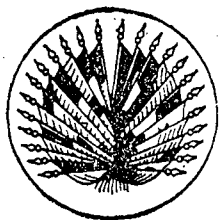


08.78.05



COMISION INTERAMERICANA DE ENERGIA NUCLEAR Y
COMISION NACIONAL DE ENERGIA ATOMICA DE LA REPUBLICA ARGENTINA



**CURSO LATINOAMERICANO DE INGENIERIA NUCLEAR
ORIENTADO A LA CAPACITACION BASICA PARA LA
IMPLEMENTACION DE PROGRAMAS NUCLEOELECTRICOS**

C.N.E.A. Biblioteca	
ARCHIVO PUBLICACIONES	
Nº 2	AÑO 1978

CNEA AC-44/78

- PARQUE MUNDIAL DE CENTRALES NUCLEARES
- MODULOS DE POTENCIA COMERCIALES

Prof.: Ing. EDUARDO DIAZ

BUENOS AIRES - ARGENTINA

OCTUBRE - 1978

PARQUE MUNDIAL DE CENTRALES NUCLEARES

Desde el año 1950 aproximadamente se vienen instalando centrales nucleares en el mundo. Esta nueva era de generación tiene como propósitos conseguir energía eléctrica barata, sin contaminación del medio ambiente y el reemplazo de los combustibles fósiles en vías de extinción. En la tabla I puede verse que en 1955 existían tan solo instalados en el mundo unos 7 MW, llegando en la actualidad a unos 400.000 MW entre centrales en operación y en construcción.

En la tabla II se discrimina la capacidad de generación instalada por tipo de central. Puede observarse que el tipo mas frecuentemente instalado es el PWR, siguiendo el tipo BWR y las centrales de agua pesada.

En realidad las centrales Magnox y los AGR estarían en tercer lugar, pero esta línea que tuvo gran aceptación en Gran Bretaña tiende a ser interrumpida (Observese la reducida cantidad de centrales en construcción).

En la tabla III se muestra la producción de electricidad de origen nuclear en el año 1977 discriminada por países. A título informativo se incluye Argentina cuyas cifras de producción detalladas pueden verse en las tablas V y VI.

El aporte de la energía mundial generada por medios nucleares se presenta en la tabla IV, discriminada por tipo de central.

En la tabla VII, a manera de guía se incluye una lista publicada por la revista Nuclear News (Agosto 1978) donde figuran, clasificadas por país, las centrales nucleares en operación comercial, en construcción o bien aquellas que ya poseen un contrato firmado. Se indica la potencia eléctrica neta, el tipo de reactor, el suministrador del reactor, el suministrador del generador, el "Architect Engineer", la firma constructora, el % de avance de la obra, la fecha prevista originalmente para la puesta en marcha y la fecha real estimada de dicho evento.

MODULOS DE POTENCIA COMERCIALES

Como filosofía de diseño se encuentra suficientemente aceptado que el módulo de una central de base como lo es una central nuclear, no debe sobrepasar un 10 % de

...///

la potencia instalada vinculada a la red eléctrica a la cual se encuentra conectada.

Los países de alto desarrollo tecnológico han incrementado a lo largo del tiempo dicha potencia instalada de red, con lo que el módulo de potencia ha ido incrementándose como consecuencia. Al mismo tiempo los suministradores han tendido a la standarización de dichos módulos con el objeto de reducir los costos y los tiempos que involucran las gestiones de licenciamiento. Esta standarización en módulos que son aceptables en países de gran producción per cápita ha colocado en difícil situación a aquellos países que poseen redes de pequeña potencia, ubicándolos en la difícil situación de optar por módulos demasiado grandes o bien de encargar módulos fuera de serie con la consiguiente disminución de la oferta y el incremento de precios.

En la tabla VIII se muestra la tendencia del módulo de potencia para centrales comerciales nucleares y fósiles.

TABLA I

POTENCIA ELECTRICA DE ORIGEN NUCLEAR
INSTALADA EN EL MUNDO

1955.....	7 MW
1960.....	1300 MW
1965.....	7100 MW
1970.....	20.000 MW
1975.,.....	75.000 MW

POTENCIA ELECTRICA DE ORIGEN NUCLEAR
INSTALADA PRONOSTICADA

1980.....	200.000 MW
1985.....	500.000 MW
1990.....	1.000.000 MW

TABLA II

CAPACIDAD INSTALADA A 1977 (POR TIPO DE CENTRAL)

TIPO	EN OPERACION		EN CONSTRUCCION	
	CANTIDAD	MWe	CANTIDAD	MWe
PWR	75	46841	128	121921
BWR	49	26712	56	54135
D ₂ O	15	4255	18	8000
Magnox + AGR	41	10903	6	3750
HTR	2	345	1	300
LMFBR	4	662	4	2098

TABLA III
PRODUCCION DE ELECTRICIDAD DE ORIGEN NUCLEAR EN 1977

PAIS	NUMERO DE CENTRA- LES EN OPERACION	PRODUCCION DE ELEC TRICIDAD GWh	PORCIENTO DE GENERACION (%)
RESTO DEL MUNDO MENOS COMECON	157	469.450	-
ALEMANIA OCCIDENTAL	14	36.060	9
U.S.A.	62	262.172	13
SUIZA	3	8.070	17
SUECIA	6	19.890	21
ARGENTINA	1	2,600	10

TABLA IV
PRODUCCION DE ENERGIA ELECTRICA NUCLEAR
(POR TIPO DE CENTRAL,)

TIPO	Generación acumulada has- ta Diciembre 31,77 GWhe %	Generación en 1977 GWhe %	Número de reactores considerados
PWR	858826 40,3	249217 53	65
BWR	595490 28,0	128298 27	45
D ₂ O	129064 6,1	30847 6,6	15
Magnox + AGR	540881 25,4	56307 12	40
HTR	1195 <0,1	66 <0,1	1
LMFBR	4395 0,2	357 <0,1	2

TABLA V

ARGENTINA

PRODUCCION ANUAL ENERGIA ELECTRICA SEGUN FUENTE 1976		
FUENTES TERMICAS CONVENCIONALES	17.700 GWh	70 %
FUENTES HIDROELECTRICAS	5.000 GWh	20 %
FUENTES NUCLEARES	2.600 GWh	10 %
PRODUCCION ANUAL PER CAPITA	1,150 KWh	

TABLA VI

ARGENTINA

POTENCIA ELECTRICA INSTALADA PRODUCCION ENERGIA ELECTRICA 1976			
	SERVICIO PUBLICO	AUTO- PRODUCCION	TOTAL
POTENCIA INSTALADA MW	7.100	1.900	9.000
PRODUCCION ANUAL GWh	25.300	4.500	29.800

TABLA VII

PARQUE MUNDIAL DE CENTRALES NUCLEARES (*)

En operación, en construcción, o ordenadas
(Potencia superior a 30 MWe) a Junio 30 de 1978

* Unidades en operación comercial.

+ Fecha estimada de arranque, en la fecha en
que fué ordenada la Central.

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal	Actual +
Argentina									
Comision Nacional de Energia Atomica									
• Atucha (Lima, Buenos Aires)	319	PHWR	Siemens	KWU	Siemens	Siemens/Imp.	100	6/72	6/74
• Cordoba (Embalse, Rio Tercero)	600	PHWR	AECL	Italmianti	AECL/ Italmianti	Italmianti	7	12/79	/81
Austria									
Gemeinschaftskernkraftwerk Tullnerfeld (GKT)									
Tullnerfeld 1 (Zwentendorf)	692	BWR	KWU/AEG	KWU/Elin	KWU	SO	99.5	8/76	12/78
Belgium									
Indivision Doel									
• Doel 1 (Antwerp)	390	PWR	ACECOWEN	COP/TOSI/ ACEC	TE		100	6/73	2/75
• Doel 2 (Antwerp)	390	PWR	ACECOWEN	COP/TOSI/ ACEC	TE		100	3/75	11/75
Societe Belgo-Francaise d'Energie Nucleaire Mosane (SEMIO)									
• Tihange 1 (Huy, Liege)	870	PWR	ACLF	Alsthom/Rateau/ La Meuse/ ACEC-JS	EdF/ Electrobel	CFE-Blaton/ADF SPIE-SNTP/C-B	100	12/74	9/75

* Nuclear News Agosto 1978

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tur	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Societe Intercommunale Belge de Gaz et d'Electricite (INTERCOM)									
Tihange 2 (Huy, Liege)	900	PWR	FRAMACECO	Alstom/Bateau/ La Meuse/ACEC	Electrobel	CTAFMC	40	4/80	4/81
Tihange 3 (Huy, Liege)	1000	PWR	ACECOWEN	Brown Boveri/ Alstom/ACEC	Electrobel	CTAFMC	1	4/82	10/83
Societes Reunies d'Energie du Bassin de l'Escaut (EBES)									
Doel 3 (Antwerp)	925	PWR	FRAMACECO	Alstom/ACEC	TE		60	2/80	12/80
Doel 4 (Antwerp)	1000	PWR	ACECOWEN	Brown Boveri/ ACEC	TE		7	12/82	6/83
Brazil									
Furnas									
Angra 1 (Itaorna)	626	PWR	W	W	G&H/PE	W	80	3/77	6/79
Angra 2 (Itaorna)	1245	PWR	KWU	KWU	Nuclen	KWU	5	12/82	9/84
Angra 3 (Itaorna)	1245	PWR	KWU	KWU	Nuclen	KWU	0	6/84	3/86
Bulgaria									
• Kozloduy 1 (Kozloduy)	440	PWR	AEE				100		12/74
• Kozloduy 2 (Kozloduy)	440	PWR	AEE				100		12/75
Kozloduy 3 (Kozloduy)	440	PWR	AEE				55	7/78	7/80
Kozloduy 4 (Kozloduy)	440	PWR	AEE				45	7/79	7/80
Canada									
New Brunswick Electric Power Commission									
Point Lepreau (Bay of Fundy, N.B.)	600	PHWR	Can. Vickers	H-P	Utility/AECL	Utility	40	10/79	7/80
Ontario Hydro									
• Douglas Point (Tiverton, Ont.)	206	PHWR	AECL	AEI	OH/AECL	OH	100	7/65	9/68
• Pickering 1 (Pickering, Ont.)	515	PHWR	AECL	H-P	OH/AECL	OH	100	11/70	7/71
• Pickering 2 (Pickering, Ont.)	515	PHWR	AECL	H-P	OH/AECL	OH	100	10/71	12/71
• Pickering 3 (Pickering, Ont.)	515	PHWR	AECL	H-P	OH/AECL	OH	100	10/72	6/72
• Pickering 4 (Pickering, Ont.)	515	PHWR	AECL	H-P	OH/AECL	OH	100	10/73	6/73
• Bruce 1 (Tiverton, Ont.)	740	PHWR	AECL	H-P	OH/AECL	OH	100	6/77	9/77
• Bruce 2 (Tiverton, Ont.)	740	PHWR	AECL	H-P	OH/AECL	OH	100	9/76	9/77
• Bruce 3 (Tiverton, Ont.)	740	PHWR	AECL	H-P	OH/AECL	OH	100	6/78	2/78
Bruce 4 (Tiverton, Ont.)	740	PHWR	AECL	H-P	OH/AECL	OH	95	6/79	2/79
Pickering 5 (Pickering, Ont.)	516	PHWR	AECL	H-P	OH/AECL	OH	65	4/80	4/81
Pickering 6 (Pickering, Ont.)	516	PHWR	AECL	H-P	OH/AECL	OH	55	1/81	1/82
Pickering 7 (Pickering, Ont.)	516	PHWR	AECL	H-P	OH/AECL	OH	50	10/81	10/82
Pickering 8 (Pickering, Ont.)	516	PHWR	AECL	H-P	OH/AECL	OH	45	7/82	7/83
Bruce 5 (Tiverton, Ont.)	769	PHWR	AECL	CGE	OH/AECL	OH	15	10/82	10/83
Bruce 6 (Tiverton, Ont.)	769	PHWR	AECL	CGE	OH/AECL	OH	20	7/83	7/84
Bruce 7 (Tiverton, Ont.)	769	PHWR	AECL	CGE	OH/AECL	OH	15	4/84	4/85
Bruce 8 (Tiverton, Ont.)	769	PHWR	AECL	CGE	OH/AECL	OH	15	1/85	1/86
Darlington 1 (Newcastle Twp., Ont.)	854	PHWR	AECL		OH/AECL	OH	0	11/85	11/85
Darlington 2 (Newcastle Twp., Ont.)	854	PHWR	AECL		OH/AECL	OH	0	8/86	8/86
Darlington 3 (Newcastle Twp., Ont.)	854	PHWR	AECL		OH/AECL	OH	0	5/87	5/87
Darlington 4 (Newcastle Twp., Ont.)	854	PHWR	AECL		OH/AECL	OH	0	2/88	2/88
Hydro Quebec									
• Gentilly 1 (Becancour, Que.)	250	BLWR	AECL	BBC	AECL/SNC/MECO	HQ	100	7/71	5/72
Gentilly 2 (Becancour, Que.)	638	PHWR	AECL	GE	AECL/CTL/HQ	HQ	72	7/79	7/80
Czechoslovakia									
• Bohunice 1A	110	GCHWR					100		12/72
Bohunice 2A	440	PWR	AEE				90		7/78
Bohunice 2B	440	PWR	AEE				80		12/78
Czechoslovakian 3	440	PWR	AEE				40		12/79
Czechoslovakian 4	440	PWR	AEE				10		12/80

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Egypt									
Egyptian Electricity Authority									
Sidi-Krier-1 (Sidi Krier)	622	PWR	W	W	Gilbert	Jones	0	/83	/85
Finland									
Imatran Voima Osakeyhtiö									
• Loviisa 1 (Loviisa)	420	PWR	AEE	AEE	IVO	IVO	100	6/76	5/77
Loviisa 2 (Loviisa)	420	PWR	AEE	AEE	IVO	IVO	80	4/78	6/79
Teollisuuden Voima Osakeyhtiö									
TVO-1 (Olkiluoto)	660	BWR	ASEA-Atom	Stal-Laval	ASEA-Atom	ASEA-Atom	97	8/78	12/78
TVO-2 (Olkiluoto)	660	BWR	ASEA-Atom	Stal-Laval	ASEA-Atom	Jukola	70	8/80	8/80
France									
Centrale Nucleaire Europeene a Neutrons Rapides S.A. (Nersa)									
Creys-Malville (Isere)	1200	LMFBR	Novatome/NIRA	Ansaldo	Nersa	Fou/CdA/PH	5	2/83	2/83
Electricite de France									
• Marcoule G2 (Gard)	40	GCR	SACM	Rateau/Alsthom	SACM	CITRA	100		4/59
• Marcoule G3 (Gard)	40	GCR	SACM	Rateau/Alsthom	SACM	CITRA	100		5/60
• Chinon 2 (Avoine)	210	GCR	various	Alsthom	EDF/CEA	GTM	100		2/85
• Chinon 3 (Avoine)	400	GCR	various	Alsthom	EDF/CEA	GTM	100		8/67
• Monts d'Arree (Finistere)	70	GCHWR	CEA	CEM	Indatom	C-B	100		7/67
• Saint-Laurent-des-Eaux 1 (Loir-et-Cher)	460	GCR	various	Alsthom	EdF	GTM	100		3/69
• Saint-Laurent-des-Eaux 2 (Loir-et-Cher)	515	GCR	various	Alsthom	EdF	GTM	100		3/71
• Bugey 1 (Ain)	540	GCR	various	Rateau/JS	EdF	Dumez	100		4/72
• Phenix (Marcoule)	233	LMFBR	CEA/EdF/GAAA	CEM	CEA/GAAA/EdF	SGE	100		12/73
• Fessenheim 1 (Haut-Rhin)	890	PWR	Fra/CL	Alsthom	EdF	C-B	100	10/75	4/77
• Fessenheim 2 (Haut-Rhin)	890	PWR	Fra/CL	Alsthom	EdF	C-B	100	7/76	10/77
• Bugey 2 (Ain)	925	PWR	Fra/CL	Alsthom	EdF	Bouygues	100	3/77	7/78
• Bugey 3 (Ain)	925	PWR	Fra/CL	Alsthom	EdF	Bouygues	100	8/77	11/78
• Bugey 4 (Ain)	905	PWR	Fra/CL	Alsthom	EdF	Bouygues	90	5/78	4/79
• Bugey 5 (Ain)	905	PWR	Fra/CL	Alsthom	EdF	Bouygues	85	11/78	8/79
• Dampierre 1 (Loiret)	905	PWR	Fra/CL	Alsthom	EdF	SB	80	7/79	9/79
• Dampierre 2 (Loiret)	905	PWR	Fra/CL	Alsthom	EdF	SB	75	1/80	3/80
• Dampierre 3 (Loiret)	905	PWR	Fra/CL	Alsthom	EdF	SB	60	7/80	7/80
• Dampierre 4 (Loiret)	905	PWR	Fra/CL	Alsthom	EdF	SB	50	4/81	4/81
• Gravelines B1 (Dunkerque)	925	PWR	Fra/CL	Alsthom	EdF	SGE	80	4/79	6/79
• Gravelines B2 (Dunkerque)	925	PWR	Fra/CL	Alsthom	EdF	SGE	75	10/79	12/79
• Gravelines B3 (Dunkerque)	925	PWR	Fra/CL	Alsthom	EdF	SGE	60	5/80	5/80
• Gravelines B4 (Dunkerque)	925	PWR	Fra/CL	Alsthom	EdF	SGE	50	2/81	2/81
• Tricastin 1 (Drome)	925	PWR	Fra/CL	Alsthom	EdF	C-B	80	2/79	12/79
• Tricastin 2 (Drome)	925	PWR	Fra/CL	Alsthom	EdF	C-B	75	8/79	10/79
• Tricastin 3 (Drome)	925	PWR	Fra/CL	Alsthom	EdF	C-B	60	3/80	3/80
• Tricastin 4 (Drome)	925	PWR	Fra/CL	Alsthom	EdF	C-B	50	9/80	9/80
• Saint-Laurent-des-Eaux B1 (Loir-et-Cher)	905	PWR	Fra/CL	CEM	EdF	GTM	50	1/81	12/80
• Saint-Laurent-des-Eaux B2 (Loir-et-Cher)	905	PWR	Fra/CL	CEM	EdF	GTM	40	6/81	6/81
• Blayais 1 (Gironde)	925	PWR	Fra/CL	Alsthom	EdF	SB	45	2/81	2/81
• Blayais 2 (Gironde)	925	PWR	Fra/CL	Alsthom	EdF	SB	35	9/81	9/81
• Blayais 3 (Gironde)	925	PWR	Fra/CL	Alsthom	EdF	SB	0	9/82	
• Blayais 4 (Gironde)	925	PWR	Fra/CL	Alsthom	EdF	SB	0	2/83	
• Chinon B1 (Indre-et-Loire)	905	PWR	Fra/CL	CEM	EdF	GTM	25	2/82	2/82
• Chinon B2 (Indre-et-Loire)	905	PWR	Fra/CL	CEM	EdF	GTM	15	6/82	6/82
• Paluel 1 (Seine-Maritime)	1300	PWR	Fra/CL	CEM	EdF	SB	10	2/83	2/83
• Paluel 2 (Seine-Maritime)	1300	PWR	Fra/CL	CEM	EdF	SB	2	5/83	5/83
• Paluel 3 (Seine-Maritime)	1300	PWR	Fra/CL	CEM	EdF		0	6/84	
• Paluel 4 (Seine-Maritime)	1300	PWR	Fra/CL	CEM	EdF		0	4/85	
• Cruas 1 (Ardeche)	905	PWR	Fra/CL	CEM	EdF		0	7/83	
• Cruas 2 (Ardeche)	905	PWR	Fra/CL	CEM	EdF		0	12/83	
• Cruas 3 (Ardeche)	905	PWR	Fra/CL	CEM	EdF		0	6/84	
• Cruas 4 (Ardeche)	905	PWR	Fra/CL	CEM	EdF		0	12/84	
• St. Maurice 1 (Isere)	1300	PWR	Fra/CL		EdF		0	11/84	
• St. Maurice 2 (Isere)	1300	PWR	Fra/CL		EdF		0	7/85	
• Flamanville 1 (Manche)	1300	PWR	Fra/CL		EdF		0	2/85	
• Flamanville 2 (Manche)	1330	PWR	Fra/CL		EdF		0	9/85	
Societe d'Energie Nucleaire Franco-Beige des Ardennes (SENA)									
• SENA (Chooz)	310	PWR	ACECO/Fra	Rateau/C-L	G&H/SPIE	SGE/CITRA	100	4/87	

	<u>Nº de</u> <u>Netos</u>	<u>Tipo</u>	<u>Suminis-</u> <u>trador</u> <u>del reac-</u> <u>tor</u>	<u>Suminis-</u> <u>trador</u> <u>del Gene-</u> <u>rador</u>	<u>Architect</u> <u>Engineer</u>	<u>Construc-</u> <u>tor</u>	<u>%</u> <u>Avan-</u> <u>ce</u>	<u>Operación</u> <u>Comercial</u>	
								<u>Origi-</u> <u>nal +</u>	<u>Actual</u>
Germany (Democratic Republic)									
• Rheinsberg 1 (Rheinsberg, Gransee region)	70	PWR	AEE				100	/60	5/66
• Nord 1 - 1 (Lubmin, Greifswald region)	440	PWR	AEE				100	12/74	12/73
• Nord 1 - 2 (Lubmin, Greifswald region)	440	PWR	AEE				100	/75	2/75
• Nord 2 - 1	440	PWR	AEE				95	/77	6/78
• Nord 2 - 2	440	PWR	AEE				85	/78	/78
• Magdeburg 1	440	PWR	AEE				1	/80	
• Magdeburg 2	440	PWR	AEE				1	/80	
Germany (Federal Republic)									
Bayernwerk AG									
• Grafenrheinfeld KKG (Grafenrheinfeld)	1225	PWR	KWU	KWU	KWU	KWU	55	11/78	4/80
Gemeinschaftskernkraftwerk Neckar (GKN)									
• GKN 1 (Neckarwestheim)	805	PWR	KWU	KWU	KWU	KWU	100	2/76	10/76
• GKN 2 (Neckarwestheim)	805	PWR	KWU	KWU	KWU	KWU	0	/81	
Kernkraftwerk Kruemmel GmbH (KKK)									
• Kruemmel KKK (Geesthacht-Kruemmel/ Elbe)	1260	BWR	AEG	KWU	KWU	Hoch/ Hammers/ Heltkamp/ Holzmann	80	9/77	12/80
Hochtemperatur-Kernkraftwerk GmbH (HKW)									
• THTR 300 (Hamm-Uentrop)	300	THTR	HRB	BBC	BBC/HRB	KTHTR	0	/77	/81
Kernforschungszentrum Karlsruhe									
• Karlsruhe MZFR (Karlsruhe)	52	PHWR	Siemens	Siemens	Siemens	Hochtief	100		10/82
Kernkraftwerk Brokdorf GmbH									
• Brokdorf (Brokdorf)	1290	PWR	KWU	KWU	KWU	KWU	0	9/77	/83
Kernkraftwerk Brunsbüttel GmbH (KKB)									
• Brunsbüttel (Brunsbüttel/Elbe)	771	BWR	AEG	KWU	KWU	KWU	100	4/74	2/77
Kernkraftwerk Hamm GmbH (KKH)									
• Hamm (Hamm-Uentrop)	1300	PWR	KWU	KWU			0	/81	
Kernkraftwerk Isar (KKI)									
• Isar KKI (Ohu)	870	BWR	KWU	KWU	KWU	KWU	100	11/76	/78
Kernkraftwerk Lingen GmbH (KWL)									
• Lingen KWL (Lingen)	256	BWR	AEG	AEG	AEG/Hochtief	Hochtief	100	9/68	10/68
Kernkraftwerk Obrigheim GmbH (KWO)									
• Obrigheim KWO (Obrigheim)	328	PWR	Siemens	Siemens	Siemens	Siemens	100	3/69	3/69
Kernkraftwerk Philippsburg (KKP)									
• KKP 1 (Philippsburg)	864	BWR	KWU	KWU	KWU	KWU	98	/74	10/78
• KKP 2 (Philippsburg)	1281	PWR	KWU	KWU	KWU	KWU	7	/77	11/82
Kernkraftwerk RWE-Bayernwerk GmbH (KRB)									
• KRB I Block A (Gundremmingen)	237	BWR	GE	AEG	AEG/Hochtief	AEG	100	11/66	4/67
• KRB II Block B (Gundremmingen)	1249	BWR	KWU	KWU	KWU	Hoch	50	6/79	10/81
• KRB II Block C (Gundremmingen)	1249	BWR	KWU	KWU	KWU	Hoch	35	6/80	9/82
Kernkraftwerk Stade GmbH (KKS)									
• Stade KKS (Stade)	630	PWR	Siemens	Siemens	Siemens	Siemens	100	4/72	5/72
Kernkraftwerk Sud GmbH (KWS)									
• KWS (Wyhl)	1300	PWR	KWU	KWU	KWU	KWU	0	6/79	/86
Preussische Elektrizitäts AG (PREAG)									
• KWW (Wuergassen)	640	BWR	AEG	AEG/KWU	AEG/KWU	Hochtief	100	2/72	3/72
Kernkraftwerk Unterwieser GmbH									
• KKW (Esensham)	1230	PWR	KWU	KWU	KWU	Arge/KKW	100	1/76	/78*
Gemeinschaftskernkraftwerk Grohnde GmbH									
• KWG (Grohnde)	1294	PWR	KWU	KWU	KWU	Arge/KWG	>20	8/79	/82
Rheinisch-Westfälisches Elektrizitätswerk AG (RWE)									
• Biblis A (Worms/Rhein)	1146	PWR	Siemens	KWU	KWU	Hochtief	100	6/74	6/74
• Biblis B (Worms/Rhein)	1240	PWR	Siemens	KWU	KWU	Hochtief	100	8/76	12/76
• Biblis C (Worms/Rhein)	1232	PWR	KWU	KWU	KWU	Hochtief	0	/81	/83
• Kaerlich	1227	PWR	BBR	BBC	BBC	Hochtief	35	5/78	3/81
• Neupotz 1 (Neupotz)	1247	PWR	BBR	BBC	BBC	Hochtief	0	/83	
• Neupotz 2 (Neupotz)	1300	PWR	BBR	BBC	BBC	Hochtief	0	/85	
Schnell-Brüter-Kernkraftwerksgesellschaft (SBK)									
• Kalkar SNR-300 (Kalkar)	295	LMFBR	Int/B-N/Nera	KWU	INB	INB/Hoch	45	1/80	12/83

* Lista para operar, pendiente de orden judicial.

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Hungary									
Hungarian Electrical Works									
Paks 1 (Paks)	440	PWR	AEE		ERBE		12	/80	/80
Paks 2 (Paks)	440	PWR	AEE		ERBE		12	/80	/81
Paks 3 (Paks)	440	PWR	AEE		ERBE		2		/83
Paks 4 (Paks)	440	PWR	AEE		ERBE		2		/84
India									
Atomic Energy Commission, Department of Atomic Energy									
• Tarapur 1 (Bombay)	200	BWR	GE	GE	Bechtel	Bechtel	100	2/69	10/69
• Tarapur 2 (Bombay)	200	BWR	GE	GE	Bechtel	Bechtel	100	2/69	10/69
• RAPP 1 (Kota, Rajasthan)	202	PHWR	CGE	EEC	AECL/MECO	HCC	100	12/69	12/73
RAPP 2 (Kota, Rajasthan)	202	PHWR	L&T	EEC	AECL/MECO	HCC	98.5	12/73	4/79
MAPP 1 (Kalpakkam, Tamil Nadu)	220	PHWR	L&T	BHE	DAE	ECC	80	6/76	3/80
MAPP 2 (Kalpakkam, Tamil Nadu)	220	PHWR	L&T	BHE	DAE	ECC	60	6/77	10/81
NAPP 1 (Narora, Uttar Pradesh)	220	PHWR	WIL	BHE	DAE	HCC	25	/81	3/83
NAPP 2 (Narora, Uttar Pradesh)	220	PHWR	R&C	BHE	DAE	HCC	15	/82	3/84
Iran									
Atomic Energy Organization of Iran									
Iran-1 (Bushehr)	1200	PWR	KWU	KWU			10	/80	
Iran-2 (Bushehr)	1200	PWR	KWU	KWU			5	/81	
Iran-3	900	PWR	Fra	Alsthom		SB	0	/82	
Iran-4	900	PWR	Fra	Alsthom		SB	0	/83	
Italy									
Ente Nazionale per l'Energia Elettrica (ENEL)									
• Latina (Borgo Sabotino)	150	GCR	TNPG	Parsons	TNPG	Torno/ McAlp	100		1/64
• Garigliano (Sessa Aurunca)	150	BWR	GE	Ansaldo	Ebasco	Italstrade	100		6/64
• Trino Vercellese (Vercelli)	247	PWR	W	Franco Tosi/ Marelli	G&H	Recchi	100		1/65
Cirene (Latina)	40	LWCHW	NIRA	AMN/ASGEN			5	/77	/81
• Caorso (Caorso, Piacenza)	840	BWR	AMN/Getesco	AMN/ASGEN	G&H	SOGENE	100	4/75	5/78
ENEL 5 (site not yet approved)	952	PWR	EI/WENESE	Franco Tosi/ Marelli	Bechtel		0	/80	Indef.
ENEL 6 (Montalto di Castro)	982	BWR	AMN/Getesco	AMN/ASGEN	G&H		0	/80	/84
ENEL 7 (site not yet approved)	952	PWR	EI/WENESE	Tosi/Marelli	Bechtel		0	/81	Indef.
ENEL 8 (Montalto di Castro)	982	BWR	AMN/Getesco	AMN/ASGEN	G&H		0	/81	/85
Japan									
Chubu Electric Power Co.									
• Hamaoka 1 (Hamaoka-cho, Shizuoka-Pref.)	516	BWR	Toshiba	Hitachi	Toshiba	Takenaka/ Kajima	100	11/74	3/76
• Hamaoka 2 (Hamaoka-cho, Shizuoka-Pref.)	814	BWR	Toshiba	Hitachi	Chubu	Takenaka/ Kajima	97	3/78	10/78
Chugoku Electric Power Co., Inc.									
• Shimane (Kashima-cho, Shimanu-Pref.)	439	BWR	Hitachi	Hitachi	Hitachi	Kajima	100	11/73	3/74
Japan Atomic Power Co. Ltd. (JAPC)									
• Tokai 1 (Tokai Mura)	159	GCR	GEC	GEC	GEC	Shimizu	100		7/66
• Tsuruga (Tsuruga)	340	BWR	GE	GE	Ebasco	Takenaka	100		3/70
• Tokai 2 (Tokai Mura)	1067	BWR	GE	GE	Ebasco	Shimizu	95	8/77	7/78
Kansai Electric Power Co., Inc.									
• Mihama 1 (Mihama-cho)	320	PWR	W	MHI/MEL	KEPCO/Gilbert	MAEDA/ Kum/Obay	100		11/70
• Mihama 2 (Mihama-cho)	470	PWR	MHI	MHI/MEL	KEPCO/MAPI	MAEDA/ Kum/Obay	100		7/72
• Takahama 1 (Takahama-cho)	780	PWR	W	MHI/MEL	KEPCO/Gilbert	MAEDA/ Haz/Taisei	100	8/74	11/74
• Takahama 2 (Takahama-cho)	780	PWR	MHI	MHI/MEL	KEPCO/MAPI	MAEDA/ Haz/Taisei	100	7/75	11/75
• Mihama 3 (Mihama-cho)	780	PWR	MHI	MHI/MEL	KEPCO/MAPI	Haz/Taisei	100	7/76	12/76
• Ohi 1 (Ohi-cho)	1122	PWR	W	MHI/MEL	KEPCO/Gilbert	Kum/Obay	98	7/76	10/78
• Ohi 2 (Ohi-cho)	1122	PWR	W	MHI/MEL	KEPCO/Gilbert	Kum/Obay	94	1/77	6/79

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Kyushu Electric Power Co., Inc.									
• Genkai 1 (Genkai, Saga)	529	PWR	MHI	MHI/MEL	MAPI	Obay	100	7/75	10/75
• Genkai 2 (Genkai, Saga)	529	PWR	MHI	MHI/MEL	MAPI	Obay	58	3/81	3/81
Power Reactor & Nuclear Fuel Development Corp.									
Fugen, ATR (Tsuruga)	200	LWCHW	Hitachi	Toshiba	PNC/EPDC	MAEDA/ Kajima	100	12/76	3/79
Monju (Tsuruga)	300	LMFBR			PNC		0	10/78	4/85
Shikoku Electric Power Co.									
• Ikata 1 (Ikata-cho, Ehime Pref.)	538	PWR	MHI	MHI/MEL	MAPI	MHI/Taisei	100	4/77	9/77
• Ikata 2 (Ikata-cho, Ehime Pref.)	538	PWR	MHI	MHI/MEL	MAPI	MHI/Taisei	28.5	10/81	3/82
Tohoku Electric Power Co., Inc.									
Onagawa (Oshikagun)	500	BWR	Toshiba	Toshiba	Toshiba	Kajima	20	12/75	3/83
Tokyo Electric Power Co.									
• Fukushima One 1 (Fukushima)	460	BWR	GE/Toshiba	GE/Hitachi	Ebasco	Kajima	100		3/71
• Fukushima One 2 (Fukushima)	784	BWR	GE	GE/Toshiba	Ebasco	Kajima	100		7/74
• Fukushima One 3 (Fukushima)	784	BWR	Toshiba	Toshiba	Toshiba	Kajima	100		3/76
• Fukushima One 4 (Fukushima)	784	BWR	Hitachi	Hitachi	Hitachi	Kajima	92	6/76	10/78
• Fukushima One 5 (Fukushima)	784	BWR	Toshiba	Toshiba	Toshiba	Kajima	100	12/75	4/78
• Fukushima One 6 (Fukushima)	1100	BWR	GE	GE/Toshiba	Ebasco	Kajima	78	10/76	10/79
Fukushima Two 1 (Fukushima)	1100	BWR	Toshiba	Toshiba	Toshiba	Kajima	10	5/82	5/82
Korea									
Korea Electric Co.									
Ko-Ri 1 (Ko-Ri, near Pusan City)	564	PWR	W	GEC	Gilbert	W	99.5	12/75	/78
Ko-Ri 2 (Ko-Ri, near Pusan City)	605	PWR	W	GEC	Gilbert	W	14.2	11/79	2/83
Ko-Ri 3 (Ko-Ri, near Pusan City)	994	PWR	W	GEC	Bechtel		0		
Ko-Ri 4 (Ko-Ri, near Pusan City)	994	PWR	W	GEC	Bechtel		0		
Wolsung 1 (near Ulsan City)	629	PHWR	AECL	H-P	Canatom	AECL	28	1/82	4/82
Luxembourg									
Luxembourg Nuclear Power Company (SENU)									
Remerschen (Remerschen)	1250	PWR	BBR	BBC	BBC	Hoch	0	1/82	indef.
Mexico									
Comision Federal de Electricidad									
Laguna Verde 1 (Laguna Verde, Veracruz)	654	BWR	GE	Mitsubishi	Ebasco	CFE/Ebasco	18.5	6/77	5/82
Laguna Verde 2 (Laguna Verde, Veracruz)	654	BWR	GE	Mitsubishi	Ebasco	CFE/Ebasco	8.6	6/78	5/83
Netherlands									
Gemeenschappelijke Kernenergiecentrale									
Nedcriland NV (GKN)									
• Dodewaard (Dodewaard, Betuwe)	50	BWR	RDM	Stork	GKN	BAM	100	1/69	1/69
NV Provinciale Zeeuwse Energie									
Maatschappij (PZEM)									
• Borssele (Borssele)	443	PWR	KWU/RDM	KWU/Stork	KWU	KWU/ Bredero	100	7/73	10/73
Pakistan									
Pakistan Atomic Energy Commission									
• Kanupp (near Karachi)	125	PHWR	CGE	Hitachi	CGE	CGE	100	6/71	12/72
Philippines									
Philippine National Power Corp.									
Philippines 1 (Bagac, N. Luzon)	626	PWR	W	W	B&R	W	7	/82	12/82
Philippines 2 (Bagac, N. Luzon)	626	PWR	W	W	B&R	W	0	/82	

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Poland									
Zarnowiec (Zarnowiec)	440	PWR	AEE				0	/85	/85
Rumania									
Rumania-1 (Olt)	440	PWR	AEE				0	/80	
South Africa									
Electricity Supply Commission (ESCOM)									
Koeberg 1 (Koeberg)	922	PWR	Fra	Alsthom		SB	0	/82	
Koeberg 2 (Koeberg)	922	PWR	Fra	Alsthom		SB	0	/83	
Spain									
Central Nuclear do Asco									
Asco 1 (Asco, Tarragona)	880	PWR	W	W/ENB	Bechtel/Initec/IyP	NUCEA	73	7/77	12/79
Asco 2 (Asco, Tarragona)	880	PWR	W	W/ENB	Bechtel/Initec/IyP	NUCEA	56	12/78	12/80
Centrales Nucleares del Norte, SA (NUCLENOR)									
• Santa Maria de Garona (Santa Maria de Garona, Burgos)	440	BWR	GE	GE	Ebasco	GE	100	2/70	3/71
Compania Sevillana de Electricidad SA, Hidroelectrica Espanola SA									
Valdecaballeros 1 (Badajoz)	937	BWR	GE	GE	G&H/EPTISA/ G&HE/TR	EA/AETEA	0	/81	/81
Valdecaballeros 2 (Badajoz)	937	BWR	GE	GE	G&H/EPTISA/ G&HE/TR	EA/AETEA	0	/82	/82
Compania Sevillana de Electricidad SA, Hidroelectrica Espanola SA, and Union Electrica SA									
Almaraz 1 (Almaraz, Caceres)	900	PWR	W	W	G&H/EPTISA/ G&HE/TR	EA/EyT	100	11/76	/78
Almaraz 2 (Almaraz, Caceres)	900	PWR	W	W	G&H/EPTISA/ G&HE/TR	EA/EyT	90	12/77	/79
Electra de Viesgo									
Santillan (Santander)	970	BWR	GE	GE			0	/82	
Electricas Reunidas de Zaragoza SA, Energia e Industrias Aragonesas SA, Union Electrica SA									
Trillo 1 (Trillo, Guad.)	997	PWR	KWU	KWU/Siemens/ E. N. Bazan	EA	EyT/Ocisa	0	6/82	
Trillo 2 (Trillo, Guad.)	997	PWR	KWU					/85	
Empresa Nacional Hidroelectrica del Ribagorzana SA, and three other utilities									
Vandellos 2 (Tarragona)	982	PWR	W	W	Initec/Bechtel	VANEA	5	12/81	/82
FENOSA (Fuerzas Electricas de Cataluna and others)									
Regodola (Lugo)	1000	PWR	KWU	KWU					
Hidroelectrica Espanola SA Cofrentes (Cofrentes, Valencia)	930	BWR	GE	GE/GEE	EA/SEN/ G&H	EyT/others	34	7/78	1/81
Hispano-Francesa de Energia Nuclear, SA (HIFRENSA)									
• Vandellós (Tarragona)	480	GCR	GC	Alsthom/J-S	SOCIA	GC	100	9/72	7/72
Iberduero SA									
Lemoniz 1 (Lemoniz, Vizcaya)	900	PWR	W	W	Iber/Bech/ Sen/Initec	Iberduero	75	12/76	5/80
Lemoniz 2 (Lemoniz, Vizcaya)	900	PWR	W	W	Iber/Bech/ Sen/Initec	Iberduero	48	7/78	11/81
Sayago (Moral de Sayago)	1000	PWR	W	W			0	/82	
Union Electrica (UE)									
• Jose Cabrera (near Madrid)	153	PWR	W	W	G&H	EyT	100	7/68	8/69

	MWe Netos	Tipo	Suminis trador del reac tor	Suminis trador del Gene rador	Architect Engineer	Construc tor	% Avanz ce	Operación Comercial	
								Origi nal +	Actual
Sweden									
Oskarshamnverkets Kraftgrupp AB (OKG)									
• Oskarshamn 1 (Oskarshamn)	440	BWR	ASEA-Atom	Stal-Laval		Armerad- Betong	100	2/72	
• Oskarshamn 2 (Oskarshamn)	570	BWR	ASEA-Atom	BBC/Stal-Laval		Armerad- Betong	100	8/74	12/74
• Oskarshamn 3 (Oskarshamn)	1060	BWR	ASEA-Atom	Stal-Laval			0	12/83	12/85
Statens Vattenfallsverk (SSPB)									
• Ringhals 1 (Varberg)	760	BWR	ASEA-Atom	EE	ASEA-Atom/SSPB	SSPB	100	6/73	2/76
• Ringhals 2 (Varberg)	809	PWR	W	S-L/A-A	SSPB/G&H/S-L	SSPB	100	7/74	5/75
• Forsmark 1 (Uppsala)	900	BWR	ASEA-Atom	S-L/A-A	A-A/SSPB/S-L	SSPB	100	7/78	7/78
• Ringhals 3 (Varberg)	900	PWR	W	S-L/A-A	VBB-TE/S-L	SSPB	100	12/77	7/78
• Ringhals 4 (Varberg)	900	PWR	W	S-L/A-A	VBB-TE/S-L	SSPB	75	7/79	7/79
• Forsmark 2 (Uppsala)	900	BWR	ASEA-Atom	S-L/A-A	A-A/SSPB/S-L	SSPB	50	7/80	7/80
• Forsmark 3 (Uppsala)	1000	BWR	ASEA-Atom	Stal-Laval		SSPB	0	7/82	
Sydsvenka Kraft AB									
• Barseback 1 (Malmö)	570	BWR	ASEA-Atom	Stal-Laval	A-A/S-L/SK/VBB	SCG	100	7/75	7/75
• Barseback 2 (Malmö)	570	BWR	ASEA-Atom	Stal-Laval	A-A/S-L/SK/VBB	SCG	100	7/77	7/77
Switzerland									
Bernische Kraftwerke AG (BKW)									
• Muhleberg (near Berne)	320	BWR	GETSCO	BBC	BBC/E&B/ GETSCO	BBC/ GETSCO	100	10/72	
Kernkraftwerk Graben AG (KWG)									
• Graben 1 (Graben)	1140	BWR	GETSCO	BBC	BBC/GETSCO	BBC/ GETSCO	0	12/79	
Kernkraftwerk Leibstadt AG									
• Leibstadt (Leibstadt)	955	BWR	GETSCO	BBC	BBC/GETSCO	BBC/ GETSCO	30	10/78	7/81
Nordostschweizerische Kraftwerke AG (NOK)									
• Beznau 1 (Doettingen)	350	PWR	W	BBC	G&H/BBC	Zschokke	100	12/69	
• Beznau 2 (Doettingen)	350	PWR	W	BBC	G&H/BBC	Zschokke	100	3/72	
Kernkraftwerk Goesgen-Daniken AG									
• Goesgen (Daniken, SO)	920	PWR	KWU	KWU	KWU	KWU	90	11/77	10/78
Kernkraftwerk Kaiseraugst AG									
• Kaiseraugst (Kaiseraugst)	925	BWR	GETSCO	BBC					
Taiwan									
Taiwan Power Co.									
• Chin-shan 1 (Shihmin Hsiang)	604	BWR	GE	W	Ebasco	TPC	100	12/75	8/78
• Chin-shan 2 (Shihmin Hsiang)	604	BWR	GE	W	Ebasco	TPC	90	12/76	10/79
• Kuosheng 1 (Kuosheng)	951	BWR	GE	W	Bechtel	TPC	46	10/78	10/81
• Kuosheng 2 (Kuosheng)	951	BWR	GE	W	Bechtel	TPC	24	10/79	10/82
• Nuclear No. 5	907	PWR	W	GE	Bechtel	TPC	4	4/81	4/84
• Nuclear No. 6	907	PWR	W	GE	Bechtel	TPC	4	4/82	4/85
United Kingdom									
Central Electricity Generating Board (CEGB)									
• Berkeley 1 (Gloucestershire)	138	GCR	TNPG	AEI	TNPG	JL-Bal	100	6/62	
• Berkeley 2 (Gloucestershire)	138	GCR	TNPG	AEI	TNPG	JL-Bal	100	10/62	
• Bradwell 1 (Essex)	150	GCR	TNPG	Par (UK)	TNPG	McAlpine	100	6/62	
• Bradwell 2 (Essex)	150	GCR	TNPG	Par (UK)	TNPG	McAlpine	100	11/62	
• Trawsfynydd 1 (Wales)	250	GCR	APC	RW	APC	NCC	100	2/65	
• Trawsfynydd 2 (Wales)	250	GCR	APC	RW	APC	NCC	100	3/65	
• Dungeness A1 (Kent)	275	GCR	TNPG	Par (UK)	TNPG	McAlpine	100	9/65	
• Dungeness A2 (Kent)	275	GCR	TNPG	Par (UK)	TNPG	McAlpine	100	12/65	
• Sizewell A1 (Suffolk)	290	GCR	EE/BW/TW	EE	EE/BW/TW	TW	100	1/66	
• Sizewell A2 (Suffolk)	290	GCR	EE/BW/TW	EE	EE/BW/TW	TW	100	3/66	
• Hinkley Point A1 (Somerset)	250	GCR	EE/BW/TW	EE	EE/BW/TW	TW	100	5/65	
• Hinkley Point A2 (Somerset)	250	GCR	EE/BW/TW	EE	EE/BW/TW	TW	100	5/65	

MWe Netos	Tipo	Suminis trador del reac tor	Suminis trador del Gene rador	Architect Engineer	Construc tor	Z Avan ce	Operación Comercial	
							Origi nal +	Actual
• Oldbury 1 (Gloucestershire)	300	GCR	TNPG	AEI/ Par (UK)	TNPG	McAlpine	100	1/58
• Oldbury 2 (Gloucestershire)	300	GCR	TNPG	AEI/ Par (UK)	TNPG	McAlpine	100	1/68
• Wylfa 1 (Anglesey)	590	GCR	EE/ BW/ TW	EE	EE/ BW/ TW	TW	100	11/71
• Wylfa 2 (Anglesey)	590	GCR	EE/ BW/ TW	EE	EE/ BW/ TW	TW	100	1/72
• Hinkley Point B1 (Somerset)	625	AGR	NPC	AEI	NPC	NPC	100	12/72 6/76
• Hinkley Point B2 (Somerset)	625	AGR	NPC	AEI	NPC	NPC	100	12/73 1/77
• Dungeness B1 (Kent)	600	AGR	APC	Par (UK)	APC	APC	95	1/70 4/79
• Dungeness B2 (Kent)	600	AGR	APC	Par (UK)	APC	APC	95	1/71 8/79
• Hartlepool 1 (Durham)	625	AGR	NPC	GEC	NPC	NPC	90	1/74 2/80
• Hartlepool 2 (Durham)	625	AGR	NPC	GEC	NPC	NPC	90	1/74 9/80
• Heysham 1 (Lancashire)	625	AGR	NPC	GEC	NPC	NPC	90	1/75 4/80
• Heysham 2 (Lancashire)	625	AGR	NPC	GEC	NPC	NPC	90	1/75 12/80
South of Scotland Electricity Board								
• Hunterston A1 (Ayrshire)	160	GCR	GEC	GEC	GEC	Mowlem	100	5/64
• Hunterston A2 (Ayrshire)	160	GCR	GEC	GEC	GEC	Mowlem	100	9/64
• Hunterston B1 (Ayrshire)	625	AGR	TNPG	Par (UK)	TNPG	McAlpine	100	3/73 6/76
• Hunterston B2 (Ayrshire)	625	AGR	TNPG	Par (UK)	TNPG	McAlpine	100	9/73 5/77
British Nuclear Fuels Ltd.								
• Calder Hall 1 (Cumbria)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	9/56
• Calder Hall 2 (Cumbria)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	9/56
• Calder Hall 3 (Cumbria)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	9/56
• Calder Hall 4 (Cumbria)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	9/56
• Chapel Cross 1 (Dumfriesshire)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	11/58
• Chapel Cross 2 (Dumfriesshire)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	11/58
• Chapel Cross 3 (Dumfriesshire)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	11/58
• Chapel Cross 4 (Dumfriesshire)	50	GCR	UKAEA	Par (UK)	UKAEA	TW	100	11/58
United Kingdom Atomic Energy Authority								
• Windscale (Cumbria)	32	AGP	UKAEA	EE	UKAEA	UKAEA	100	2/63
• Winfrith SGHWR (Dorset)	92	HWLWR	UKAEA	AEI/ RPL	UKAEA	Turrit	100	2/63
• Dounreay PFR (Highland)	250	LMFBR	AEA/ TNPG	EE	UKAEA	NPC	100	10/73 8/76
United States								
NORTHEAST								
Baltimore Gas & Electric Co.								
• Calvert Cliffs 1 (Lusby, Md.)	850	PWR	C-E	GE	Bechtel	Bechtel	100	1/73 5/75
• Calvert Cliffs 2 (Lusby, Md.)	850	PWR	C-E	W	Bechtel	Bechtel	100	1/74 4/77
Boston Edison Co.								
• Pilgrim 1 (Plymouth, Mass.)	670	BWR	GE	GE	Bechtel	Bechtel	100	10/71 12/72
• Pilgrim 2 (Plymouth, Mass.)	1180	PWR	C-E	GE	Bechtel	Bechtel	0	8/80 6/85
Connecticut Yankee Atomic Power Co.								
• Haddam Neck (Haddam Neck, Conn.)	575	PWR	W	W	S&W	S&W	100	11/67 1/68
Consolidated Edison Co.								
• Indian Point 1 (Indian Point, N.Y.)	265	PWR	B&W	W	Utility	Utility	100	9/59 10/62
• Indian Point 2 (Indian Point, N.Y.)	873	PWR	W	W	UE&C	Wedco	100	6/69 7/74
Duquesne Light Co.								
• Beaver Valley 1 (Shippingport, Pa.)	833	PWR	W	W	S&W	S&W	100	6/73 4/77
• Beaver Valley 2 (Shippingport, Pa.)	833	PWR	W	W	S&W	S&W	18.5	10/78 5/82
Jersey Central P&L Co.								
• Oyster Creek 1 (Forked River, N.J.)	620	BWR	GE	GE	B&R/GE	B&R	100	2/68 12/69
• Forked River 1 (Forked River, N.J.)	1120	PWR	C-E	BB	B&R	S&W	0-cp	1/76 12/83
Long Island Lighting Co.								
• Shoreham (Brookhaven, N.Y.)	820	BWR	GE	GE	S&W	Utility	73	1/75 1/80
• Jamesport 1 (Riverhead, N.Y.)	1150	PWR	W	GE	S&W	Utility	0	1/81 1/88
• Jamesport 2 (Riverhead, N.Y.)	1150	PWR	W	GE	S&W	Utility	0	1/83 1/90

cp: permiso de construcción emitido

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial Origi- nal + Actual	
Maine Yankee Atomic Power Co.									
• Maine Yankee (Wiscasset, Me.)	790	PWR	C-E	W	S&W	S&W	100	12/72	
Metropolitan Edison Co.									
• Three Mile Island 1 (Goldsboro, Pa.)	792	PWR	B&W	GE	Gilbert	UE&C	100	9/71	9/74
• Three Mile Island 2 (Goldsboro, Pa.)	880	PWR	B&W	W	B&R	UE&C	100	5/73	11/78
New England Power Company									
• NEP-1 (Charlestown, R.I.)	1150	PWR	W	W	UE&C		0	/82	/86
• NEP-2 (Charlestown, R.I.)	1150	PWR	W	W	UE&C		0	/83	/88
Niagara Mohawk Power Corp.									
• Nine Mile Point 1 (Scriba, N.Y.)	610	BWR	GE	GE	Utility	S&W	100	11/68	12/69
• Nine Mile Point 2 (Scriba, N.Y.)	1080	BWR	GE	GE	S&W	S&W	20	7/78	10/83
Niagara Mohawk Power Corp. and Power Authority of the State of New York									
• James A. FitzPatrick (Scriba, N.Y.)	821	BWR	GE	GE	S&W	S&W	100	1/73	7/75
Northeast Utilities									
• Millstone 1 (Waterford, Conn.)	652	BWR	GE	GE	Ebasco	Ebasco	100	6/59	12/70
• Millstone 2 (Waterford, Conn.)	828	PWR	C-E	GE	Bechtel	Bechtel	100	4/74	12/75
• Millstone 3 (Waterford, Conn.)	1150	PWR	W	GE	S&W	S&W	20	3/78	5/86
• Montague 1 (Montague, Mass.)	1150	BWR	GE	GE	S&W	S&W	0	4/81	88-90
• Montague 2 (Montague, Mass.)	1150	BWR	GE	GE	S&W	S&W	0	1/63	90-92
Pennsylvania Power & Light Co.									
• Susquehanna 1 (Berwick, Pa.)	1050	BWR	GE	GE	Bechtel	Bechtel	60	5/79	2/81
• Susquehanna 2 (Berwick, Pa.)	1050	BWR	GE	GE	Bechtel	Bechtel	45	5/81	5/82
Philadelphia Electric Co.									
• Peach Bottom 2 (Peach Bottom, Pa.)	1065	BWR	GE	GE	Bechtel	Bechtel	100	/71	7/74
• Peach Bottom 3 (Peach Bottom, Pa.)	1065	BWR	GE	GE	Bechtel	Bechtel	100	/73	12/74
• Limerick 1 (Pottstown, Pa.)	1055	BWR	GE	GE	Bechtel	Bechtel	42	8/76	4/85
• Limerick 2 (Pottstown, Pa.)	1055	BWR	GE	GE	Bechtel	Bechtel	27	1/80	4/87
Power Authority of the State of New York									
• Indian Point 3 (Indian Point, N.Y.)	965	PWR	W	W	UE&C	Wedco	100	7/71	8/76
• Greene County (Cementon, N.Y.)	1200	PWR	B&W	GE	S&W	S&W	0	12/82	7/85
Public Service Co. of New Hampshire									
• Seabrook 1 (Seabrook, N.H.)	1150	PWR	W	GE	UE&C	UE&C	1.5	11/79	12/82
• Seabrook 2 (Seabrook, N.H.)	1150	PWR	W	GE	UE&C	UE&C	1.3	8/81	12/84
Public Service Electric & Gas Co.									
• Salem 1 (Salem, N.J.)	1090	PWR	W	W	Utility	UE&C	99	/71	12/76
• Salem 2 (Salem, N.J.)	1115	PWR	W	W	Utility	UE&C	65	/73	5/79
• Hope Creek 1 (Salem, N.J.)	1067	BWR	GE	GE	Bechtel	Bechtel	5	3/75	5/84
• Hope Creek 2 (Salem, N.J.)	1067	BWR	GE	GE	Bechtel	Bechtel	5	3/77	5/86
• Atlantic 1 (off Little Egg Inlet, N.J.)	1150	PWR	W	W	OPS	OPS	0	5/80	/88
• Atlantic 2 (off Little Egg Inlet, N.J.)	1150	PWR	W	W	OPS	OPS	0	5/81	/90
• Undesignated Floating Plant 1	1150	PWR	W	W	OPS	OPS	0	5/85	/93
• Undesignated Floating Plant 2	1150	PWR	W	W	OPS	OPS	0	5/86	/95
Rochester Gas & Electric Corp.									
• Robert E. Ginna (Ontario, N.Y.)	490	PWR	W	W	Gilbert	Bechtel	100	11/69	3/70
• Sterling (Sterling, N.Y.)	1150	PWR	W	GE	Bechtel	Bechtel	0-co	10/82	4/86
Vermont Yankee Nuclear Power Corp.									
• Vermont Yankee (Vernon, Vt.)	514	BWR	GE	GE	Ebasco	Ebasco	100	12/70	11/72
Yankee Atomic Electric Co.									
• Yankee (Rowe, Mass.)	175	PWR	W	W	S&W	S&W	100	1/61	6/61
MIDWEST									
Cincinnati Gas & Electric Co.									
• Zimmer 1 (Moscow, Ohio)	810	BWR	GE	W	S&L	Kaiser	86	/75	/79
• Zimmer 2 (Moscow, Ohio)	1150	BWR	GE				0	/82	/89
The Cleveland Electric Illuminating Co.									
• Perry 1 (North Perry, Ohio)	1205	BWR	GE	GE	Gilbert	Kaiser	22.7	7/79	12/81
• Perry 2 (North Perry, Ohio)	1205	BWR	GE	GE	Gilbert	Kaiser	12.7	7/80	6/83
Commonwealth Edison Company									
• Dresden 1 (Morris, Ill.)	200	BWR	GE	GE	Bechtel	Bechtel	100	7/60	8/60
• Dresden 2 (Morris, Ill.)	800	BWR	GE	GE	S&L	UE&C	100	2/69	8/70
• Dresden 3 (Morris, Ill.)	800	BWR	GE	GE	S&L	UE&C	100	2/70	10/71
• LaSalle 1 (Seneca, Ill.)	1078	BWR	GE	GE	S&L	Utility	70	10/75	9/79
• LaSalle 2 (Seneca, Ill.)	1078	BWR	GE	GE	S&L	Utility	56	10/76	9/80

cp: permiso de construcción emitido

	MWe Netos	Tipo	Suminis- trador del reac- tor	Suminis- trador del Gene- rador	Architect Engineer	Construc- tor	% Avan- ce	Operación Comercial	
								Origi- nal +	Actual
Commonwealth Edison Company, cont'd									
• Zion 1 (Zion, Ill.)	1100	PWR	W	W	S&L	Utility	100	4/72	6/73
• Zion 2 (Zion, Ill.)	1100	PWR	W	W	S&L	Utility	100	5/73	12/73
Byron 1 (Byron, Ill.)	1120	PWR	W	W	S&L	Utility	38	10/78	10/81
Byron 2 (Byron, Ill.)	1120	PWR	W	W	S&L	Utility	33	10/79	10/82
Braidwood 1 (Braidwood, Ill.)	1120	PWR	W	W	S&L	Utility	30	10/79	10/81
Braidwood 2 (Braidwood, Ill.)	1120	PWR	W	W	S&L	Utility	26	10/80	10/82
Commonwealth Edison Co. and Iowa-Illinois Gas & Electric Co.									
• Quad-Cities 1 (Cordova, Ill.)	800	BWR	GE	GE	S&L	Utility	100	3/70	8/72
• Quad-Cities 2 (Cordova, Ill.)	800	BWR	GE	GE	S&L	Utility	100	3/71	10/72
Consumers Power Co.									
• Big Rock Point (Charlevoix, Mich.)	63	BWR	GE	GE	Bechtel	Bechtel	100	12/62	12/62
• Palisades (South Haven, Mich.)	740	PWR	C-E	W	Bechtel	Bechtel	100	7/70	12/71
Midland 1 (Midland, Mich.)	530*	PWR	B&W	GE	Bechtel	Bechtel	45	5/78	3/82
Midland 2 (Midland, Mich.)	805	PWR	B&W	GE	Bechtel	Bechtel	55	5/79	3/81
Dairyland Power Cooperative									
• La Crosse BWR (Genoa, Wis.)	48	BWR	Allis	Allis	S&L	Maxon	100	10/66	11/69
Detroit Edison Co.									
Fermi 2 (Newport, Mich.)	1100	BWR	GE	EE	Utility	Daniel	60.8	/74	/80
Greenwood 2 (St. Clair County, Mich.)	1200	PWR	B&W	GE	Bechtel	Bechtel	0	/80	/87
Greenwood 3 (St. Clair County, Mich.)	1200	PWR	B&W	GE	Bechtel	Bechtel	0	/81	/89
Illinois Power Co.									
Clinton 1 (Clinton, Ill.)	950	BWR	GE	GE	S&L	Baldwin	27	6/80	12/82
Clinton 2 (Clinton, Ill.)	950	BWR	GE	GE	S&L	Baldwin	0-cp	6/83	6/88
Indiana & Michigan Electric Co.									
• Donald C. Cook 1 (Bridgman, Mich.)	1054	PWR	W	GE	AEPSC	AEPSC	100	4/72	8/75
• Donald C. Cook 2 (Bridgman, Mich.)	1094	PWR	W	BB	AEPSC	AEPSC	100	4/73	6/78
Iowa Electric Light & Power Co.									
• Duane Arnold (Palo, Iowa)	545	BWR	GE	GE	Bechtel	Bechtel	100	12/73	5/74
Iowa Power & Light Co.									
Central Iowa (Vandalia, Iowa)	1270	PWR	B&W		Bechtel		0		indef.
Kansas Gas & Electric Co. and Kansas City Power & Light Co.									
Wolf Creek (Burlington, Kan.)	1150	PWR	W	GE	Bech/S&L	Daniel	14	4/81	4/83
Nebraska Public Power District									
• Cooper (Brownville, Neb.)	779	BWR	GE	W	B&R	B&R	100	4/71	7/74
Northern Indiana Public Service Co.									
Bailey N-1 (Baileytown, Ind.)	645	BWR	GE	GE	S&L	Braun	1	3/76	/84
Northern States Power Co.									
• Monticello (Monticello, Minn.)	536	BWR	GE	GE	Bechtel	Bechtel	100	5/70	7/71
• Prairie Island 1 (Red Wing, Minn.)	520	PWR	W	W	FPI	Utility	100	5/72	12/73
• Prairie Island 2 (Red Wing, Minn.)	520	PWR	W	W	FPI	Utility	100	5/74	12/74
Tyrone 1 (Durand, Wis.)	1100	PWR	W	GE	Bechtel	Utility	0-cp	/82	/85
Ohio Edison Company									
Erie 1 (Berlin Heights, Ohio)	1260	PWR	B&W	GE	Gil/Com	T&B	0	4/84	4/86
Erie 2 (Berlin Heights, Ohio)	1260	PWR	B&W	GE	Gil/Com	T&B	0	4/86	4/88
Omaha Public Power District									
• Fort Calhoun 1 (Fort Calhoun, Neb.)	457	PWR	C-E	GE	G&H	G&H	100	6/71	9/73
Public Service Indiana									
Marble Hill 1 (Jefferson County, Ind.)	1130	PWR	W	W	S&L	Utility	4	/82	/82
Marble Hill 2 (Jefferson County, Ind.)	1130	PWR	W	W	S&L	Utility	1	/84	/84
Toledo Edison Co.									
• Davis-Besse 1 (Oak Harbor, Ohio)	906	PWR	B&W	GE	Bechtel	Bechtel	100	12/74	11/77
Davis-Besse 2 (Oak Harbor, Ohio)	906	PWR	B&W	GE	Bechtel	UE&C	0-lwa	6/81	4/85
Davis-Besse 3 (Oak Harbor, Ohio)	906	PWR	B&W	GE	Bechtel	UE&C	0-lwa	1/83	4/87
Union Electric Co.									
Callaway 1 (Fulton, Mo.)	1150	PWR	W	GE	Bechtel	Daniel	18.5	10/81	10/82
Callaway 2 (Fulton, Mo.)	1150	PWR	W	GE	Bechtel	Daniel	0.5	4/83	4/87
Wisconsin Electric Power Co. and Wisconsin Michigan Power Co.									
• Point Beach 1 (Two Creeks, Wis.)	497	PWR	W	W	Bechtel	Bechtel	100	4/70	12/70
• Point Beach 2 (Two Creeks, Wis.)	497	PWR	W	W	Bechtel	Bechtel	100	4/71	10/72
Wisconsin Electric Power Co. (with two other Wisconsin utilities)									
Haven 1 (Haven, Wis.)	900	PWR	W	Allis	S&W	S&W	0	2/81	6/87
Haven 2 (Haven, Wis.)	900	PWR	W	Allis	S&W	S&W	0	7/82	6/89
Wisconsin Public Service Corporation									
• Kewaunee (Carlton, Wis.)	535	PWR	W	W	FPI	FPI	100	6/72	6/74

cp: permiso de construcción emitido

lwa: permiso de trabajo limitado emitido

	MWe Netos	Tipo	Suminis trador del reac tor	Suminis trador del Gene rador	Architect Engineer	Construc tor	% Avan ce	Operación Comercial Origi nal +
SOUTH								
Alabama Power Company								
• Joseph M. Farley 1 (Dothan, Ala.)	860	PWR	W	W	SS/Bechtel	Daniel	100	4/75 12/77
Joseph M. Farley 2 (Dothan, Ala.)	860	PWR	W	W	SS/Bechtel	Daniel	61	4/76 /80
Arkansas Power & Light Co.								
• Nuclear One 1 (Russellville, Ark.)	836	PWR	B&W	W	Bechtel	Bechtel	100	12/74
Nuclear One 2 (Russellville, Ark.)	912	PWR	C-E	GE	Bechtel	Bechtel	95	12/75 12/78
Carolina Power & Light Co.								
• Robinson 2 (Hartsville, S.C.)	665	PWR	W	W	Ebasco	Ebasco	100	5/70 3/71
• Brunswick 1 (Southport, N.C.)	790	BWR	GE	GE	UE&C	Brown	100	3/75 3/77
• Brunswick 2 (Southport, N.C.)	790	BWR	GE	GE	UE&C	Brown	100	3/74 11/75
Shearon Harris 1 (Newhill, N.C.)	900	PWR	W	W	Ebasco	Daniel	1	3/77 3/84
Shearon Harris 2 (Newhill, N.C.)	900	PWR	W	W	Ebasco	Daniel	<1	3/78 3/86
Shearon Harris 3 (Newhill, N.C.)	900	PWR	W	W	Ebasco	Daniel	<1	3/79 3/90
Shearon Harris 4 (Newhill, N.C.)	900	PWR	W	W	Ebasco	Daniel	<1	3/80 3/88
SR 1 (undesignated)	1150	PWR	B&W				0	3/83 3/89
SR 2 (undesignated)	1150	PWR	B&W				0	3/84 3/91
Duke Power Co.								
• Oconee 1 (Seneca, S.C.)	860	PWR	B&W	GE	Utility/Bech	Utility	100	5/71 7/73
• Oconee 2 (Seneca, S.C.)	860	PWR	B&W	GE	Utility/Bech	Utility	100	5/72 9/74
• Oconee 3 (Seneca, S.C.)	860	PWR	B&W	GE	Utility/Bech	Utility	100	6/73 12/74
McGuire 1 (Terrell, N.C.)	1180	PWR	W	W	Utility	Utility	86	3/76 7/79
McGuire 2 (Terrell, N.C.)	1180	PWR	W	W	Utility	Utility	51	3/77 3/81
Catawba 1 (Clover, S.C.)	1145	PWR	W	GE	Utility	Utility	28	3/79 7/81
Catawba 2 (Clover, S.C.)	1145	PWR	W	GE	Utility	Utility	22	3/80 1/83
Perkins 1 (Mocksville, N.C.)	1280	PWR	C-E	GE	Utility	Utility	0	1/81 1/88
Perkins 2 (Mocksville, N.C.)	1280	PWR	C-E	GE	Utility	Utility	0	1/82 7/91
Perkins 3 (Mocksville, N.C.)	1280	PWR	C-E	GE	Utility	Utility	0	1/83 1/93
Cherokee 1 (Gaffney, S.C.)	1280	PWR	C-E	GE	Utility	Utility	1	9/82 1/85
Cherokee 2 (Gaffney, S.C.)	1280	PWR	C-E	GE	Utility	Utility	1	9/83 1/87
Cherokee 3 (Gaffney, S.C.)	1280	PWR	C-E	GE	Utility	Utility	1	9/84 1/89
Florida Power & Light Co.								
• Turkey Point 3 (Florida City, Fla.)	666	PWR	W	W	Bechtel	Bechtel	100	8/70 12/72
• Turkey Point 4 (Florida City, Fla.)	666	PWR	W	W	Bechtel	Bechtel	100	8/71 9/73
• St. Lucie 1 (Hutchinson Island, Fla.)	802	PWR	C-E	W	Ebasco	Ebasco	100	1/73 12/76
St. Lucie 2 (Hutchinson Island, Fla.)	802	PWR	C-E	W	Ebasco	Ebasco	25	9/79 5/83
Florida Power Corporation								
• Crystal River 3 (Red Level, Fla.)	825	PWR	B&W	W	Gilbert	Jones	100	9/72 3/77
Georgia Power Co.								
• Edwin I. Hatch 1 (Baxley, Ga.)	786	BWR	GE	GE	SS/Bechtel	Utility	100	4/73 12/75
Edwin I. Hatch 2 (Baxley, Ga.)	786	BWR	GE	GE	Bechtel	Utility	97	4/76 11/78
Vogtle 1 (Waynesboro, Ga.)	1100	PWR	W	GE	SS/Bechtel	Utility	0-cp	2/78 11/84
Vogtle 2 (Waynesboro, Ga.)	1100	PWR	W	GE	SS/Bechtel	Utility	0-cp	2/79 11/85
Gulf States Utilities Co. [See also Southwest]								
River Bend 1 (St. Francisville, La.)	940	BWR	GE	GE	S&W	S&W	5	10/79 10/84
River Bend 2 (St. Francisville, La.)	940	BWR	GE	GE	S&W	S&W	5	10/81 indef.
Louisiana Power & Light Co.								
Waterford 3 (Taft, La.)	1165	PWR	C-E	W	Ebasco	Ebasco	41	10/77 4/81
Mississippi Power & Light Co.								
Grand Gulf 1 (Port Gibson, Miss.)	1250	BWR	GE	Allis	Bechtel	Bechtel	68.4	9/79 4/81
Grand Gulf 2 (Port Gibson, Miss.)	1250	BWR	GE	Allis	Bechtel	Bechtel	4.3	9/81 1/84
Puerto Rico Water Resources Authority								
NORCO-1 (Barrio Islote, Arecibo, P.R.)	583	PWR	W	W	G&H		0	1/81 indef.
South Carolina Electric & Gas Co.								
Virgil C. Summer 1 (Parr, S.C.)	900	PWR	W	GE	Gilbert	Daniel	66	10/77 5/80
Tennessee Valley Authority								
• Browns Ferry 1 (Decatur, Ala.)	1067	BWR	GE	GE	Utility	Utility	100	10/70 8/74
• Browns Ferry 2 (Decatur, Ala.)	1067	BWR	GE	GE	Utility	Utility	100	10/71 3/75
• Browns Ferry 3 (Decatur, Ala.)	1067	BWR	GE	GE	Utility	Utility	100	10/72 3/77
Sequoyah 1 (Daisy, Tenn.)	1148	PWR	W	W	Utility	Utility	88	10/73 7/79
Sequoyah 2 (Daisy, Tenn.)	1148	PWR	W	W	Utility	Utility	72	4/74 3/80
Watts Bar 1 (Spring City, Tenn.)	1177	PWR	W	W	Utility	Utility	85	10/76 12/79
Watts Bar 2 (Spring City, Tenn.)	1177	PWR	W	W	Utility	Utility	66	4/77 9/80
Belleville 1 (Scottsboro, Ala.)	1213	PWR	B&W	BB	Utility	Utility	57	7/77 6/80
Belleville 2 (Scottsboro, Ala.)	1213	PWR	B&W	BB	Utility	Utility	42	4/78 3/81

M/e	Tipo	Suminis	Suminis	Architect	Construc	Z	Operación	
Netos		trador	trador	Engineer	tor	Avan	Origi	Actual
		del reac	del Gene			ce	nal +	
		tor	rador					
Tennessee Valley Authority, cont'd								
Hartsville A1 (Hartsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	11	4/79 6/83
Hartsville A2 (Hartsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	5	4/80 6/84
Hartsville B1 (Hartsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	10	10/79 12/83
Hartsville B2 (Hartsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	3	10/80 12/84
Phipps Bend 1 (Surgoinsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	< 1	4/82 8/84
Phipps Bend 2 (Surgoinsville, Tenn.)	1233	BWR	GE	BB	Utility	Utility	< 1	4/83 8/85
Yellow Creek 1 (Iuka, Miss.)	1285	PWR	C-E	GE	Utility	Utility	< 1	4/83 3/85
Yellow Creek 2 (Iuka, Miss.)	1285	PWR	C-E	GE	Utility	Utility	< 1	4/84 3/86
Tennessee Valley Authority, Commonwealth Edison Co., and DOE								
Clinch River Breeder Reactor Plant (Oak Ridge, Tenn.)	350	LMFBR	W	GE	B&R	S&W	0	/80 indef.
Virginia Electric & Power Co.								
• Surry 1 (Gravel Neck, Va.)	775	PWR	W	W	S&W	S&W	100	3/71 12/72
• Surry 2 (Gravel Neck, Va.)	775	PWR	W	W	S&W	S&W	100	3/72 5/73
• North Anna 1 (Mineral, Va.)	934	PWR	W	W	S&W	S&W	100	3/74 6/78
North Anna 2 (Mineral, Va.)	934	PWR	W	W	S&W	S&W	91	7/75 4/79
North Anna 3 (Mineral, Va.)	938	PWR	B&W	W	S&W	S&W	7	3/77 4/83
North Anna 4 (Mineral, Va.)	938	PWR	B&W	W	S&W	S&W	3.7	3/78 5/84
SOUTHWEST								
Arizona Public Service Co.								
Palo Verde 1 (Wintersburg, Ariz.)	1270	PWR	C-E	GE	Bechtel	Bechtel	25.9	5/81 5/82
Palo Verde 2 (Wintersburg, Ariz.)	1270	PWR	C-E	GE	Bechtel	Bechtel	5.2	11/82 5/84
Palo Verde 3 (Wintersburg, Ariz.)	1270	PWR	C-E	GE	Bechtel	Bechtel	1	5/84 5/86
Palo Verde 4 (Wintersburg, Ariz.)	1270	PWR	C-E	GE			0	5/88 5/88
Palo Verde 5 (Wintersburg, Ariz.)	1270	PWR	C-E	GE			0	5/90 5/90
Gulf States Utilities Co. (See also South region)								
Blue Hills 1 (Newton County, Tex.)	930	PWR	C-E	W	Bechtel	Zachry	0	9/80 indef.
Blue Hills 2 (Newton County, Tex.)	930	PWR	C-E	W	Bechtel	Zachry	0	9/82 indef.
Houston Lighting & Power Company								
Allens Creek 1 (Wallis, Tex.)	1200	BWR	GE	GE	Ebasco	Ebasco	0	6/80 /85
South Texas Project 1 (Palacios, Tex.)	1250	PWR	W	W	Brown	Brown	40	10/80 10/80
South Texas Project 2 (Palacios, Tex.)	1250	PWR	W	W	Brown	Brown	9	3/82 3/82
Public Service Co. of Oklahoma								
Black Fox 1 (Inola, Okla.)	1150	BWR	GE	GE	B&V	Utility	0	4/82 4/84
Black Fox 2 (Inola, Okla.)	1150	BWR	GE	GE	B&V	Utility	0	4/84 4/86

MWe Netos	Tipo	Suminis trador del reac tor	Suminis trador del Gene rador	Architect Engineer	Construc tor	% Avan ce	Operación Comercial Origi nal +	Actual
Texas Utilities Generating Company								
Comanche Peak 1 (Glen Rose, Tex.)	1150	PWR	W	Allis	G&H	B&R	56	1/80 1/81
Comanche Peak 2 (Glen Rose, Tex.)	1150	PWR	W	Allis	G&H	B&R	18	1/82 1/83
WEST AND NORTHWEST								
Pacific Gas & Electric Co.								
• Humboldt Bay 3 (Eureka, Calif.)	63	BWR	GE	GE	Bechtel	Bechtel	100	/63 8/63
Diablo Canyon 1 (Diablo Canyon, Calif.)	1060	PWR	W	W	Utility	Utility	99	5/72 11/78
Diablo Canyon 2 (Diablo Canyon, Calif.)	1060	PWR	W	W	Utility	Utility	94	7/74 5/79
Portland General Electric Co.								
• Trojan (Prescott, Ore.)	1130	PWR	W	GE	Bechtel	Indep	100	9/74 5/76
Pebble Springs 1 (Arlington, Ore.)	1260	PWR	B&W	GE	Bechtel	Indep	0	7/80 4/86
Pebble Springs 2 (Arlington, Ore.)	1260	PWR	B&W	GE	Bechtel	Indep	0	7/83 4/89
Public Service Company of Colorado								
Fort St. Vrain (Platteville, Colo.)	330	HTGR	GA	GE	S&L	GA	100	4/72 12/78
Puget Sound Power & Light Co.								
Skagit 1 (Sedro Wooley, Wash.)	1288	BWR	GE	W	Bechtel	Bechtel	0	7/81 7/85
Skagit 2 (Sedro Wooley, Wash.)	1288	BWR	GE	W	Bechtel	Bechtel	0	7/87
Sacramento Municipal Utility District								
• Rancho Seco (Clay Station, Calif.)	913	PWR	B&W	W	Bechtel	Bechtel	100	5/73 4/75
Southern California Edison and San Diego Gas & Electric Co.								
• San Onofre 1 (San Clemente, Calif.)	436	PWR	W	W	Bechtel	Bechtel	100	1/68
San Onofre 2 (San Clemente, Calif.)	1057	PWR	C-E	GEC	Bechtel	Bechtel	62	6/75 10/80
San Onofre 3 (San Clemente, Calif.)	1057	PWR	C-E	GEC	Bechtel	Bechtel	40	6/75 1/82
Washington Public Power Supply System								
• Hanford-N (Richland, Wash.)	860	LGR	GE	GE	B&R	B&R	100	7/66
WNP-2 (Richland, Wash.)	1100	BWR	GE	W	B&R	B&R	63	9/77 9/80
WNP-1 (Richland, Wash.)	1250	PWR	B&W	W	UE&C	UE&C	11	9/80 12/82
WNP-3 (Satsop, Wash.)	1240	PWR	C-E	W	Ebasco	Ebasco	4	3/82 1/84
WNP-4 (Richland, Wash.)	1250	PWR	B&W	W	UE&C	UE&C	4	3/82 6/84
WNP-5 (Satsop, Wash.)	1240	PWR	C-E	W	Ebasco	Ebasco	0-cp	3/83 7/85
U.S. Total (201 units)	195 678							

USSR

Ministry of Electric Power								
• Siberian 1 (Troitsk)	100	LGR					100	12/58
• Siberian 2 (Troitsk)	100	LGR					100	12/58
• Siberian 3 (Troitsk)	100	LGR					100	12/58
• Siberian 4 (Troitsk)	100	LGR					100	12/58
• Siberian 5 (Troitsk)	100	LGR					100	12/58
• Siberian 6 (Troitsk)	100	LGR					100	12/58
• Beloyarsk 1 (Sverdlovsk region)	100	LGR					100	4/64
• Beloyarsk 2 (Sverdlovsk region)	200	LGR					100	10/67
• Novo-Voronezh 1 (Voronezh)	210	PWR					100	10/64
• Novo-Voronezh 2 (Voronezh)	365	PWR					100	12/69
• Novo-Voronezh 3 (Voronezh)	440	PWR					100	6/72
• Kola 1 (near Murmansk)	440	PWR					100	10/73
• Kola 2 (near Murmansk)	440	PWR					100	7/4 12/74
• Novo-Voronezh 4 (Voronezh)	440	PWR					100	4/73
• Novo-Voronezh 5 (Voronezh)	1000	PWR						7/8
• BN-600 (Sverdlovsk region)	600	LMFBR						12/72 7/8
• Armenia 1 (Ararat Valley)	400	PWR					100	7/5 7/6
• Armenia 2 (Ararat Valley)	400	PWR					100	7/5 7/8
• Leningrad 1 (near Leningrad)	1000	LGR					100	7/3 7/4
• Leningrad 2 (near Leningrad)	1000	LGR					100	7/5 12/75
• Leningrad 3 (near Leningrad)	1000	LGR						7/9
• Leningrad 4 (near Leningrad)	1000	LGR						7/80
• Kursk 1	1000	LGR					100	12/76

MWe Netos	Tipo	Suminis trador del reac tor	Suminis trador del Gene rador	Architect Engineer	Construc tor	Avan ce	Operación Comercial Origi nal +	Actual
USSR, cont'd								
Ministry of Electric Power, cont'd								
Kursk 2	1000	LGR				100	7/77	179
Kursk 3	1000	LGR						
Kursk 4	1000	LGR						
• West-ukrainian 1 (Rovno)	440	PWR				100		176
West-ukrainian 2 (Rovno)	440	PWR						178
Smolensk 1	1000	LGR					177	178
Smolensk 2	1000	LGR					178	
• Chernobyl 1	1000	LGR					177	178
Chernobyl 2	1000	LGR					179	
Kalanin 1	1000	LGR					178	
Kalanin 2	1000	LGR					180	
Scientific Research Institute for Atomic Reactors								
• VK-50 (Dimitrovgrad)	50	BWR				100		1/66
State Committee on Atomic Energy								
• BN-350 (Shevchenko)	350	LMFBR				100		173
Yugoslavia								
Savske Elektrane (Slovenia) and Elektroprivreda (Croatia)								
Krsko (Krsko)	615	PWR	W	W	Gilbert	W/local	35	12/78 180
Excepto U.S.A. Total (324 unid)	212 607							
Total en el mundo (525 unid)	408 285							

Abreviaturas usadas

A-A: ASEA-Atom (Sweden)
ACECO: Association des Ateliers de Charleroi et de Cockerill
Ougree Providence (France)
ACLP group: ACECO/Creusot-Loire/Framatome/Westinghouse
Electric Energy Systems Europe (France)
ADE: Aveline-Delens-Francis
AECL: Atomic Energy of Canada Ltd.
AEE: Atomenergoprom (USSR) formerly TPE Technoprom-
export
AEG: Allgemeine Elektricitäts-Gesellschaft AEG-Telefunken
(W. Germany)
AEI: Associated Electric Industries Ltd. (U.K.)
AEPIC: American Electric Power Service Corp. (U.S.)
AETEA: Agipem, Eyt, Ee (Spain)
AGR: advanced gas-cooled reactor
AIE: Alstom-Chalmers (U.S.)
Atathom: Site Generale de Constructions Electriques et Mecha-
niques (France)
ARN: Ansaldo Meccanica Nucleare SpA (Italy)
APC: Atomic Power Construction Ltd. (U.K.)
ARGE KKK: Orizenhoff & Widmann AG, Wayes & Freytag AG,
Hedekamp (FRG)
ASGEN: Ansaldo San Giorgio Compagnia Generale (Italy)
Aus: Auxim Ingenieria Espanola SA (Spain)
Bai: Balfour Beatty & Co. (U.K.)
BAM: Bataalsche Aanneming Maatschappij NV (The Nether-
lands)
BBC: Brown Boveri & Cie (Switzerland)
BBR: Babcock-Brown Boveri Reaktor GmbH (W. Germany)
Bch: Bechtel Corporation (U.S.)
BKE: Bräat Heavy Electrical (India)
BLWR: same as BWR
BNDC: British Nuclear Design & Construction Ltd. (U.K.)
B&R: Burns & Roe Inc. (U.S.)
B&W: Babcock & Wilcox Co. (U.S.)
BRAUN: C. F. Braun & Co. (U.S.)
Brown: Brown & Root Inc. (U.S.)
BWR: boiling water reactor
C-B: Campenon-Bernard (France)
Cda: Condotte d'Acqua (Italy)
C-E: Combustion Engineering Inc. (U.S.)
CEM: Compagnie Electric Mechumque (France)
CGE: Canadian General Electric
Cie GE: Cie Generale d'Electricite (France)
CITRA: Compagnie Industrielle de Travaux (France)
CL: Creusot-Loire (France)
CNO: Construtora Nobrega Odebrecht (Brazil)
COPTOSIACE: Cockerill Ugine-Providence Franco Tos-
SA Ateliers de Constructions Electriques de Charleroi SA
(Belgium)
CTAFSIC: CFE Travaux, Astrolbel General Contractors, Francos
et Fils, Maurice Delens, Campenon Bernard (Belgium)
CTL: Canatom Ltd. (Canada)

DAE: Department of Atomic Energy (India)
Daniel: Daniel Construction Co. (U.S.)
D-L: Delatre-Lavie (France)
EA: Empresarios Agrupados (Spain)
E&B: Emch & Berger (Switzerland)
Edesco: Edasco Services Inc. (U.S.)
ECC: Engineering Construction Corp. (India)
EE: English Electric Co. Ltd. (U.K.)
EEC: English Electric Co. Ltd. (Canada)
EEW: English Electric and G. Wimpey Group (U.K.)
EI: Elettrotecnica Italiana (Italy)
Elin: Elin Union AG (W. Germany)
ENB: Empresa Nacional Bazan (Spain)
ERBE: Hungarian Company for Power Plant Investment
ERDA: Energy Research and Development Administration (U.S.)
EYT: Entrecanales y Tavora SA (Spain)
Fou: Fougrille (France)
FPI: Fluor Pioneer, Inc. (U.S.)
Fram: Framatome, Societe Franco-Americaine de Constructions
Atomiques SA (France)
GA: General Atomic Company (U.S.)
GAIA: Groupement pour les Activites Atomiques et Avancees
(France)
GC: Groupement Constructeurs Français (France)
GCHWR: gas-cooled heavy-water-moderated reactor
GCR: gas-cooled reactor
GE: General Electric Co. (U.S.)
GEC: General Electric Co. (U.K.)
GETSCO: General Electric Technical Services Co.
Gib: Gibbs & Hill, Inc. (U.S.)
G&E: Gibbs & Hill Espanola SA
Gilbert: Gilbert Associates, Inc. (U.S.)
GVCem: Gilbert/Commonwealth (U.S.)
GKW: Gemeinschaft Kraftwerk Weser GmbH (FRG)
GTM: Grands Travaux de Marseille (France)
Haz: Hazama Gumi Co. (Japan)
HCC: Hindustan Construction Co. (India)
Hoch: Hochtail AG (W. Germany)
H-P: Howden-Parsons (Canada)
HQ: Hydro-Quebec (Canada)
HRB: Hochtemperatur-Reaktorbau GmbH (W. Germany)
HTGR: high-temperature gas-cooled reactor
HWLWR: heavy-water-moderated, boiling light-water-cooled
reactor
Iber: Iberdrola SA (Spain)
Imp: Impresit
INS: Internationale Natrium Bruttoreaktorbau GmbH (W. Ger-
many)
INITEC: Empresa Nacional de Ingenieria y Tecnologia SA (Spain)
Int: Interatom (W. Germany)
IyP: Informes y Proyectos SA (Spain)
JL: John Laing Construction Ltd. (U.K.)
Jones: J. A. Jones Construction Co. (U.S.)
J-S: Jaumont-Schneider (France)
Kaiser: Kaiser Engineers (U.S.)
KTHTR: Konsortium THTR-Brown Boveri & Cie AG Hochtem-
peratur-Reaktorbau GmbH Nukem GmbH (W. Germany)
Kum: Kumagaya Gumi Co. (Japan)
KWW: Kraftwerk Union AG (W. Germany)
LAT: Larsen & Toubro (India)
LGR: light-water-cooled graphite-moderated reactor
LMFBR: liquid metal fast breeder reactor
LWCHW: light-water-cooled heavy-water-moderated reactor

M&PI: Mitsubishi Atom & Power Industries Inc. (Japan)
Maxon: Maxon Construction Company (U.S.)
McAlp: Sir Robert McAlpine & Sons Ltd. (U.K.)
MECO: Montreal Engineering Co. (Canada)
MEL: Mitsubishi Electric Corporation (Japan)
MHI: Mitsubishi Heavy Industries Ltd. (Japan)
NCC: Nuclear Civil Constructors (U.K.)
Nem: Nersatoom NV (The Netherlands)
Norse: Centrale Nucleaire Europeenne A Neutrons Rapides (France)
NIRA: Nucleare Italiana Reattori Avanzati (Italy)
NPC: Nuclear Power Co. Ltd. (U.K.)
Nucleon: Nucleon Engenharia SA (Brazil)
NWR: Nordwestdeutsche Kraftwerke AG (FRG)
Obay: Obayashi Gumi Co. (Japan)
OH: Ontario Hydro (Canada)
OPR: Offshore Power Systems (U.S.)
Par (U.K.): C. A. Parsons and Co. Ltd. (U.K.)
Parsons: Ralph M. Parsons Co. (U.S.)
PE: Promon Engenharia SA (Brazil)
PH: Philip Holzman (W. Germany)
PHWR: pressurized heavy-water-moderated and -cooled re-
actor
PWR: pressurized water reactor
Raleau: Raleau, Sie (France)
R & C: Richardson & Cruddas (U.K.)
RDM: Rijkswaterstaats Oorlogsmiddeelen (The Netherlands)
RPL: Raytheon Parsons Ltd. (U.K.)
RW: Richardson's Westgarth Ltd. (U.K.)
SACM: Societe Alsacienne de Constructions Mechaniques
(France)
SG: Spie Bagnolles SA (France)
SCO: Skanska Cementgjuteriet
SEN: Sener SA (Spain)
SGE: Societe Generale d'Enterprises (France)
SK: Sydsvenska Kraft AB (Sweden)
S&L: Sargent & Lundy Engineers (U.S.)
SL: Stat Laval Turbin AB (Sweden)
SHC: Surveyor, Nanning & Chenevert Inc. (Canada)
SO: Siemens Österreich (Austria)
SOCIA: Societe pour l'Industrie Atomique (France)
SOGENE: Societe Generale per Lavoro e Pubbliche Unità
(Italy)
SR: Sleams-Roger Corp. (U.S.)
SS: Southern Services Inc. (U.S.)
SSPB: Swedish State Power Board
Stork: Koninklijke Machinefabriek Stork (The Netherlands)
SAW: Stone & Webster Engineering Corp. (U.S.)
T&B: Townsend & Bottom Inc.
TE: Tracoin Electricite
THTR: thorium high-temperature reactor
TNPG: The Nuclear Power Group (U.K.)
TPC: Taiwan Power Company
TR: Technicas Reunidas SA (Spain)
TW: Taylor Woodrow Construction Ltd. (U.K.)
UEAC: United Engineers & Constructors (U.S.)
VANE: Vandenhoes Envransos Agrupados, Spain
VBB: AB Vattenbyggnadsbyran
VMF: Verengde Machinefabrieken NV (The Netherlands)
W: Westinghouse Electric Corporation (U.S.)
Wadco: a subsidiary of Westinghouse Electric Corporation
(U.S.)
WIL: Walchandnagar Industries Ltd. (India)
Zachry: H. B. Zachry Company (U.S.)

TABLA VIII
TENDENCIA DEL MODULO DE POTENCIA

