KWU	1973-12	1979-2	1979-11	89.1	89.2	PH
	CH-5	LEIBSTADT	BWR	BWR-6	3600	1275	KKL	GETSCO	1974-1	1984-5	1984-12	86.6	87.8	-
CH-2	MUEHLEBERG	BWR	BWR-4	1097	390	BKW	GETSCO	1967-3	1971-7	1972-11	87.6	87.7	-	
UK	GB-18A	DUNGENESS B-1	GCR	AGR	1500	615	EDF UK	APC	1965-10	1983-4	1985-4	37.4	37.4	-
	GB-18B	DUNGENESS B-2	GCR	AGR	1500	615	EDF UK	APC	1965-10	1985-12	1989-4	44.2	44.2	-
	GB-19A	HARTLEPOOL A-1	GCR	AGR	1500	655	EDF UK	NPC	1968-10	1983-8	1989-4	75.9	75.9	-
	GB-19B	HARTLEPOOL A-2	GCR	AGR	1500	655	EDF UK	NPC	1968-10	1984-10	1989-4	71.3	71.3	-
	GB-20A	HEYSHAM A-1	GCR	AGR	1500	625	EDF UK	NPC	1970-12	1983-7	1989-4	68.8	68.8	-
	GB-20B	HEYSHAM A-2	GCR	AGR	1500	625	EDF UK	NPC	1970-12	1984-10	1989-4	64.6	64.6	-

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
UKRAINE	GB-22A	HEYSHAMB-1	GCR	AGR	1550	680	EDF UK	NPC	1980-8	1988-7	1989-4	83.8	84.1	-
	GB-22B	HEYSHAMB-2	GCR	AGR	1550	680	EDF UK	NPC	1980-8	1988-11	1989-4	71.3	71.9	-
	GB-16A	HINKLEY POINT B-1	GCR	AGR	1494	655	EDF UK	TNPG	1967-9	1976-10	1978-10	78.2	78.6	-
	GB-16B	HINKLEY POINT B-2	GCR	AGR	1494	655	EDF UK	TNPG	1967-9	1976-2	1976-9	83.5	83.5	-
	GB-17A	HUNTERSTON B-1	GCR	AGR	1496	644	EDF UK	TNPG	1967-11	1976-2	1976-2	84.8	84.8	-
	GB-17B	HUNTERSTON B-2	GCR	AGR	1496	644	EDF UK	TNPG	1967-11	1977-3	1977-3	85.5	85.7	-
	GB-24	SIZEWELL B	PWR	SNUPPS	3425	1260	EDF UK	PPC	1988-7	1995-2	1995-9	77.6	77.6	-
	GB-23A	TORNNESS-1	GCR	AGR	1623	682	EDF UK	NCC	1980-8	1988-5	1988-5	82.7	83.7	-
	GB-23B	TORNNESS-2	GCR	AGR	1623	682	EDF UK	NCC	1980-8	1989-2	1989-2	81.7	82.9	-
	GB-13A	WYLFA-1	GCR	MAGNOX	1920	540	ML	EE/B&W/T	1963-9	1971-1	1971-11	66.7	66.9	-
	UA-40	KHELMNITSKI-1	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1981-11	1987-12	1988-8	82.2	83.1	DH
	UA-41	KHELMNITSKI-2	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1985-2	2004-8	2005-12	75.3	76.7	DH
	UA-27	ROVNO-1	PWR	VVER V-213	1375	420	NNEGC	PAIP	1973-8	1980-12	1981-9	63.3	63.7	DH
UA-28	ROVNO-2	PWR	VVER V-213	1375	415	NNEGC	PAIP	1973-10	1981-12	1982-7	75.7	76.2	DH	
UA-29	ROVNO-3	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1980-2	1986-12	1987-5	68.6	70.6	DH	
UA-69	ROVNO-4	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1976-8	2004-10	2006-4	79.4	79.4	DH	
UA-44	SOUTH UKRAINE-1	PWR	VVER V-302	3000	1000	NNEGC	PAA	1976-8	1982-12	1983-12	62.8	67.9	DH	
UA-45	SOUTH UKRAINE-2	PWR	VVER V-302	3000	1000	NNEGC	PAA	1981-7	1985-4	1985-4	71.1	77.6	DH	
UA-48	SOUTH UKRAINE-3	PWR	VVER V-320	3000	1000	NNEGC	PAA	1984-11	1989-9	1989-12	64.8	71.1	DH	
UA-54	ZAPOROZHYE-1	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1980-4	1984-12	1985-12	76.5	78.0	DH	
UA-56	ZAPOROZHYE-2	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1981-1	1985-7	1986-2	81.7	83.6	DH	
UA-78	ZAPOROZHYE-3	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1982-4	1986-12	1987-3	81.5	84.5	DH	
UA-79	ZAPOROZHYE-4	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1983-4	1987-12	1988-4	80.8	82.1	DH	
UA-126	ZAPOROZHYE-5	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1985-11	1989-8	1989-10	80.2	82.2	DH	
UA-127	ZAPOROZHYE-6	PWR	VVER V-320	3000	1000	NNEGC	PAIP	1986-6	1995-10	1996-9	80.8	81.7	DH	
USA	US-313	ANO-1	PWR	B&W (L-loop) D	2568	903	ENERGY	B&W	1968-10	1974-8	1974-12	88.0	88.0	-
	US-368	ANO-2	PWR	CE (2-loop) DR	3026	1065	ENERGY	CE	1968-12	1978-12	1980-3	91.4	91.4	-
	US-334	BEAVER VALLEY-1	PWR	W (3-loop)	2900	959	FENOC	WH	1970-6	1976-6	1976-10	92.4	92.4	-

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

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
	US-412	BEAVER VALLEY-2	PWR	W (3-loop)	2900	958	FENOC	WH	1974-5	1987-8	1987-11	92.6	92.6	-
	US-456	BRADWOOD-1	PWR	W (4-loop)	3587	1242	EXELON	WH	1975-8	1987-7	1988-7	93.6	93.6	-
	US-457	BRADWOOD-2	PWR	W (4-loop) DRY	3587	1210	EXELON	WH	1975-8	1988-5	1988-10	95.1	95.1	-
	US-259	BROWNS FERRY-1	BWR	BWR-4 (Mark 1)	3458	1165	TVA	GE	1967-5	1973-10	1974-8	92.2	93.5	-
	US-280	BROWNS FERRY-2	BWR	BWR-4 (Mark 1)	3458	1155	TVA	GE	1967-5	1974-8	1975-3	89.0	90.5	-
	US-296	BROWNS FERRY-3	BWR	BWR-4 (Mark 1)	3458	1155	TVA	GE	1968-7	1976-9	1977-3	90.5	92.4	-
	US-325	BRUNSWICK-1	BWR	BWR-4 (Mark 1)	2923	990	PROGRESS	GE	1970-2	1976-12	1977-3	90.5	90.5	-
	US-324	BRUNSWICK-2	BWR	BWR-4 (Mark 1)	2923	960	PROGRESS	GE	1970-2	1975-4	1975-11	87.7	87.7	-
	US-454	BYRON-1	PWR	W (4-loop) (DR)	3587	1242	EXELON	WH	1975-4	1987-2	1987-8	94.5	94.5	-
	US-455	BYRON-2	PWR	W (4-loop) (DR)	3587	1242	EXELON	WH	1975-4	1987-2	1987-8	94.5	94.5	-
	US-483	CALLAWAY-1	PWR	W (4-loop) DRY	3565	1275	AmerenUE	WH	1975-9	1984-10	1984-12	89.9	89.9	-
	US-317	CALVERT CLIFFS-1	PWR	CE (2-loop) (D)	2737	918	EXELON	CE	1968-6	1975-1	1975-5	93.2	93.4	-
	US-318	CALVERT CLIFFS-2	PWR	CE (2-loop) (D)	2737	911	EXELON	CE	1968-6	1976-12	1977-4	94.0	94.0	-
	US-413	CATAWBA-1	PWR	W (4-loop) (IC)	3411	1188	DUKEENER	WH	1974-5	1985-1	1985-6	92.5	92.5	-
	US-414	CATAWBA-2	PWR	W (4-loop) (IC)	3411	1188	DUKEENER	WH	1974-5	1986-5	1986-8	91.7	91.7	-
	US-461	CLINTON-1	BWR	BWR-6 (Mark 3)	3473	1098	EXELON	GE	1975-10	1987-4	1987-11	94.3	94.3	-
	US-397	COLUMBIA	BWR	BWR-5 (Mark 2)	3486	1173	ENERGYNW	GE	1972-8	1984-5	1984-12	81.7	81.9	-
	US-445	COMANCHE PEAK-1	PWR	W (4-loop) DRY	3612	1259	LUMINANT	WH	1974-12	1990-4	1990-8	95.0	95.0	-
	US-446	COMANCHE PEAK-2	PWR	W (4-loop) DRY	3612	1250	LUMINANT	WH	1974-12	1993-4	1993-8	95.3	95.3	-
	US-315	COOK-1	PWR	W (4-loop) ICE	3304	1100	AEP	WH	1969-3	1975-2	1975-8	73.5	73.5	-
	US-316	COOK-2	PWR	W (4-loop) ICE	3468	1151	AEP	WH	1969-3	1978-3	1978-7	89.1	89.1	-
	US-298	COOPER	BWR	BWR-4 (Mark 1)	2419	801	ENTERGY	GE	1968-6	1974-5	1974-7	91.4	91.4	-
	US-346	DAVIS BESSE-1	PWR	B&W (R-loop)	2817	925	FENOC	B&W	1970-9	1978-8	1978-7	85.7	85.7	-
	US-275	DIABLO CANYON-1	PWR	W (4-loop)	3411	1197	PG&E	WH	1968-4	1984-11	1985-5	91.0	91.0	-
	US-323	DIABLO CANYON-2	PWR	W (4-loop)	3411	1197	PG&E	WH	1970-12	1985-10	1986-3	91.8	92.0	-
	US-237	DRESDEN-2	BWR	BWR-3 (Mark 1)	2957	926	EXELON	GE	1966-1	1970-4	1970-6	96.3	96.3	-
	US-249	DRESDEN-3	BWR	BWR-3 (Mark 1)	2957	890	EXELON	GE	1966-10	1971-7	1971-11	95.3	95.3	-
	US-331	DUANE ARNOLD-1	BWR	BWR-4 (Mark 1)	1912	624	NEXTERA	GE	1970-6	1975-2	1975-2	91.7	91.7	-
	US-348	FARLEY-1	PWR	W (3-loop)	2775	918	SOUTHERN	WH	1970-10	1977-8	1977-12	92.4	92.4	-
	US-364	FARLEY-2	PWR	W (3-loop) DRY	2775	928	SOUTHERN	WH	1970-10	1981-5	1981-7	93.3	93.3	-

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applies
	Code	Name			Thermal	Gross								
	US-341	FERMI-2	BWR	BWR-4 (Mark 1)	3430	1100	1037	DIEDISON GE	1972-9	1986-9	1988-1	83.2	83.2	-
	US-333	FITZPATRICK	BWR	BWR-4 (Mark 1)	2536	849	813	ENERGY GE	1968-9	1975-2	1975-7	94.8	94.8	-
	US-285	FORT CALHOUN-1	PWR	CE (2-loop)	1500	512	482	OPPD CE	1968-6	1973-8	1973-9	43.0	43.0	-
	US-244	GINNA	PWR	W (2-loop)	1775	608	581	EXELON WH	1966-4	1969-12	1970-7	94.1	94.1	-
	US-416	GRAND GULF-1	BWR	BWR-6 (Mark 3)	4408	1500	1419	ENERGY GE	1974-5	1984-10	1985-7	89.5	89.5	-
	US-400	HARRIS-1	PWR	W (3-loop) DRY	2900	960	928	PROGRESS WH	1978-1	1987-1	1987-5	90.4	90.4	-
	US-321	HATCH-1	BWR	BWR-4 (Mark 1)	2804	911	876	SOUTHERN GE	1968-9	1974-11	1975-12	93.3	93.3	-
	US-366	HATCH-2	BWR	BWR-4 (Mark 1)	2804	921	863	SOUTHERN GE	1972-2	1978-9	1979-9	87.5	87.5	-
	US-354	HOPE CREEK-1	BWR	BWR-4 (Mark 1)	3840	1240	1172	PSEG GE	1976-3	1986-8	1986-12	92.9	92.9	-
	US-247	INDIAN POINT-2	PWR	W (4-loop) DRY	3216	1067	1020	ENERGY WH	1966-10	1973-6	1974-8	93.8	93.8	-
	US-286	INDIAN POINT-3	PWR	W (4-loop) DRY	3216	1085	1041	ENERGY WH	1968-11	1976-4	1976-8	93.5	93.7	-
	US-373	LASALLE-1	BWR	BWR-5 (Mark 2)	3546	1207	1137	EXELON GE	1973-9	1982-9	1984-1	96.3	96.3	-
	US-374	LASALLE-2	BWR	BWR-5 (Mark 2)	3546	1207	1140	EXELON GE	1973-9	1984-4	1984-10	95.8	95.8	-
	US-352	LIMERICK-1	BWR	BWR-4 (Mark 2)	3515	1194	1130	EXELON GE	1974-6	1985-4	1986-2	95.2	95.2	-
	US-353	LIMERICK-2	BWR	BWR-4 (Mark 2)	3515	1194	1134	EXELON GE	1974-6	1989-9	1990-1	94.5	94.5	-
	US-369	MCGUIRE-1	PWR	W (4-loop) ICE	3411	1215	1158	DUKEENER WH	1971-4	1981-9	1981-12	93.7	93.7	-
	US-370	MCGUIRE-2	PWR	W (4-loop) ICE	3411	1215	1158	DUKEENER WH	1971-4	1983-5	1984-3	91.5	91.5	-
	US-336	MILLSTONE-2	PWR	W (4-loop) IC	2700	918	869	DOMINION CE	1969-11	1975-11	1975-12	90.0	90.2	-
	US-423	MILLSTONE-3	PWR	W (4-loop) DRY	3650	1280	1210	DOMINION WH	1974-8	1986-2	1986-4	92.2	92.2	-
	US-263	MONTICELLO	BWR	BWR-3	1775	613	578	NSP GE	1967-6	1971-3	1971-6	82.0	82.0	-
	US-220	NINE MILE POINT-1	BWR	BWR-2 (Mark 1)	1850	642	621	EXELON GE	1965-4	1969-11	1969-12	92.3	92.3	-
	US-410	NINE MILE POINT-2	BWR	BWR-5 (Mark 2)	3988	1320	1277	EXELON GE	1975-8	1987-8	1988-3	93.5	93.5	-
	US-338	NORTH ANNA-1	PWR	W (3-loop)	2940	990	943	DOMINION WH	1971-2	1978-4	1978-6	86.2	86.2	-
	US-339	NORTH ANNA-2	PWR	W (3-loop)	2940	1011	943	DOMINION WH	1971-2	1980-8	1980-12	87.8	87.8	-
	US-269	OCONEE-1	PWR	B&W (L-loop)	2568	891	846	DUKEENER B&W	1967-11	1973-5	1973-7	89.4	89.4	-
	US-270	OCONEE-2	PWR	B&W (L-loop)	2568	891	846	DUKEENER B&W	1967-11	1973-12	1974-9	93.3	93.3	-
	US-287	OCONEE-3	PWR	B&W (L-loop)	2568	891	846	DUKEENER B&W	1967-11	1974-9	1974-12	93.2	93.2	-
	US-219	OYSTER CREEK	PWR	BWR-2 (Mark 1)	1930	652	619	EXELON GE	1964-12	1969-9	1969-12	92.7	92.8	-
	US-255	PALISADES	PWR	CE (2-loop) DR	2565	845	793	ENERGY CE	1967-3	1971-12	1971-12	87.4	87.4	-
	US-528	PALO VERDE-1	PWR	CE (2-loop) DR	3990	1414	1311	APS CE	1976-5	1985-6	1986-1	91.6	91.6	-

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applics
	Code	Name			Thermal	Gross								
	US-529	PALO VERDE-2	PWR	COMB CE80 DRYA	3990	1414	1314	APS	1976-6	1986-5	1986-9	92.1	92.1	-
	US-530	PALO VERDE-3	PWR	COMB CE80 DRYA	3990	1414	1312	APS	1976-6	1987-11	1988-1	89.2	89.2	-
	US-277	PEACH BOTTOM-2	BWR	BWR-4 (Mark 1)	3514	1182	1125	EXELON	1968-1	1974-2	1974-7	96.4	96.4	-
	US-278	PEACH BOTTOM-3	BWR	BWR-4 (Mark 1)	3514	1182	1138	EXELON	1968-1	1974-9	1974-12	93.4	93.4	-
	US-440	PERRY-1	BWR	BWR-6 (Mark 3)	3758	1303	1256	FENOC	1974-10	1986-12	1987-11	85.8	85.8	-
	US-293	PILGRIM-1	BWR	BWR-3 (Mark 1)	2028	711	677	ENTERGY	1968-8	1972-7	1972-12	92.0	92.0	-
	US-266	POINT BEACH-1	PWR	W (2-loop) DRY	1800	640	591	NEXTERA	1967-7	1970-11	1970-12	92.2	92.2	-
	US-301	POINT BEACH-2	PWR	W (2-loop) DRY	1800	640	591	NEXTERA	1967-7	1970-11	1970-12	92.2	92.2	-
	US-282	PRAIRIE ISLAND-1	PWR	W (2-loop) DRY	1677	566	522	NSP	1968-6	1972-8	1972-10	89.1	89.1	-
	US-306	PRAIRIE ISLAND-2	PWR	W (2-loop) DRY	1677	560	519	NSP	1969-6	1974-12	1974-12	86.2	86.2	-
	US-254	QUAD CITIES-1	BWR	BWR-3 (Mark 1)	2957	940	908	EXELON	1967-2	1972-4	1973-2	94.4	94.4	-
	US-285	QUAD CITIES-2	BWR	BWR-3 (Mark 1)	2957	940	911	EXELON	1967-2	1972-5	1973-2	96.1	96.1	-
	US-458	RIVER BEND-1	BWR	BWR-6 (Mark 3)	3091	1016	967	ENTERGY	1977-3	1985-12	1986-6	93.1	93.1	-
	US-261	ROBINSON-2	PWR	W (3-loop) DRY	2339	780	741	PROGRESS	1967-4	1970-9	1971-3	84.3	84.3	-
	US-272	SALEM-1	PWR	W (4-loop) DRY	3459	1254	1168	PSEG	1968-9	1976-12	1977-6	92.2	92.2	-
	US-311	SALEM-2	PWR	W (4-loop) DRY	3459	1200	1158	PSEG	1968-9	1981-6	1981-10	93.9	93.9	-
	US-443	SEABROOK-1	PWR	W (4-loop) DRY	3648	1296	1246	NEXTERA	1976-7	1990-5	1990-8	90.1	90.1	-
	US-327	SEQUOYAH-1	PWR	W (4-loop) ICE	3455	1221	1152	TVA	1970-5	1980-7	1981-7	90.7	90.7	-
	US-328	SEQUOYAH-2	PWR	W (4-loop) IC	3455	1200	1126	TVA	1970-5	1981-12	1982-6	90.9	90.9	-
	US-498	SOUTH TEXAS-1	PWR	W (4-loop)	3853	1354	1280	STP	1970-5	1988-3	1988-8	91.8	91.8	-
	US-499	SOUTH TEXAS-2	PWR	W (4-loop) DRY	3853	1354	1280	STP	1970-5	1989-4	1989-6	79.2	79.2	-
	US-335	ST. LUCIE-1	PWR	COMB CE DRYAMB	3020	1045	982	FPL	1970-7	1976-5	1976-12	82.9	82.9	-
	US-389	ST. LUCIE-2	PWR	COMB CE DRYAMB	3020	1050	987	FPL	1970-7	1976-6	1983-8	82.0	82.2	-
	US-395	SUMNER-1	PWR	W (3-loop) DRY	2900	1006	971	SCE&G	1973-3	1982-11	1984-1	89.9	89.9	-
	US-280	SURRY-1	PWR	W (3-loop) DRY	2857	890	838	DOMINION	1968-6	1972-7	1972-12	92.5	92.9	-
	US-281	SURRY-2	PWR	W (3-loop) DRY	2857	890	838	DOMINION	1968-6	1972-7	1973-5	91.9	91.9	-
	US-387	SUSQUEHANNA-1	BWR	BWR-4 (Mark 2)	3952	1330	1257	PPL SUSQ	1973-11	1983-3	1983-6	85.7	85.7	-
	US-388	SUSQUEHANNA-2	BWR	BWR-4 (Mark 2)	3952	1330	1257	PPL SUSQ	1973-11	1984-7	1985-2	86.6	86.6	-
	US-289	THREE MILE ISLAND-1	PWR	B&W (L-loop)	2568	880	819	B&W	1968-5	1974-6	1974-9	90.7	90.7	-
	US-250	TURKEY POINT-3	PWR	W (3-loop) DRY	2644	829	802	FPL	1967-4	1972-11	1972-12	81.3	81.3	-

TABLE 14. REACTORS IN OPERATION, 31 DEC. 2013 — continued

Country	Reactor		Type	Model	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	EAF % 2009-2013	UCF % 2009-2013	Non-electrical applies	
	Code	Name			Thermal	Gross									Net
	US-251	TURKEY POINT-4	PWR	W (3-loop) DRY	2644	829	802	PPL	WH	1967-4	1973-6	1973-9	84.8	84.8	-
	US-271	VERMONT YANKEE	BWR	BWR-4 (Mark 1)	1912	635	605	ENERGY	GE	1967-12	1972-9	1972-11	95.3	95.3	-
	US-424	VOGTLE-1	PWR	W (4-loop) DRY	3626	1229	1150	SOUTHERN	WH	1976-8	1987-3	1987-6	94.3	94.3	-
	US-425	VOGTLE-2	PWR	W (4-loop) DRY	3626	1229	1152	SOUTHERN	WH	1976-8	1989-4	1989-5	94.5	94.5	-
	US-382	WATERFORD-3	PWR	CE (2-loop)	3716	1250	1168	ENERGY	CE	1974-11	1985-3	1985-9	89.7	90.0	-
	US-390	WATTS BAR-1	PWR	W (4-loop) (IC)	3459	1210	1123	TVA	WH	1973-1	1996-2	1996-5	91.9	92.0	-
	US-482	WOLF CREEK	PWR	W (4-loop)	3565	1280	1195	WCNOC	WH	1977-5	1985-6	1985-9	80.5	80.5	-

Note: Status as of 31 December 2013. 434 reactors (371733 MW) were connected to the grid, including 6 units (5032 MW) in Taiwan, China.

TAIWAN, CN	TW-1	CHINSHAN-1	BWR	BWR-4	1840	636	604	TPC	GE	1972-6	1977-11	1978-12	88.2	88.3	-
TAIWAN, CN	TW-2	CHINSHAN-2	BWR	BWR-4	1840	636	604	TPC	GE	1973-12	1978-12	1979-7	91.5	91.6	-
TAIWAN, CN	TW-3	KUOSHENG-1	BWR	BWR-6	2943	1020	985	TPC	GE	1975-11	1981-5	1981-12	88.2	88.9	-
TAIWAN, CN	TW-4	KUOSHENG-2	BWR	BWR-6	2943	1020	985	TPC	GE	1976-3	1982-6	1983-3	91.8	93.0	-
TAIWAN, CN	TW-5	MAANSHAN-1	PWR	WE 312 (3 loop)	2822	951	926	TPC	WH	1978-8	1984-5	1984-7	90.6	90.8	-
TAIWAN, CN	TW-6	MAANSHAN-2	PWR	WE 312 (3 loop)	2822	951	928	TPC	WH	1979-2	1985-2	1985-5	93.0	93.2	-

TABLE 15. REACTORS IN LONG TERM SHUTDOWN , 31 DEC. 2013

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	NUCLEONOR	GE	1966-9	1971-3	1971-5	2013-7

Note: Status as of 31 December 2013. 2 reactors (692 MW) were in long term shutdown.

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013

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	OHA/ECL	1966-9	1971-10	1971-12	2007-5
	CA-6	PICKERING-3	PHWR	1744	542	515	OPG	OHA/ECL	1967-12	1972-5	1972-6	2008-10
	CA-1	ROLPHITON 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	RWIE	KWU	1970-1	1974-8	1975-2	2011-8

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013 — 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	KKK	KWU	1970-4	1976-7	1977-2	2011-8
	DE-502	GREIFSWALD-1	PWR	1375	440	408	EWN	AEE	1970-3	1973-12	1974-7	1990-2
	DE-503	GREIFSWALD-2	PWR	1375	440	408	EWN	AEE	1970-3	1974-12	1975-4	1990-2
	DE-504	GREIFSWALD-3	PWR	1375	440	408	EWN	AEE	1972-4	1977-10	1978-5	1990-2
	DE-505	GREIFSWALD-4	PWR	1375	440	408	EWN	AEE	1972-4	1979-9	1978-5	1990-7
	DE-506	GREIFSWALD-5	PWR	1375	440	408	EWN	AEE	1976-12	1989-4	1989-11	1989-11
	DE-3	GUNDREMMINGEN-A	BWR	801	250	237	KBG	AEG,GE	1962-12	1966-12	1967-4	1971-1
	DE-7	HDR GROSSWELZHEIM	BWR	100	27	25	HDR	AEG,KWU	1965-1	1968-10	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	BWR	3780	1302	1219	KBG	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	RHEINSBURG	PWR	265	70	62	EWN	AEE	1960-1	1966-5	1966-10	1990-6
DE-10	STADE	PWR	1900	672	640	E.ON	KWU	1972-1	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	AMIN/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	557	165	148	JAEA	HITACHI	1972-5	1978-7	1979-3	2003-3	

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013 — continued

Country	Reactor		Type	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross						
JAPAN	JP-5	FUKUSHIMA-DAIICHI-1	BWR	1380	460	439	TEPCO	GEC/GETSC	1970-11	1971-3	2011-5
	JP-9	FUKUSHIMA-DAIICHI-2	BWR	2381	784	760	TEPCO	GET	1973-12	1974-7	2011-5
	JP-10	FUKUSHIMA-DAIICHI-3	BWR	2381	784	760	TEPCO	TOSHIBA	1974-10	1976-3	2011-5
	JP-16	FUKUSHIMA-DAIICHI-4	BWR	2381	784	760	TEPCO	HITACHI	1978-2	1978-10	2011-5
	JP-17	FUKUSHIMA-DAIICHI-5	BWR	2381	784	760	TEPCO	TOSHIBA	1977-9	1978-4	2013-12
	JP-18	FUKUSHIMA-DAIICHI-6	BWR	3293	1100	1067	TEPCO	GET	1973-10	1979-5	2013-12
	JP-11	HAMAOKA-1	BWR	1593	540	515	CHUBU	TOSHIBA	1971-6	1974-8	2009-1
	JP-24	HAMAOKA-2	BWR	2436	840	806	CHUBU	TOSHIBA	1974-6	1978-5	2009-1
	JP-1	JPDR	BWR	90	13	12	JAEA	GE	1960-12	1963-10	1976-3
	JP-2	TOKAI-1	GCR	587	166	137	JAPCO	GEC	1961-3	1965-11	1998-3
KAZAKHSTAN	KZ-10	AKTAU	FBR	1000	90	52	MAEC-KAZ	MAEC-KAZ	1964-10	1973-7	1999-4
LITHUANIA	LT-46	IGNALINA-1	LWGR	4800	1300	1185	INPP	MAEP	1977-5	1983-12	2004-12
	LT-47	IGNALINA-2	LWGR	4800	1300	1185	INPP	MAEP	1978-1	1987-8	2009-12
NETHERLANDS	NL-1	DODEWAARD	BWR	183	60	55	BV GKN	RDM	1965-5	1968-10	1997-3
RUSSIA	RU-1	APS-1 OBNINSK	LWGR	30	6	5	MSM	MSM	1951-1	1954-6	2002-4
	RU-3	BELOYARSK-1	LWGR	286	108	102	REA	1958-6	1964-4	1964-4	1983-1
	RU-6	BELOYARSK-2	LWGR	530	160	146	REA	MSM	1962-1	1967-12	1990-1
	RU-4	NOVORONEZH-1	PWR	760	210	197	REA	MSM	1957-7	1964-9	1988-2
	RU-8	NOVORONEZH-2	PWR	1320	365	336	REA	MSM	1964-6	1969-12	1990-8
SLOVAKIA	SK-1	BOHUNICE A1	HWGR	560	143	93	JAVYS	SKODA	1958-8	1972-12	1977-2
	SK-2	BOHUNICE-1	PWR	1375	440	408	JAVYS	AEE	1972-4	1978-12	2006-12
	SK-3	BOHUNICE-2	PWR	1375	440	408	JAVYS	AEE	1972-4	1980-3	2008-12
SPAIN	ES-1	JOSE CABRERA-1	PWR	510	150	141	UFG	WH	1964-6	1968-7	2006-4
	ES-3	VANDELLOS-1	GCR	1670	500	480	HIFRENSA	CEA	1968-6	1972-5	1990-7
SWEDEN	SE-1	AGESTA	PHWR	80	12	10	BKAB	ABBATOM	1957-12	1964-5	1974-6

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013 — continued

Country	Reactor		Type	Capacity (MW)		Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross						
SWEDEN	SE-8	BARSEBACK-1	BWR	1800	615	600	ASEASTAL	1971-2	1975-5	1975-7	1999-11
	SE-8	BARSEBACK-2	BWR	1800	615	600	ABBATOM	1973-1	1977-3	1977-7	2005-5
SWITZERLAND	CH-8	LUCENS	HWGCR	28	7	6	NGA	1962-4	1968-1	NA	1969-1
UK	GB-3A	BERKELEY-1	GCR	620	166	138	TNPG	1957-1	1962-6	1962-6	1989-3
	GB-3B	BERKELEY-2	GCR	620	166	138	TNPG	1957-1	1962-6	1962-10	1988-10
	GB-4A	BRADWELL-1	GCR	481	146	123	TNPG	1957-1	1962-7	1962-7	2002-3
	GB-4B	BRADWELL-2	GCR	481	146	123	TNPG	1957-1	1962-7	1962-11	2002-3
	GB-1A	CALDER HALL-1	GCR	288	60	49	UKAEA	1953-8	1956-8	1956-10	2003-3
	GB-1B	CALDER HALL-2	GCR	288	60	49	UKAEA	1953-8	1957-2	1957-2	2003-3
	GB-1C	CALDER HALL-3	GCR	288	60	49	UKAEA	1955-8	1958-3	1958-5	2003-3
	GB-1D	CALDER HALL-4	GCR	288	60	49	UKAEA	1955-8	1959-4	1959-4	2003-3
	GB-2A	CHAPELCROSS-1	GCR	280	60	48	UKAEA	1955-10	1959-2	1959-3	2004-6
	GB-2B	CHAPELCROSS-2	GCR	280	60	48	UKAEA	1955-10	1959-7	1959-8	2004-6
	GB-2C	CHAPELCROSS-3	GCR	260	60	48	UKAEA	1955-10	1959-11	1959-12	2004-6
	GB-2D	CHAPELCROSS-4	GCR	260	60	48	UKAEA	1960-1	1960-3	1960-3	2004-6
	GB-14	DOUNREAY DFR	FBR	60	15	11	UKAEA	1955-3	1962-10	1962-10	1977-3
	GB-15	DOUNREAY PFR	FBR	600	250	234	UKAEA	1966-1	1975-1	1976-7	1994-3
	GB-9A	DUNGENESS A-1	GCR	840	230	225	TNPG	1960-7	1965-9	1965-10	2006-12
	GB-9B	DUNGENESS A-2	GCR	840	230	225	TNPG	1960-7	1965-11	1965-12	2006-12
	GB-7A	HINKLEY POINT A-1	GCR	900	267	235	EE/B&W/T	1957-11	1965-2	1965-3	2000-5
	GB-7B	HINKLEY POINT A-2	GCR	900	267	235	EE/B&W/T	1957-11	1965-3	1965-5	2000-5
	GB-6A	HUNTERSTON A-1	GCR	595	173	150	GEC	1957-10	1964-2	1964-2	1990-3
	GB-6B	HUNTERSTON A-2	GCR	595	173	150	GEC	1957-10	1964-6	1964-7	1989-12
GB-11A	OLDBURY A-1	GCR	730	230	217	TNPG	1962-5	1967-11	1967-12	2012-2	
GB-11B	OLDBURY A-2	GCR	660	230	217	TNPG	1962-5	1968-4	1968-9	2011-6	
GB-10A	SIZEWELL A-1	GCR	1010	245	210	EE/B&W/T	1961-4	1966-1	1966-3	2006-12	
GB-10B	SIZEWELL A-2	GCR	1010	245	210	EE/B&W/T	1961-4	1966-4	1966-9	2006-12	
GB-8A	TRAFALGARWAY DD-1	GCR	850	235	195	APC	1959-7	1965-1	1965-3	1991-2	
GB-8B	TRAFALGARWAY DD-2	GCR	850	235	195	APC	1959-7	1965-2	1965-3	1991-2	
GB-5	WINDSCALE AGR	GCR	120	36	24	UKAEA	1958-11	1963-2	1963-3	1981-4	

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
UK	GB-12	WINFRITH SGHWR	SGHWR	318	100	92	UKAEA	ICI/FE	1963-5	1967-12	1968-1	1990-9
	GB-13B	WYLFA-2	GCR	1920	540	490	ML	EEI/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	1981-12	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	1963-8	1963-8	1964-9
	US-013	INDIAN POINT-1	PWR	615	277	257	ENTERGY	B&W	1966-5	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	NMIC	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
	US-012	PIQUA	X	46	12	12	CoPiqua	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	

TABLE 16. REACTORS PERMANENTLY SHUTDOWN, 31 DEC. 2013 — continued

Country	Reactor		Type	Capacity (MW)			Operator	NSSS supplier	Construction start	Grid connection	Commercial operation	Shut down
	Code	Name		Thermal	Gross	Net						
USA	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-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 2013. 149 reactors (56927 MW) have been permanently shut down.

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2013

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel management phase	Decom. licensee	License terminated
	Code	Name							
ARMENIA	AM-18	ARMENIAN-1	1989-2	Others	Other	4,9		ANPPC/JSC	
BELGIUM	BE-1	BR-3	1987-6	2,5	ID	7	4	CEN/SCK	2036
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	1988-12	Others	ID	9	3,6	NERSA	2025
	FR-3	CHINON A-2	1985-6	1,2	ID	6		EDF	
	FR-4	CHINON A-3	1990-6	1,2	ID			EDF	
	FR-5	CHOOZA (ARDENNES)	1991-10	Others	ID	4,9		SENA	2019
	FR-6	EL-4 (MONT'S D'ARREE)	1985-7	1,2	ID	9		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	2014
	DE-10	STADE	2003-11	2	ID	3,4,6		E.ON	
	DE-11	NIEDERAICHBACH	1974-7	6	ID			KIT	
	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	3,7	G 01 KGR	
	DE-503	GREIFSWALD-2	1990-2	1,3,6,7	ID	3,9	3,7	G 01 KGR	

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2013 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel management phase	Decom. licensee	License terminated
	Code	Name							
GERMANY	DE-504	GREIFSWALD-3	1990-2	1,3,6,7	ID	3,9	3,7	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	1,3,6,7	ID	1,3,9	3,7	G 01 KGR	
	DE-6	LINGEN	1977-1	2,5,6	Dd+Pd+SE	8		RWE AG	
	DE-7	HDR GROSSWELZHEIM	1971-4	5	Other			KIT	
	DE-8	KNK II	1991-8	5	Other			WAK	
	DE-9	WUERGASSEN	1994-8	2	ID	3,4,6		E.ON	2014
	IT-1	LATINA	1987-12	7,Others	ID	3,9		SOGIN	2040
ITALY	IT-2	GARGLIANO	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	3,5,6	SOGIN	2026
	IT-4	CAORSO	1990-7	7,Others	ID	3		SOGIN	2026
JAPAN	JP-1	JPCR	1976-3	Others	ID	3		JAERI	2002
	JP-11	HAMAOKA-1	2009-1	6	Dd+SE	1,6,7	2	CHUBU DL	2037
	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	1,5	2,5	JAEA	2034
KAZAKHSTAN	JP-24	HAMAOKA-2	2009-1	6	Dd+SE	1,6,7	2	CHUBU DL	2037
	KZ-10	AKTAU	1999-4	2,5	Dd+Pd+SE	1,5,6	4,7	MAEC-KAZ	2029
	LT-46	IGNALINA-1	2004-12	7,Others	ID	3,10	1	INPP	2030
	LT-47	IGNALINA-2	2009-12	7,Others	ID	2,3		INPP	2030
LITHUANIA	LT-47	IGNALINA-2	2009-12	7,Others	ID	2,3		INPP	2030
	NL-1	DODEWAARD	1997-3	2,Others	Dd+SE	7		BV GKN	2055
	RU-3	BELOYARSK-1	1983-1	Others	Other			EA	
	RU-4	NOVORONEZH-1	1988-2	Others	Other			EA	
NETHERLANDS	RU-6	BELOYARSK-2	1990-1	Others	Other			EA	
	RU-8	NOVORONEZH-2	1990-8	Others	Other			EA	
	SK-1	BOHUNICE A1	1977-2	4	Dd+Pd+SE	3,6		JAVYS	2015
	SK-2	BOHUNICE-1	2006-12	7	ID	3,4,9		JAVYS	2032
RUSSIA	RU-6	BELOYARSK-2	1990-1	Others	Other			EA	
	RU-8	NOVORONEZH-2	1990-8	Others	Other			EA	
SLOVAKIA	SK-1	BOHUNICE A1	1977-2	4	Dd+Pd+SE	3,6		JAVYS	2015
	SK-2	BOHUNICE-1	2006-12	7	ID	3,4,9		JAVYS	2032
	SK-3	BOHUNICE-2	2008-12	7	ID	3,4,9	3,7	JAVYS	2032
SPAIN	ES-1	JOSE CABRERA-1	2006-4	Others	ID	8		UFG	2015
	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	2027
	SE-6	BARSEBACK-1	1999-11	Others	Other		4	BKAB	2027
	SE-8	BARSEBACK-2	2005-5	Others	Other		4	BKAB	2027

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2013 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel management phase	Decom. licensee	License terminated
	Code	Name							
SWITZERLAND UK	CH -8	LUCENS	1969-1	4	Dd+SE	1		EOS	2004
	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	3.8		Magnox S	2083
	GB -3B	BERKELEY-2	1988-10	2.8	Dd+SE	3.8		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	3.5,6		Magnox S	2104
	GB -7B	HINKLEY POINT A-2	2000-5	2.8	Dd+PD+SE	3.5,6		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	11		DOE DUQU	1989
	US -011	ELK RIVER	1968-2	1,Others	ID			RCPA	1974
	US -012	PIQUA	1966-1	4,5	ISD			CofPiqua	
	US -013	INDIAN POINT-1	1974-10	5	ISD			ENERGY	
	US -014	BONUS	1968-6	5.6	Dd+PD+SE			DOE/PRWR	1970

TABLE 17. REACTORS IN DECOMMISSIONING PROCESS OR DECOMMISSIONED, 31 Dec. 2013 — continued

Country	Reactor		Shut down	Shutdown reason	Decom. strategy	Current decom. phase	Current fuel management phase	Decom. licensee	License terminated
	Code	Name							
USA	US-018	GE VALLECITOS	1963-12	1	Dd+SE			GE&P&EC	
	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	3,4,6,9,11		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		EXELON	2008
	US-206	SAN ONOFRE-1	1992-11	Others	Dd+PD+SE	4		SCE	2007
	US-213	HADDAM NECK	1996-12	6	ID	4,6		CYAPC	
	US-245	MILLSTONE-1	1988-7	6	Dd+PD+SE			DOMINRES	
	US-267	FORT ST. VRAIN	1989-8	1,Others	ID			PSCC	1996
	US-295	YANKEE NPS	1991-10	5,7	ID	4,6		YAEC	2005
	US-304	ZION-1	1998-2	5,6	Dd+PD+SE	1		CommonEd	
	US-305	KEWAUNEE	1998-2	5,6	Dd+PD+SE	1		COMMED	
	US-309	MAINE YANKEE	2013-5	2,6	Dd+SE			DOMINRES	
	US-312	RANCHO SECO-1	1997-8	6	ID	4	7	MYAPC	2005
	US-320	THREE MILE ISLAND-2	1989-6	5,6	Dd+PD+SE			SMUD	2009
	US-322	SHOREHAM	1979-3	4,5	Other		4	GPU	
	US-344	TROJAN	1989-5	7,Others	ID	11		LIPA	1995
	US-409	LACROSSE	1992-11	6	Dd+PD+SE		7	PORTGE	2005
			1987-4	2	Dd+PD+SE			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 remaining radiological areas into safe enclosure
4	After an operating incident	ISD	In situ disposal, involving encapsulation of radioactive materials and subsequent restriction of access
5	Other technological reasons	Other	None of the above
6	Other economical reasons		
7	Public acceptance or political reasons		
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, 2011 to 2013

Reactor category	Reactors reporting to IAEA PRIS (see note)							
	Number of units	Availability factor (%)	Planned unavailability factor (%)	Capacity factor (%)	Forced loss rate (%)	Operating factor (%)	Load factor (%)	
PWR	278	78.3	16.7	79.2	2.3	78.3	77.3	
PWR < 600 MWe	47	71.8	24.9	72.2	1.5	73.4	70.2	
PWR ≥ 600 MWe	231	78.9	16.0	79.9	2.4	79.3	77.9	
BWR	92	64.3	30.5	65.5	3.5	62.8	62.1	
BWR < 600 MWe	11	37.9	48.7	40.8	17.4	43.2	37.6	
BWR ≥ 600 MWe	81	65.7	29.5	66.8	3.0	65.4	63.4	
PHWR	49	81.7	11.2	84.1	3.9	83.6	80.2	
PHWR < 600 MWe	26	75.8	10.2	82.3	6.5	83.1	75.4	
PHWR ≥ 600 MWe	23	84.5	11.7	85.0	2.6	84.2	82.5	
LWGR	15	72.8	24.5	73.1	2.8	74.6	74.0	
LWGR < 600 MWe	4	84.0	15.9	84.0	0.2	71.7	35.7	
LWGR ≥ 600 MWe	11	72.7	24.6	73.0	2.9	75.6	74.1	
GCR	18	74.3	11.2	74.5	10.6	80.5	74.4	
FBR	1	78.5	18.3	78.6	3.3	82.8	80.0	
TOTAL	453	75.3	19.4	76.3	2.9	75.8	74.1	

Note: Reactors shut down during 2011 to 2013 (23 units) are considered.

TABLE 19. FULL OUTAGE STATISTICS DURING 2013

Reactor type	Number of comm. operating reactors	Full outage hours per operating reactor	Planned outages (%)	Unplanned outages (%)	External outages (%)
PWR	274	2018	80.3	17.2	2.5
PWR < 600 MWe	47	2648	84.3	11.4	4.3
PWR ≥ 600 MWe	227	1888	79.2	18.9	1.9
BWR	84	3475	91.8	7.9	0.3
BWR < 600 MWe	10	5760	88.4	11.6	0.0
BWR ≥ 600 MWe	74	3167	92.6	7.0	0.4
PHWR	48	1505	50.6	34.5	14.9
PHWR < 600 MWe	26	1573	55.9	42.9	1.2
PHWR ≥ 600 MWe	22	1425	43.7	23.5	32.8
LWGR	15	2577	93.7	3.3	3.0
LWGR < 600 MWe	4	1724	82.3	0.5	17.2
LWGR ≥ 600 MWe	11	2887	96.1	3.9	0.0
GCR	15	1425	46.2	48.1	5.7
FBR	1	1362	100.0	0.0	0.0
ALL REACTORS	437	2239	81.4	15.8	2.8

Notes:

1. Only reactors in commercial operation are considered.
2. Reactors shut down during 2013 (7 units) are considered.

TABLE 20. DIRECT CAUSES OF FULL OUTAGES DURING 2013

Direct 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								
Refuelling without maintenance	35143	4.65	33712	3.83	53884	93.95	69385	93.85
Inspection, maintenance or repair combined with refuelling	297172	39.35	333231	37.85				
Inspection, maintenance or repair without refuelling	40856	5.41	59892	6.80				
Testing of plant systems or components	1760	0.23	3262	0.37	88	0.15	131	0.18
Major back-fitting, refurbishment or upgrading activities with refuelling	37656	4.99	51645	5.87				
Major back-fitting, refurbishment or upgrading activities without refuelling	339712	44.99	384768	43.70				
Nuclear regulatory requirements	178	0.02	892	0.10	1045	1.82	1074	1.45
Human factor related					566	0.99	783	1.06
Fire	1900	0.25	4259	0.48	284	0.50	488	0.66
Fuel management limitation (including high flux tilt, stretch out or coast-down operation)	788	0.10	8760	0.99	707	1.23	544	0.74
Other					779	1.36	1528	2.07
TOTAL	755165	100.00	880421	100.00	57353	100.00	73933	100.00

Note: Only reactors which have achieved full commercial operation in or before 2013 are counted.

TABLE 21. DIRECT CAUSES OF FULL OUTAGES, 2009 TO 2013

Direct 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								
Refuelling without maintenance	139801	4.61	149053	4.13	332861	90.42	391188	88.61
Inspection, maintenance or repair combined with refuelling	1626173	53.65	1852580	51.31				
Inspection, maintenance or repair without refuelling	159134	5.25	257704	7.14				
Testing of plant systems or components	8943	0.30	18961	0.53	831	0.23	1513	0.34
Major back-fitting, refurbishment or upgrading activities with refuelling	214386	7.07	298148	8.26				
Major back-fitting, refurbishment or upgrading activities without refuelling	876408	28.91	990678	27.44				
Nuclear regulatory requirements	182	0.01	920	0.03	23679	6.43	32047	7.26
Human factor related					4620	1.25	7080	1.60
Fire					2640	0.72	4402	1.00
External restrictions on supply and services	382	0.01	1909	0.05				
Fuel management limitation (including high flux tilt, stretch out or coast-down operation)	2431	0.08	5592	0.15	1911	0.52	1677	0.38
Other	3158	0.10	35066	0.97	1597	0.43	3579	0.81
TOTAL	3030997	100.00	3610611	100.00	368139	100.00	441486	100.00

Note: Only reactors which have achieved full commercial operation in or before 2013 are counted.

TABLE 22. COUNTRIES: ABBREVIATIONS AND SUMMARY

Country code	Full name	Number of reactors, as of 31 Dec. 2013				
		Operational	Construction	LT shut down	Shut down	Planned
AR	ARGENTINA	2	1			1
AM	ARMENIA	1			1	
BY	BELARUS	1				
BE	BELGIUM	7				1
BR	BRAZIL	2	1			
BG	BULGARIA	2			4	
CA	CANADA	19			6	
CN	CHINA	20	29			35
CZ	CZECH REPUBLIC	6				
FI	FINLAND	4	1			
FR	FRANCE	58	1		12	
DE	GERMANY	9			27	
HU	HUNGARY	4				
IN	INDIA	21	6			2
IR	IRAN, ISLAMIC REPUBLIC OF	1				3
IT	ITALY				4	
JP	JAPAN	48	2	1	11	9
KZ	KAZAKHSTAN					
KR	KOREA, REPUBLIC OF	23	5		1	
LT	LITHUANIA					
MX	MEXICO	2			2	
NL	NETHERLANDS	1				
PK	PAKISTAN	3				1
RO	ROMANIA	2	2			
RU	RUSSIA	33	10			5
SK	SLOVAKIA	4	2			3
SI	SLOVENIA	1				
ZA	SOUTH AFRICA	7				
ES	SPAIN	2		1		2
SE	SWEDEN	10				3

TABLE 22. COUNTRIES: ABBREVIATIONS AND SUMMARY — continued

Country code	Full name	Number of reactors, as of 31 Dec. 2013		
		Operational	Construction	Planned
CH	SWITZERLAND	5		
UA	UKRAINE	15	2	1
AE	UNITED ARAB EMIRATES		2	4
GB	UNITED KINGDOM	16		29
US	UNITED STATES OF AMERICA	100	5	32
VN	VIETNAM			2
TOTAL		434	72	149

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. 2013		
		Operational	Construction	Planned
BWR	Boiling Light-Water-Cooled and Moderated Reactor	81	4	33
FBR	Fast Breeder Reactor	2	2	7
GCR	Gas-Cooled, Graphite-Moderated Reactor	15	1	37
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	48	5	8
PWR	Pressurized Light-Water-Moderated and Cooled Reactor	273	60	42
SGHWR	Steam-Generating Heavy-Water Reactor			1
X	Other			2
TOTAL		434	72	149

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY

Operator code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
AEC/NPPD	ATOMIC ENERGY COMMISSION AND NEBRASKA PUBLIC POWER DISTRICT				
AEP	AMERICAN ELECTRIC POWER COMPANY, INC.	2			1
AmerenUE	AMEREN UE, UNION ELECTRIC COMPANY	1			
ANAV	ASOCIACION NUCLEAR ASCO-VANDELLOS A.I.E. (ENDESA / ID)	3			
ANPPC/JSC	CLOSED JOINT STOCK COMPANY ARMENIAN NPP	1			1
APS	ARIZONA PUBLIC SERVICE CO.	3			
AVR	ARBEITSGEMEINSCHAFT VERSUCHSREAKTOR GMBH	2			1
Axpo AG	KERNKRAFTWERK BEZNAU CH-5312 DÖTTINGEN		1		
BHAVINI	BHARATIYA NABHIKIYA VIDYUT NIGAM LIMITED				3
BKAB	BARSEBACK KRAFT AB	1			
BKW	BKW ENERGIE AG	8			
BRUCEPOW	BRUCE POWER				1
BV GKN	BV GEMEENSCHAPPELIJKE KERNENERGIECENTRALE NEDERLAND (BV GKN)				1
CEA/EDF	COMMISSARIAT À L'ÉNERGIE ATOMIQUE (80%) / ÉLECTRICITÉ DE FRANCE (20%)				1
CEN SCK	CENTRE D'ÉTUDE DE L'ÉNERGIE NUCLÉAIRE / STUDIECENTRUM VOOR KERNENERGIE	6			
CEZ	CZECH POWER COMPANY, CEZ A. S.	2			
CFE	COMISION FEDERAL DE ELECTRICIDAD	3			1
CHUBU	CHUBU ELECTRIC POWER CO., INC.	2			2
CHUGOKU	THE CHUGOKU ELECTRIC POWER CO., INC.	1			
CIAE	CHINA INSTITUTE OF ATOMIC ENERGY	1			2
CNAT	CENTRALES NUCLEARES ALMARAZ-TRILLO (ID / UFG / ENDESA / HC / NUCLEOR)	3			
CNEA	COMISION NACIONAL DE ENERGIA ATOMICA	1			1
CNNO	CNOC NUCLEAR OPERACION MANAGEMENT COMPANY LIMITED				
CoPiqua	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
DNMC	DAYA BAY NUCLEAR POWER OPERATIONS AND MANAGEMENT CO. LTD.	6			

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
DOE DUJU	DEPARTMENT OF ENERGY AND DUCUESNE LIGHT CO.				
DOE/PRWR	DOE & PUERTO RICO WATER RESOURCES				
DOMINION	DOMINION GENERATION	6			1
DPC	DAIRYLAND POWER COOPERATIVE		1		2
DSAE	STATE INSTITUTION DIRECTORATE FOR NUCLEAR POWER PLANT CONSTRUCTION				1
DTEDISON	DETROIT EDISON CO.	1			1
DUKEENER	DUKE ENERGY CORP.	7			7
E.ON	E.ON KERNKRAFT GMBH	3			3
EDF	ELECTRICITE DE FRANCE	58	1		8
EDF UK	EDF ENERGY	15			
ELECTRAB	ELECTRABEL M. V. NUCLEAIRE PRODUKTIE	7			
ELETRONU	ELETROBRAS ELETRONUCLEAR S.A.	2	1		1
EBW	ENBW KRAFTWERKE AG				2
ENEC	EMIRATES NUCLEAR ENERGY CORPORATION	1	2		
ENERGYNW	ENERGY NORTHWEST	2			
ENIKK	ENBW KERNKRAFT GMBH (SITZ IN OBRIGHEIM)	12			2
ENERGY	ENERGY NUCLEAR OPERATIONS, INC.				1
EOS	ENERGIE DE L'OUEST SUISSE		1		
EPDC	ELECTRIC POWER DEVELOPMENT CO., LTD.				1
EPZ	N.V. ELEKTRICITEIT'S-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 FUJING NUCLEAR POWER CO., LTD		4		2
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. 2013			
		Operational	Construction	LT shut down	Shut down
GFNPC	GUANGXI FANGHENGANG NUCLEAR POWER COMPANY LTD		2		
GPU	GENERAL PUBLIC UTILITIES(OWNED BY FIRSTENERGY CORP.				1
HDR	HEISSDAMPREAKTOR-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		2		
HOKURIKU	HOKURIKU ELECTRIC POWER CO.	2			
HONGYANH	HONGYANHE NUCLEAR POWER COMPANY				1
HQ	HYDRO QUEBEC				
HSNPC	HUANENG SHANDONG SHIDAO BAY NUCLEAR POWER COMPANY, LTD.		1		2
ID	IBERDROLA, S.A.	1			
INPP	IGNALINA NUCLEAR POWER PLANT				2
JAEA	JAPAN ATOMIC ENERGY AGENCY			1	2
JAPCO	JAPAN ATOMIC POWER CO.	3			1
JAVYS	JADROVA A VYRADOVACIA SPOLOCNOST /NUCLEAR AND DECOMMISSIONING COMPANY, PLC.				3
JNPC	JIANGSU NUCLEAR POWER CORPORATION	2	2		2
KBG	KERNKRAFTWERK-BETRIEBSGESELLSCHAFT MBH				
KEPCO	KANSAI ELECTRIC POWER CO.	11			2
KGB	KERNKRAFTWERKE GUNDREMMINGEN BETRIEBSGESELLSCHAFT MBH	2			
KGK	KERNKRAFTWERK GUNDREMMINGEN GMBH	23			1
KHNP	KOREA HYDRO AND NUCLEAR POWER CO.		5		1
KKB	KERNKRAFTWERK BRUNSBÜTTEL GMBH				1
KKG	KERNKRAFTWERK GOESGEN-DAENIKEN AG	1			
KKK	KERNKRAFTWERK KRUMMEL GMBH & CO. OHG				1
KKL	KERNKRAFTWERK LEIBSTADT	1			
KKN	KERNKRAFTWERK NIEDERAICHBACH GMBH	1			1
KLE	KERNKRAFTWERKE LIPPE-EMS GMBH	1			
KOZNP	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. 2013			
		Operational	Construction	LT shut down	Shut down
KYUSHU	KYUSHU ELECTRIC POWER CO., INC.	6			1
LHNPC	LIAONING HONGYANHE NUCLEAR POWER CO. LTD. (LHNPC)	2	2		2
LIPA	LONG ISLAND POWER AUTHORITY				1
LNPC	LIAONIN NUCLEAR POWER COMPANY, LIMIT.	2			2
LUMINANT	LUMINANT GENERATION COMPANY LLC				
MAEC-KAZ	MANGISHLAK ATOMIC ENERGY COMPLEX-KAZATOMPROM, LIMITED LIABILITY COMPANY	1			1
MIL	MAGNOX LIMITED				21
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.	2	1		
NBEPCC	NEW BRUNSWICK ELECTRIC POWER COMMISSION	1			
NDNP	FUJIAN NINGDE NUCLEAR POWER COMPANY LTD.	1	3		
NEK	NUKLERANA ELEKTRARNA KRŠKO	1			
NEXTERA	NEXTERA ENERGY RESOURCES, LLC	4			
NMC	NUCLEAR MANAGEMENT CO.				1
NNEG	NATIONAL NUCLEAR ENERGY GENERATING COMPANY <ENERGOATOM>	15	2		
NPCL	NUCLEAR POWER CORPORATION OF INDIA LTD.	21	5		2
NPPDCO	NUCLEAR POWER PRODUCTION & DEVELOPMENT 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 AKTIJBOLAG	3			
OPG	ONTARIO POWER GENERATION	10			2
OPPD	OMAHA PUBLIC POWER DISTRICT	1			
PAEC	PAKISTAN ATOMIC ENERGY COMMISSION	3	2		
PAKS Zjt	PAKS NUCLEAR POWER PLANT LTD	4			
PE	PREUSSELEKTRA KERINKRAFT GMBH&CO KG				1
PG&E	PACIFIC GAS AND ELECTRIC COMPANY	2			1
PORTIGE	PORTLAND GENERAL ELECTRIC CO.				1

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2013				
		Operational	Construction	LT shut down	Shut down	Planned
PPL SUSUQ	PPL SUSQUEHANNA, LLC	2				
PROGRESS	PROGRESS ENERGY	4			1	1
PSCC	PUBLIC SERVICE CO. OF COLORADO				1	
PSEG	PSEG NUCLEAR LLC/PUBLIC SERVICE ELECTRIC & GAS CO.	3				
QNPC	QINSHAN NUCLEAR POWER COMPANY	4	2			
RAB	RINGHALS AB				1	
RCPA	RURAL COOPERATIVE POWER ASSOC.	33	10		4	22
REA	JOINT STOCK COMPANY CONCERN ROSENERGOATOM				2	
RWE	RWE POWER AG				3	
SCE	SOUTHERN CALIFORNIA EDISON CO.	1	2			
SCE&G	SOUTH CAROLINA ELECTRIC & GAS CO.		2			2
SDNPC	SHANDONG NUCLEAR POWER COMPANY LTD	4	2			
SE,plc	SLOVENSKE ELEKTRARNE, A.S.				1	
SENA	SOCIETE D'ENERGIE NUCLEAIRE FRANCO-BELGE DES ARDENNES	3			4	
SHIKOKU	SHIKOKU ELECTRIC POWER CO., INC.					
SL	SELLAFIELD LIMITED					
SMNPC	SANMEN NUCLEAR POWER CO., LTD.		2			2
SMUD	SACRAMENTO MUNICIPAL UTILITY DISTRICT				1	
SNEC	SAXTON NUCLEAR EXPERIMENTAL REACTOR CORPORATION				1	
SNN	SOCIETATEA NATIONALA NUCLEARELECTRICA S.A.	2				
SOGIN	SOCIETA GESTIONE IMPANTI NUCLEARIS P.A.	6	2		4	
SOUTHERN	SOUTHERN NUCLEAR OPERATING COMPANY, INC.	2				
STP	STP NUCLEAR OPERATING CO.	11			6	2
TEPCO	TOKYO ELECTRIC POWER CO., INC.					
TNPC	GUANGDONG TAISHAN NUCLEAR POWER JOINT VENTURE COMPANY LIMITED (TNPC)	4	2			
TOHOKU	TOHOKU ELECTRIC POWER CO., INC.	6				1
TPC	TAIWAN POWER CO.	6	2			
TQNPC	THE THIRD QINSHAN JOINTED VENTURE COMPANY LTDA.	2				
TVA	TENNESSEE VALLEY AUTHORITY	6	1			
TVO	TEOLLISUUDEN VOIMA OYJ	2	1			
UFG	UNION FENOSA GENERATION S.A.				1	

TABLE 24. OPERATORS: ABBREVIATIONS AND SUMMARY — continued

Operator code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
UKAEA	UNITED KINGDOM ATOMIC ENERGY AUTHORITY				
VAK	VERSUCHSATOMKRAFTWERK KAHL GMBH				4
WGNOC	WOLF CREEK NUCLEAR OPERATION CORP.	1			1
YAEC	YANKEE ATOMIC ELECTRIC CO.				1
YJNPC	YANGJIANG NUCLEAR POWER COMPANY	1	5		
not specified					35
TOTAL		434	72	2	149
					92

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY

NSSS supplier code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
AIFW	ASSOCIATION ACEC- FRAMATOME ET WESTINGHOUSE				
ABBATOM	ABBATOM (FORMERLY ASEA-ATOM)	7			1
AC	ALLIS CHALMERS				2
ACECOWEN	ACECOWEN (ACEC-COCKERILL-WESTINGHOUSE)	4			3
ACLF	ACECOWEN - CREUSOT LOIRE - FRAMATOME	1			
AECL	ATOMIC ENERGY OF CANADA LTD.	8			3
AECLIDAE	ATOMIC ENERGY OF CANADA LTDA AND DEPARTMENT OF ATOMIC ENERGY (INDIA)	1			
AECLDHI	ATOMIC ENERGY OF CANADA LTD. / DOOSAN HEAVY INDUSTRY & CONSTRUCTION	3			
AEI	ATOMENERGOEXPORT	8			6
AEI	ALLGEMEINE ELEKTRICITAETS-GESELLSCHAFT	1			1
AEI	ALLGEMEINE ELEKTRICITAETS-GESELLSCHAFT, GENERAL ELECTRIC COMPANY (US)	1			1
AEI	ALLGEMEINE ELEKTRICITAETS-GESELLSCHAFT, KRAFTWERK UNION AG	1			2
AMINGETS	ANSALDO MECCANICO NUCLEARE SPA / GENERAL ELECTRIC TECHNICAL SERVICES CO	1			1
APC	ATOMIC POWER CONSTRUCTION LTD.	2			2
AREVA	AREVA, 27-29, RUE LE PELETIER, 75433 PARIS CEDEX 09URL: WWW.AREVA.COM	1	4		1
ASE	JOINT-STOCK COMPANY ATOMSTROYEXPORT	1	3		1
ASEASTAL	ASEA-ATOM / STAL-LAVAL	2			1
ASPALDO	ASPALDO				1
AIEE	ATOMENERGOEXPORT				1
B&W	BABCOCK & WILCOX CO.	6			6
BBK	BROWN BOVERI-KRUPP REAKTORBAU GMBH				4
BBR	BROWN BOVERI REAKTOR GMBH				1
CE	COMBUSTION ENGINEERING CO.				1
CEA	COMMISSARIAT A L'ENERGIE ATOMIQUE	12			3
CFHI	CHINA FIRST HEAVY INDUSTRIES	1	7		1
CGE	CANADIAN GENERAL ELECTRIC	1			1
CNCLNEY	CNIM-CONSTRUCTIONS NAVALES ET INDUSTRIELLES DE MEDITERRANEE CL - CREUSOT LOI				1
CNEA	COMISION NACIONAL DE ENERGIA ATOMICA	7	2		1
CNNC	CHINA NATIONAL NUCLEAR CORPORATION				
DEC	DONGFANG ELECTRIC CORPORATIONDEC-NPIC-FANP	5	6		6

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY — continued

NSSS supplier code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
DHCKAEC	DOOSAN HEAVY INDUSTRIES & CONSTRUCTION CO. LTD. / KOREA ATOMIC ENERGY RESEARCH I	2			
DHCKOPC	DOOSAN HEAVY INDUSTRIES & CONSTRUCTION CO. LTD. / KOREA POWER ENGINEERING COMPA	9	5		
EE/B&WIT	THE ENGLISH ELECTRIC CO. LTD. / BABCOCK & WILCOX CO. / TAYLOR WOODROW CONSTR.	1			5
EL/WEST	ELETTRONUCLEARE ITALIANA / WESTINGHOUSE ELECTRIC CORP.	1			1
FAEA	FEDERAL ATOMIC ENERGY AGENCY	66			5
FRAM	FRAMATOMIE	2			3
FRAMACEC	FRAMACECO (FRAMATOMIE-ACEC-COCKERILL)	2			2
GA	GENERAL ATOMIC CORP.	1			1
GAAGA	GROUPEMENT ATOMIQUE ALSACIENNE ATLANTIQUE	2			2
GE	GENERAL ELECTRIC CO.	46	2	1	11
GE/AEG	GENERAL ELECTRIC COMPANY (US), ALL GEMEINE ELEKTRICITAETS-GESELLSCHAFT	1			1
GE/GETSC	GENERAL ELECTRIC CO. / GENERAL ELECTRIC TECHNICAL SERVICES CO.	1			1
GE/T	GENERAL ELECTRIC CO. / TOSHIBA CORPORATION	2			2
GEC	GENERAL ELECTRIC COMPANY (UK)	3			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.	9	1		2
HRB	HOCHTEMPERATUR-REAKTORBAU GMBH				1
IA	INTERNATOM INTERNATIONALE ATOMREAKTORBAU GMBH				1
ICL/FE	INTERNATIONAL COMBUSTION LTD. / FAIREY ENGINEERING LTD.				1
IZ	IZHORSKIYE ZAVODY	3	2		
KEPCO	KOREA ELECTRIC POWER CORPORATION	12	2		2
KWU	SIEMENS KRAFTWERK UNION AG	1			9
LEVIVIER	LEVIVIER				2
MAEC-KAZ	MAEC-KAZATOMPROMMANGISHLAK ATOMIC ENERGY COMPLEX-KAZATOMPROM, LLC				1
MAEP	MINATOMENERGOPROM, MINISTRY OF NUCLEAR POWER AND INDUSTRY	1	1		2
MHI	MITSUBISHI HEAVY INDUSTRIES LTD.	20			2
MSM	MINISTRY OF MEDIUM MACHINE BUILDING OF THE USSR (MINSREDMASH)				5
NGA	NATIONALE GESELLSCHAFT ZUR FORDERUNG DER INDUSTRIELLEN ATOMTECHNIK				1

TABLE 25. NSSS SUPPLIERS: ABBREVIATIONS AND SUMMARY — continued

NSSS supplier code	Full name	Number of reactors, as of 31 Dec. 2013			
		Operational	Construction	LT shut down	Shut down
NNC	NATIONAL NUCLEAR CORPORATION	2			
NPC	NUCLEAR POWER CO. LTD.	6			
NPCL	NUCLEAR POWER CORPORATION OF INDIA LTD. VIKRAM SARABHAI BHAVAN, ANUSHAKTI NAG	16	4		
NPIC	NUCLEAR POWER INSTITUTE OF CHINA		6		
OH/AECL	ONTARIO HYDRO / ATOMIC ENERGY OF CANADA LTD.	18		2	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 MAAATSCHAPPIJ (RDM) IN ROTTERDAM (NL)	33	10		24
ROSATOM	STATE ATOMIC ENERGY CORPORATION ROSATOM	1			
SKWU	SIEMENS / KRAFTWERK UNION AG			2	
SACM	SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES				
SHE	SHANGHAI ELECTRIC		1		
SIEM.KWU	SIEMENS AG, KRAFTWERK UNION AG			2	
SIEMENS	SIEMENS AG, POWER GENERATION - FRG	1	1		
SKODA	SKODA CONCERN NUCLEAR POWER PLANT WORKS	10	2		
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	70	7	10	4
WH	WESTINGHOUSE ELECTRIC CORPORATION	1	2	11	2
WH/MIHI	WESTINGHOUSE ELECTRIC CORPORATION / MITSUBISHI HEAVY INDUSTRIES LTD.	1	1		44
not specified					
TOTAL		434	72	2	149
					92

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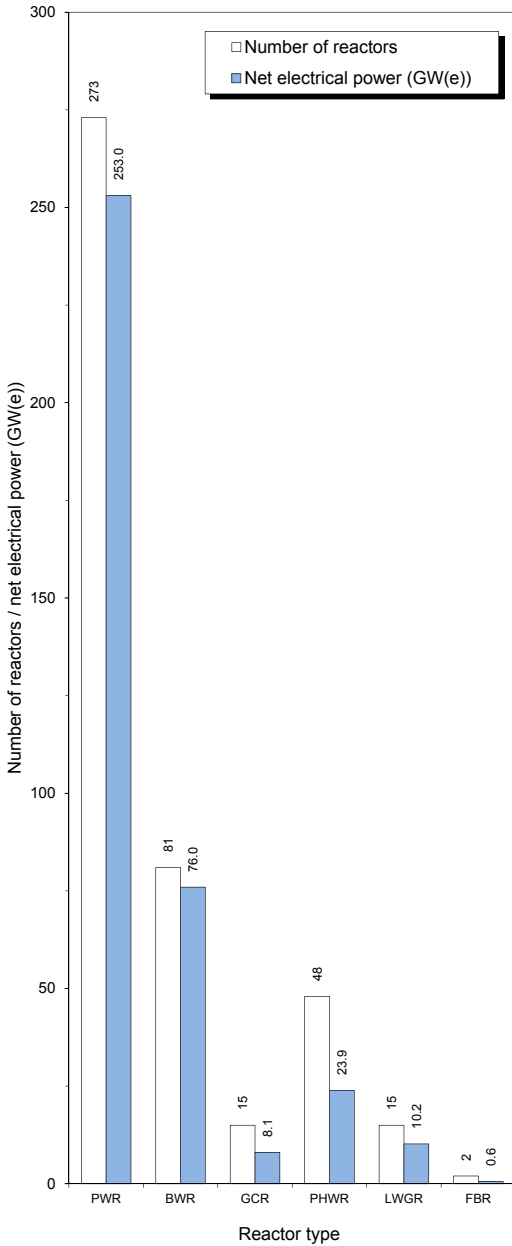


Figure 1. Number of operational reactors by type and net electrical power (as of 31 Dec. 2013).

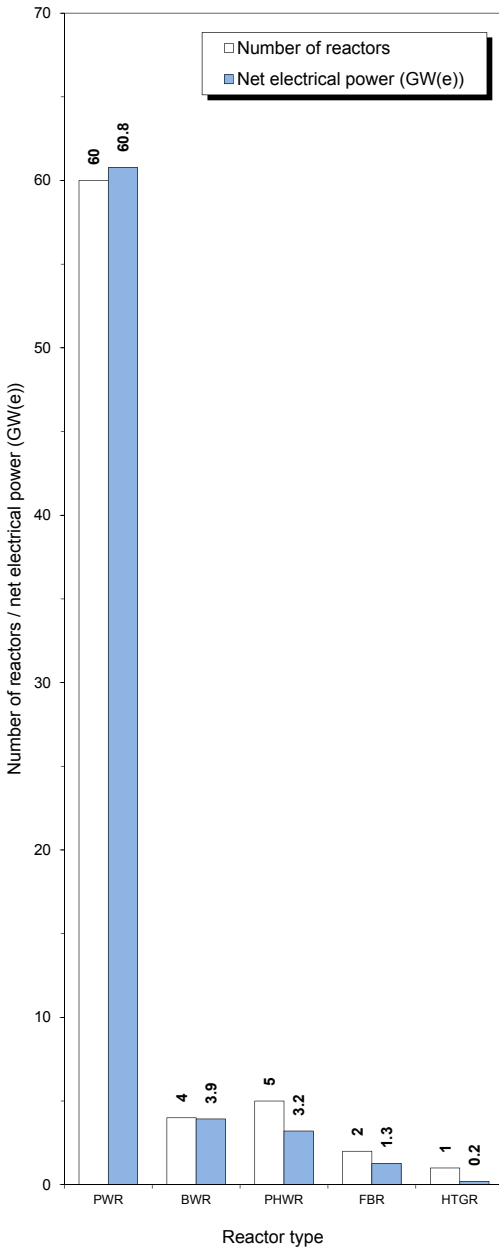


Figure 2. Reactors under construction by type and net electrical power (as of 31 Dec. 2013).

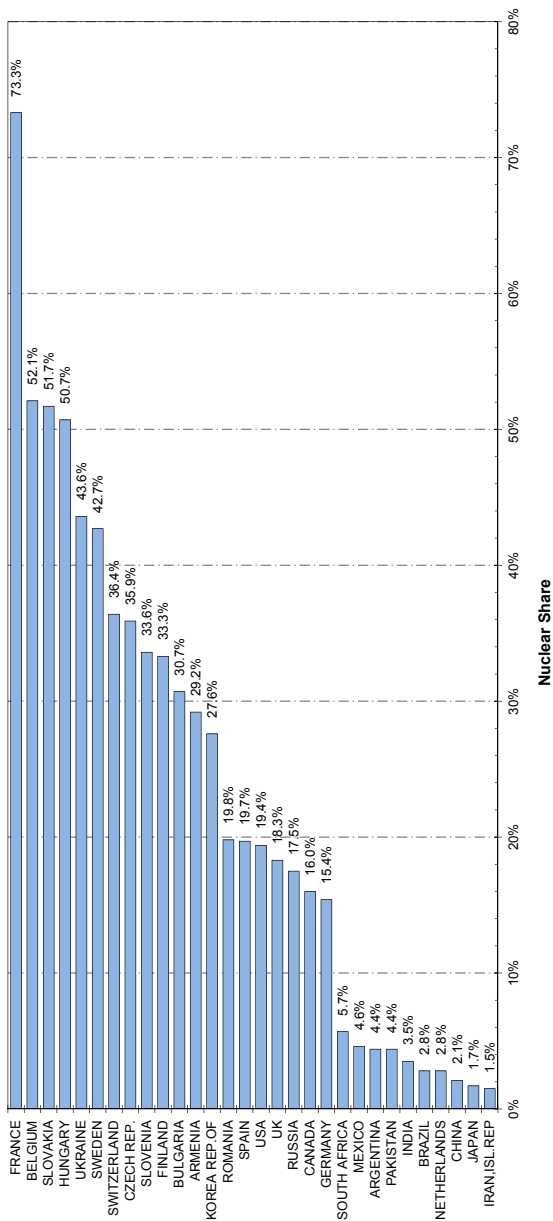


Figure 3. Nuclear share of electricity generation (as of 31 Dec. 2013).

Note: The nuclear share of electricity supplied in Taiwan, China was 19.1% of the total.

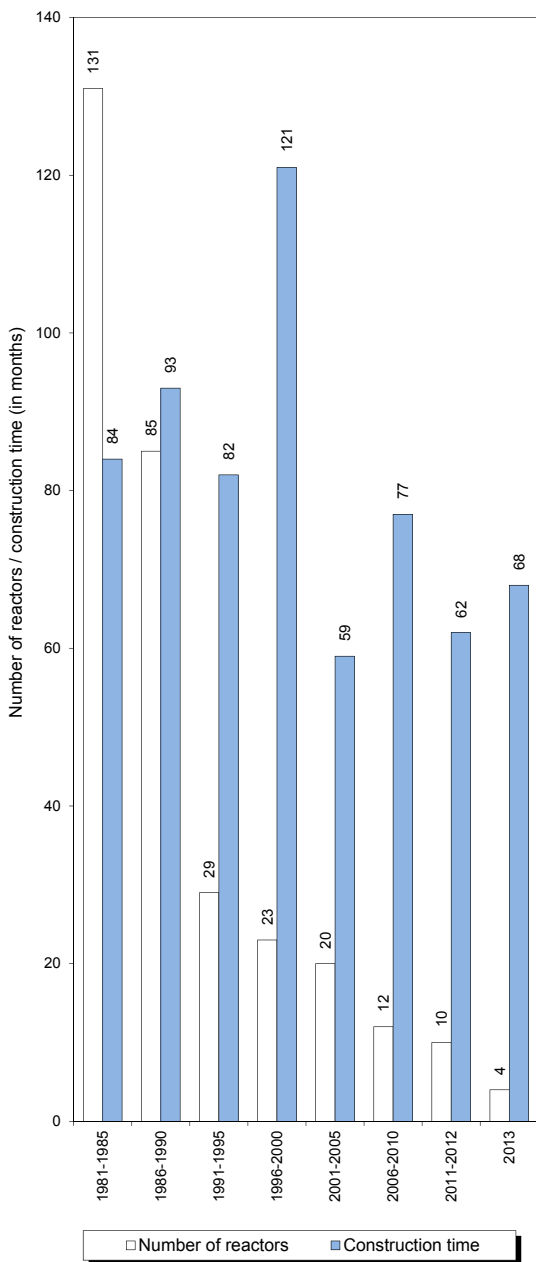


Figure 4. Worldwide median construction time in months (as of 31 Dec. 2013).

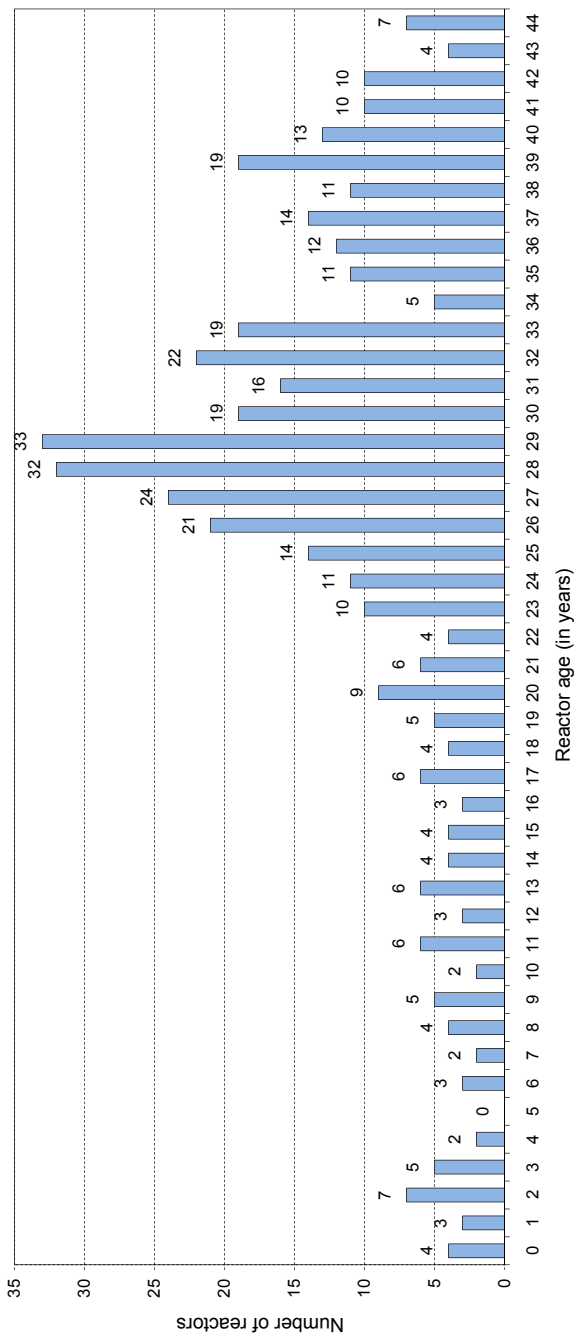


Figure 5. Number of reactors in operation by age (as of 31 Dec. 2013).

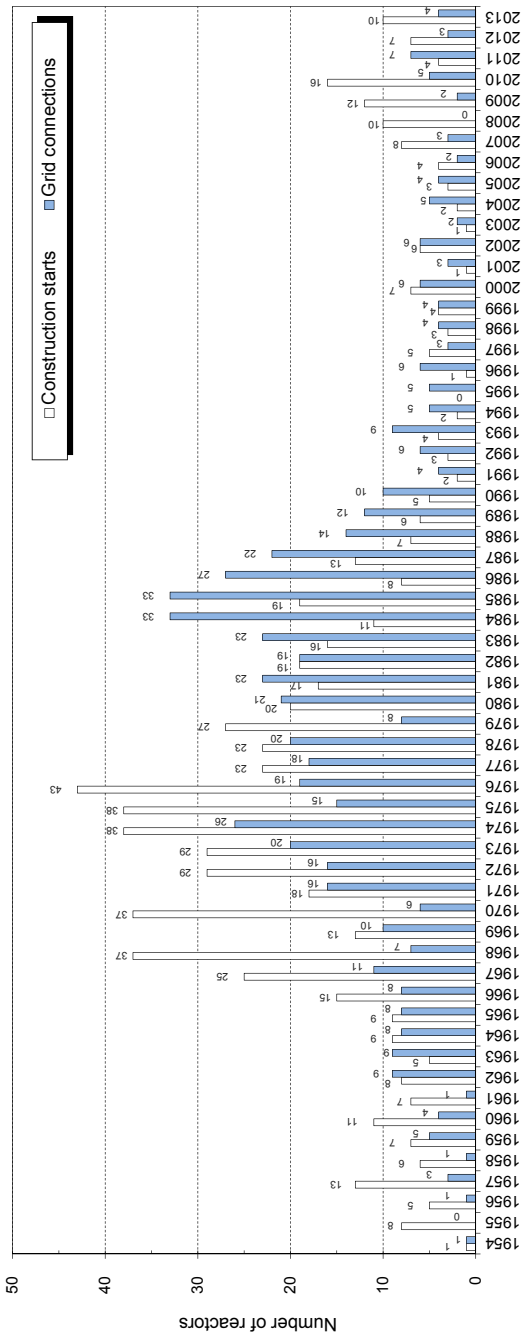


Figure 6. Annual construction starts and connections to the grid (1954 to 2013).



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