

1953 Design Survey of Typical

PLAINTIFF'S EXHIBIT

WH-1049

Compiled by B G A Skrotzki, Associate Editor

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Company	Location	Plant name	Consulting engineers			Throttle	Reheat				Surface, 1000 sq ft	Boiler & W		
Boston Edison Co	North Weymouth, Mass	Edgar	Jackson & Moreland	7-54	1450	1000	1000	1	514	CE	13.8	33.0	18.5	DB
Carolina Power & Light Co	Wilmington, N. C	Wilmington	Ebasco Services Inc	1954	1450	1000	1000	1	1000	CE	36.7	—	15.1	DB
Consumers Power Co	Erie, Mich	Justin R Whiting	Commonwealth Associates Inc	11-53	1450	1000	1000	1	350	BW	17.1	70.0	15.7	DB
Florida Power & Light Co	South Florida	Undetermined	Ebasco Services Inc	7-55	1450	1000	1000	1	1000	CE	40.4	56.5	17.5	DB
	Cutler, Florida	Cutler	Ebasco Services Inc	10-54	1250	950	—	1	550	CE	27.0	—	13.1	DB
Louisville Gas & Electric Co	Louisville, Ky	Cane Run	Pioneer Service & Engr Co	3-54	1450	1000	—	1	820	FW	38.9	17.1	14.7	DB
Monongahela Power Co	Albright, W. Va	Albright	Sanderson & Porter	9-54	1450	1000	1000	1	1000	CE	—	75.0	14.1	DB
Oklahoma Gas & Electric Co	nr Oklahoma City, Okla	Mustang	Sargent & Lundy	1955	1450	1000	1000	1	725	BW	12.5	—	13.7	DB
Pennsylvania Power Co	West Pottsville, Pa	New Castle	Commonwealth Associates Inc	10-52	1450	1000	1000	1	690	BW	13.7	43.1	13.0	DB
Rochester Gas & Electric Corp	Rochester, N. Y	Russell	Gilbert Associates Inc	1953	1450	1000	1000	1	470	CE	41.4	31.1	20.2	DB
Southwestern Public Service Co	Amherst, Texas	Plant "X"	—	1955	1450	1000	1000	1	800	CE	18.6	—	22.5	DB
	Sanway, Texas	Moore County	—	1954	350	900	—	1	500	CE	33.6	—	29.0	DB
	Denver City, Texas	Denver City	J. F. Pritchard & Co	1954	350	900	—	1	500	CE	33.6	—	29.0	DB
Virginia Electric & Power Co	Portsmouth, Va	Portsmouth	Stone & Webster Engr Corp	9-54	1450	1000	1000	1	750	CE	31.7	49.8	15.0	DB
West Penn Power Co	Springdale, Pa	Springdale	Sanderson & Porter, G. W. Saathoff	1954	1450	1000	1000	1	950	BW	15.8	56.8	15.3	DB
Wisconsin Power & Light Co	North Beloit, Wis	Rock River	Sargent & Lundy	11-53	1450	1000	1000	2	525	BW	13.0	32.3	19.4	DB
Cambridge Electric Light Co	Cambridge, Mass	Kendall Square	Gilbert Associates, Inc	1954	1320	910	—	1	300	BW	18.3	11.6	20.3	DB
California Electric Power Co	Hingrove, Calif	Hingrove	Fluor Corp	10-53	1250	950	—	1	425	CE	16.7	15.0	22.3	DB
Duquesne Light Co	Elrama, Pa	Elrama	—	1955	1250	950	—	1	425	CE	16.7	15.0	22.3	DB
				10-53	1300	1000	1000	1	875	BW	29.7	49.6	14.9	DB
Columbus & Southern Ohio Electric Co	Attns, Ohio	E. M. Poston	Ebasco Services Inc	11-53	1250	950	—	1	625	CE	26.7	17.7	17.5	DB
Indianapolis Power & Light Co	nr Martinsville, Ind	White River	Gibbs & Hill Inc	12-53	1250	950	—	1	600	CE	25.4	16.9	18.5	DB
Pennsylvania Power & Light Co	nr Martins Creek, Pa	Martins Creek	Ebasco Services Inc	5-54	1250	950	—	1	1200	FW	72.2	19.3	14.2	DB
				5-56	1250	950	—	1	1200	FW	72.2	19.3	14.2	DB
Public Service Co of New Hampshire	Portsmouth, N. H	Schiller	Jackson & Moreland	9-53	1250	950	—	1	425	FW	16.0	11.6	20.5	DB
				7-55	1250	950	—	1	425	FW	16.0	11.6	20.5	DB
Union Electric Co of Missouri	St. Louis County, Mo	Meramec	—	4-54	1250	950	950	1	925	CE	44.5	50.0	12.8	DB
Missouri Public Service Co	Pleasant Hill, Mo	Ralph Green	Burns & McDonnell Engr Co	12-53	1050	915	—	1	200	BW	15.9	8.5	18.4	DB
Public Service Co of Oklahoma	Waskita, Okla	Southwestern	Sargent & Lundy	2-54	900	900	—	1	690	BW	36.3	11.8	24.3	DB
Tampa Electric Co	Tampa, Fla	Hookers Point	Stone & Webster Engr Corp	3-53	875	900	—	1	505	BW	29.1	11.2	31.3	DB
Western Light & Telephone Co Inc	Great Bend, Kans	Mullergrun	Sargent & Lundy	3-53	375	900	—	1	170	CE	18.3	4.7	23.1	DB
West Texas Utilities Co	San Angelo, Texas	Concho	Sargent & Lundy	3-53	375	900	—	1	300	BW	20.6	8.1	31.2	DB
	Haskell, Texas	Paint Creek	Sargent & Lundy	5-53	375	900	—	1	300	BW	20.6	8.1	31.2	DB
Central Illinois Electric & Gas Co	Rockford, Ill	Sabrooke	Stone & Webster Engr Corp	1955	350	900	—	1	300	FW	26.8	10.8	22.4	DB
Central Power & Light Co	nr Calallen, Texas	Lon C. Hill	Sargent & Lundy	1-54	350	900	—	1	530	BW	27.3	12.4	30.0	DB
	Victoria, Texas	Victoria	Sargent & Lundy	1-55	350	900	—	1	530	BW	27.3	12.4	30.0	DB
Eastern Shore Public Service Co of Md	Vienna, Md	Vienna	United Engrs & Constructors	4-51	350	900	—	1	300	BW	23.3	10.6	18.0	DB
Kansas Power and Light Co	Lawrence, Kansas	Lawrence	Black & Veatch	1-53	350	900	—	1	375	CE	19.2	11.6	13.5	DB
Kentucky Utilities Co	Central City, Ky	Green River	Sargent & Lundy	—	350	900	—	1	560	BW	10.5	15.0	18.9	DB
	nr Lawrenceburg, Ky	Tyone	Sargent & Lundy	6-53	350	900	—	1	560	BW	10.5	15.0	18.9	DB
Oklahoma Gas & Electric	Durham, Okla	South	Sargent & Lundy	12-52	350	900	—	1	530	BW	42.8	13.7	24.3	DB
Public Service Co of Colorado	Denver, Colo	Zuni	Ebasco Services Inc	2-54	350	900	—	1	675	BW	48.5	18.6	15.1	DB
Savannah Electric & Power Co	Savannah, Ga	Riverside	Stone & Webster Engr Corp	7-54	350	900	—	1	220	CE	—	—	23.0	DB
Tucson Gas Electric Light & Power Co	Tucson, Ariz	Station No. 3	Sanderson & Porter	5-53	350	900	—	1	275	BW	—	8.1	23.7	DB
				5-54	350	900	—	1	550	BW	—	12.5	23.7	DB
Iowa-Illinois Gas & Electric Co	Moline, Ill	Moline	Sargent & Lundy	4-53	825	325	—	2	200	RS	20.1	5.7	15.5	DB
Central Illinois Light Co	E. Peoria, Ill	R. S. Wallace	Commonwealth Associates Inc	9-52	315	360	—	1	600	RS	39.9	26.8	14.5	DB
Atlantic City Electric Co	Goodstown, N. J	Greenwich	Burns & Roe Inc	11-52	650	825	—	2	230	CE	27.5	—	18.0	DB
Bangor Hydro Electric Co	Yazoo, Maine	E. M. Granam	C. T. Main, Inc	7-54	500	825	—	1	125	RS	13.8	4.3	24.9	DB
Iowa Public Service Co	Storm Lake, Iowa	Hawkeye	J. F. Pritchard Co	10-53	500	825	—	1	125	BW	15.4	—	25.8	DB
	Carroll, Iowa	Carroll	Black & Veatch	4-52	400	750	—	—	—	—	—	—	—	—

An - Antinuclear
AC - Atlas-Chalmers Mfg Co
Ad - Admiralty
Adl - Admiralty, inhibited
AlB - Aluminum bronze
AlBr - Aluminum brass

AnAd - Antinuclear admiralty
AnAdl - Inhibited antinuclear admiralty
AsAd - Arsenical admiralty
AsAlB - Arsenical aluminum brass
AsCu - Arsenical copper
B - Variable-pitch blades

BW - Babcock & Wilcox Co
C - Coal, bituminous
CE - Combustion Engineering, Inc
Con - Condenser desalination
CuNi - Copper nickel
Cy - Cyclone furnace

D - Damper
DB - Dry bottom
Du - Dual turbine and motor drive
FW - Foster Wheeler Corp
G - General Electric Co
GE - General Electric Co

Hy - Hydraulic
L - Light
Lo - Lowers
M - Motor drive
Ma - Magnetic
Mp - Two motors

- Oil
- Pulverizer
- Phosphoric
- Plate
- Regulator
- Red brass

Pennsylvania Power Co	West Pittsburgh, Pa	New Castle	Commonwealth Associates Inc	10-52	1450	1000	1000	1	690	BW
Rochester Gas & Electric Corp	Rochester, N. Y	Russell	Gilbert Associates Inc	1953	1450	1000	1000	1	470	CE
Southwestern Public Service Co	Amherst, Texas	Plant "X"		1955	1450	1000	1000	1	800	CE
	Sunray, Texas	Moore County		1954	850	900		1	500	CE
	Denver City, Texas	Denver City ⁸	J F Pritchard & Co	1954	850	900		1	500	CE
Electric & Power Co	Portsmouth, Va	Portsmouth	Stone & Webster Engrg Corp	8-54	1450	1000	1000	1	750	CE
East Penn Power Co	Springdale, Pa	Springdale	Sanderson & Porter, GW Saathoff	1954	1450	1000	1000	1	950	BW
Wisconsin Power & Light Co	North Beloit, Wis	Rock River	Sargent & Lundy	11-53	1450	1000	1000	2	525	BW
Cambridge Electric Light Co	Cambridge, Mass	Kendall Square	Gilbert Associates, Inc	1954	1320	910		1	300	BW
California Electric Power Co	Highgrove, Calif	Highgrove	Fluor Corp	10-53	1250	950		1	425	CE
Duquesne Light Co	Elrama, Pa	Elrama		1955	1250	950		1	425	CE
				10-53	1300	1000	1000	1	875	BW
Columbus & Southern Ohio Electric Co	Athens, Ohio	E M Poston	Ebasco Services Inc	11-53	1250	950		1	625	CE
Indianapolis Power & Light Co	nr Martinsville, Ind	White River	Gibbs & Hill Inc	12-53	1250	950		1	600	CE
Pennsylvania Power & Light Co	nr Martins Creek, Pa	Martins Creek	Ebasco Services Inc	5-54	1250	950		1	1200	FW
				5-56	1250	950		1	1200	FW
Electric Service Co of New Hampshire	Portsmouth, N. H	Schiller	Jackson & Moreland	9-53	1250	950		1	425	FW
				7-55	1250	950		1	425	FW
				4-54	1250	950	950	1	925	CE
Union Electric Co of Missouri	St. Louis County, Mo	Meramec								
Missouri Public Service Co	Pleasant Hill, Mo	Ralph Green	Burns & McDonnell Engrg Co	12-53	1050	915		1	200	BW
Electric Service Co of Oklahoma	Washita, Okla	Southwestern	Sargent & Lundy	2-54	900	900		1	690	BW
Empa Electric Co	Tampa, Fla	Hookers Point ⁴	Stone & Webster Engrg Corp	9-53	875	900		1	505	BW
Western Light & Telephone Co Inc	Great Bend, Kans	Mullergren	Sargent & Lundy	9-53	875	900		1	170	CE
West Texas Utilities Co	San Angelo, Texas	Concho	Sargent & Lundy	3-53	875	900		1	300	BW
	Haskell, Texas	Paint Creek	Sargent & Lundy	5-53	875	900		1	300	BW
Illinois Electric & Gas Co	Rockford, Ill	Sabrooke	Stone & Webster Engrg Corp	1955	850	900		1	300	FW
Power & Light Co	nr Calallen, Texas	Lon C Hill	Sargent & Lundy	1-54	850	900		1	630	BW
	Victoria, Texas	Victoria	Sargent & Lundy	1-55	850	900		1	630	BW
Western Shore Public Service Co of Md	Vienna, Md	Vienna	United Engrs & Constructors	4-51	850	900		1	300	BW
Kansas Power and Light Co	Lawrence, Kansas	Lawrence ⁴	Black & Veatch	1-53	850	900		1	375	CE
Kentucky Utilities Co	Central City, Ky	Green River	Sargent & Lundy		850	900		1	660	BW
	nr Lawrenceburg, Ky	Tyrone	Sargent & Lundy	6-53	850	900		1	660	BW
Oklahoma Gas & Electric	Sulphur, Okla	South	Sargent & Lundy	12-52	850	900		1	630	BW
Electric Service Co of Colorado	Denver, Colo	Zuni	Ebasco Services Inc	2-54	850	900		1	675	BW
Yannan Electric & Power Co	Savannah, Ga	Riverside ⁴	Stone & Webster Engrg Corp	7-54	850	900		1	220	CE
Tucson Gas, Electric Light & Power Co	Tucson, Ariz	Station No. 3 ⁴	Sanderson & Porter	6-53	850	900		1	275	BW
				5-54	850	900		1	550	BW
North Illinois Gas & Electric Co	Moline, Ill	Moline	Sargent & Lundy	6-53	825	825		2	200	RE
Central Illinois Light Co	E. Peoria, Ill	R S Wallace	Commonwealth Associates Inc	9-52	815	900		1	600	RE
Atlantic City Electric Co	Gibbstown, N. J	Greenwich ⁴	Burns & Roe Inc	11-52	650	825		2	230	CE
Ingor Hydro Electric Co	Veazie, Maine	E M Graham	C T Main, Inc	7-54	600	825		1	125	RE
Iowa Public Service Co	Storm Lake, Iowa	Hawkeye	J F Pritchard Co	10-53	600	825		1	125	BW
	Carroll, Iowa	Carroll	Black & Veatch	6-53	400	750				

A - Anthracite	AnAd - Antimonial admiralty	BW - Babcock & Wilcox Co	D - Damper	Hy - Hydro
Al - Allis-Chalmers Mfg Co	AnAdI - Inhibited antimonial admiralty	C - Coal, bituminous	DB - Dry bottom	L - Lignite
A - Admiralty	AsAd - Arsenical admiralty	CE - Combustion Engineering, Inc	Du - Dual turbine and motor drive	Lo - Low
A - Admiralty, inhibited	AsAlB - Arsenical aluminum brass	Con - Condenser deaeration	FW - Foster Wheeler Corp	M - Medium
B - Aluminum bronze	AsCu - Arsenical copper	CuNi - Copper nickel	G - Natural gas	Ma - Medium
B - Aluminum brass	B - Variable-pitch blades	Cy - Cyclone furnace	GE - General Electric Co	Mo - Moisture

Team Central-Station installations

Heat release, 1000 Btu per cu ft per hr	Furnace bottom	Economizer surface per boiler, 1000 sq ft	Air heater surface per boiler, 1000 sq ft	Air heater type	F-D FANS		I-D FANS		Firing	FUEL		FEED PUMPS		TURBINES				Full-load generator pressure, psia	CONDENSERS		Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw			
					Drive	Air flow control	Drive	Gas flow control		Type	Heating value, 1000 Btu per lb	Ash softening temperature, F	Drive	Flow control	Number	Capacity, 1000 kw	Manufacturer		Backpressure, psia	No. bleed points			Surface, 1000 sq ft	No. water passes	Tube material
18.5	DB	13.3	157.3	Re	M	D V	M	D V	P	C	13.3	2400	2 M	R	1	31.5	WE	0.5	5	95	45.0	1	AlBr	3443	402
15.1	DB	17.9	42.9	Re	M	D V	M	D V	P	C	13.3	2100	3 M	A	1	100 ⁷	GE	1.4	5	Con	75.0	2	Cu Ni	1000	100
15.7	DB	18.3	274.0	Tu	M	V	M	V	P	C	13.0	2100	3 M	R	1	105	GE	0.5	5		55.0	1	Ac	2230	276
17.6	DB	29.1	120.0	Re	M	D	M	D	O	C	12.3		3 M	K	1	135	GE	1.25	5	Con	80.0	2	AlBr		160
18.1	DB	33.5	19.4	Re	M	D	M	D	O	C	18.3		3 M	R	1	75	WE	1.25	5	Con	60.0	2	AlBr		160
14.7	DB	35.2	158.8	Re	M	Hv	M	Hv	F	C	11.3	2050	3 M	R	1	90	WE	0.75	5	90	80.0	2	As Ad ¹	820	90
14.1	DB	25.7	190.0	Re	M	V	M	D	P	C	11.0	2200	3 M	R	1	135	GE	0.75	5	94	55.0	2	As Ad	2400	285
19.7 ¹	DB	7.0	140.0	Re	M	D	M	D	G.O.	C	1100 ⁶		2 M	Hv	1	100 ⁷	WE	0.75	5	88	70.0	2	Ad	1675	200
18.0	DB	14.8	112.5	Tu	M	D Hv	M	D Hv	P	C	12.0	2100	2 M	Hv	1	85	WE	0.75	5	Con	47.5	2	An Ad	1540	173
20.2	DB	5.2	128.0	Re	M	V	M	V	P	C	12.8	2100	3 M	R, Hv	1	50	GE	1.25	5	Con	32.5	2	Ad	1370	140
22.5 ¹	DB	23.0	117.2	Re	M	D V	M	D ¹	G.O.	C	1000 ⁶		3 M	Hv	1	80	GE	1.75	5	90	75.0	2	As Ad	2300	200
23.0 ¹	DB	0	75.5	Re	M	D V	M	D ¹	G.O.	C	1000 ⁶		2 M	Hv	1	40	GE	1.75	5	21	42.5	2	As Ad	980	65
25.0 ¹	DB	0	75.5	Re	M	D V	M	D ¹	G.O.	C	1000 ⁶		2 M	Hv	1	40	WE	1.75	5	25	42.5	2	As Ad	1120	77
25.0	DB	13.5	126.4	Re	M	D V	M	D	P	C	13.0	2300	3 M	Hv	1	100 ⁷	WE	0.75	5	75	65.0	2	AlBr	1500	200
15.3	DB	17.1	274.7	Tu	M	V	M	V	P	C	10.8	2350	3 M	R	1	100	WE	0.75	7		65.0	2	Ad ¹	4450	452
39.4 ¹	DB	14.3	153.1	Tu	M	V	M	D ¹	Cy	C	12.0	2000	2 M	Hv	2	60	AC	0.25	5	45	50.0	2	An Ad	1050	120
20.3	DB	4.1	68.3	Tu	M	V	M	V	O.G.	C			2 M	R											
22.8	DB	13.9	63.4	Re	M	V	M	V	O.G.	C	1100 ⁶		2 M	R	1	40 ⁷	GE	1.0	5	60	35.0	2	As Cu	1085	100
22.8	DB	13.9	63.4	Re	M	V	M	V	O.G.	C	1100 ⁶		2 M	R	1	40 ⁷	GE	1.0	5	60	35.0	2	As Cu	1490	140
14.9	DB	8.1	108.5	Re Tu					P	C					1	80	WE	0.75							
17.5	DB	33.5	157.7	Tu	M	V	M	V	P	C	11.0	2545	3 M	R	1	60 ⁷	WE	0.75	5	63.4	55.0	2	{As Cu, Cu Ni}	2100	200
18.5	DB	22.5	68.0	Re	M	V	M	V	P	C	11.0	1950	3 M	R	1	60 ⁷	GE	0.75	5	60	40	2	As Ad	2400	240
14.2	DB	47.5	238.0	Re	M	V	M	V	P	C	13.7	2000	3 M	R	1	132	GE	2.0	5	79	60	2	Ad ⁹	1200	132
14.2	DB	47.5	238.0	Re	M	V	M	V	P	C	13.7	2000	3 M	R	1	132	GE	2.0	5	79	60	2	Ad ⁹	2400	265
20.6	DB	9.5	37.3	Re, Pl	M	V	M	Ma	P	C	15.7		2 M		1	40 ⁷	WE	0.75	5	75	27.5	2	AlBr	450	40
20.6	DB	9.5	42.5	Re, Pl	M	V	M	D, V	O	C	18.7		2 M		1	40 ⁷	WE	0.75	5		27.5	2	AlBr	900	80
12.8	DB	35.6	268.6	Tu	M	V	M	V	P	C	10.0	2100	3 M	R	1	110	WE	0.75	7	65	90.0	2	Ad	1850	220
11.1	DB		52.0	Tu	M	V	M	D	P.G.	C	12.5	2000	1 M, 1 T	R	1	20 ⁷	GE	0.75	4		23.0	2	Ad	200	20
21.3	DB		246.8	Tu	M	D			G.O.	C	1025 ⁹		1 M	R	1	80 ⁷	WE	0.75	4	89.4	60.0	2	Cu Ni	1400	160
31.3	DB	0		Re	M	V	M	V	C	C	18.0		3 M	R	1	40 ⁷	GE	0.75	5	56.9	42.5	2	Cu Ni	1551	130
21.1	DB	0	38.5	Re	M	V	M	V	G.O.	C	1004 ⁶		2 M		1	15	GE	0.75	4		15.0	2	Ad ¹	170	15
31.2	DB	0	53.3	Tu	M	B			G.O.	C	1004 ⁶		2 M		1	30	AC	0.75	4		30.0	2	As Ad	690	55
31.2	DB	0	53.3	Tu	M	B			G.O.	C	1004 ⁶		2 M		1	30	GE	0.75	4		30.0	2	As Ad	300	30
21.4	DB	19.4	32.9	Tu	M	D, V	M	S, D, V	SS(545)	C	10.6	1950	2 M	R	1	30 ⁷	AC	0.75	4	90	25.0	2	Ad	800	80
20.0 ¹	DB	0	155.3	Tu	M	V			G.O.	C	1000 ⁶		2 M	F	1	60 ⁷	GE	0.75	4	115	60.0	2	As Ad	630	60
20.0 ¹	DB	0	155.3	Tu	M	V			G.O.	C	1070 ⁶		2 M	R	1	60 ⁷	WE	0.75	4	115	60.0	2	As Ad	932	99
11.0	DB		65.2	Re	M	D V	M	D	P	C	13.0	2500	2 M	R	1	30 ⁷	WE	0.75	5	Con	27.5	2	Ad	995	87
11.5	ST		65.6	P:	M	D, Ma	M	D, Ma	F	An, O.G.	11.5		1 M, 1 T	R	1	36	WE	0.75	5		35.0	2	Ad	475	47
11.5	DB	8.4	182.6	Tu	M	V	M	S, Hy	P	C	11.4	1950	2 M	R	1	60 ⁷	WE	0.75	4	65	55.0	2	Ad ¹	1305	120
11.5	DB	8.4	182.6	Tu	M	V	M	S, Hy	P	C	11.4	1950	2 M	R	1	60 ⁷	WE	0.75	4	65	55.0	2	Ad ¹	1260	110
21.3	DB	0	125.4	Tu	M	D			G.O.	C	1100 ⁶		2 M		1	70	GE	0.75	4		60.0	2	P Ad	630	70
16.1	DB	0	196.8	Tu	M	V	M	V	P	C	9.3	2090	3 M	R	1	60 ⁷	WE	0.75	5	22	45.0	2	Ad ¹	1225	95
21.0 ¹	DB	0		Re	M	V			O	C	18.4		2 M	R	1	20 ⁷	WE	0.75	4	52	15.0	2	Ad	960	75
21.7 ¹	DB	0	53.3	Tu	M	V			G.O.	C	1073 ⁶		2 M	R	1	20	WE	1.25	3	Con	20.0	2	Ad	575	44
21.7 ¹	DB	0	72.1	Tu	M	V			G.O.	C	1073 ⁶		2 M	R	1	40	WE	1.25	3	Con	45.0	2	Ad	1125	84
16.5	DB	0	47.4	P	M	D, Hy	M	D Hy	G	C	1030 ⁶		2 M	R	1	20 ⁷	WE	0.5	4	50	22.5	2	Ad	800	80
14.5	DB	10.5	127.3	M	Hy	M	Hy		P	C	10.0	1900	2 M	R	1	60 ⁷	WE	0.75	4	15	45.0	2	An Ad	2440	215
11.0	DB	0	77.1	Tu	T	S	T	S	P	C	13.0	2000	1 M, 2 T	R	1	11.5	GE	190	0					450	11
20.3	DB	0	20.5	Re	M	V	M	D	C	C	18.4		2 M	R	1	11.5 ⁷	GE	0.75	4		11.5	2	As Ad	125	23
21.1	DB	4.4	6.0	Tu	M	V	M	Ma	SS(287)	C	9.9	1900	1 M, 1 T		1	11.5 ⁷	GE	1.0	4	45	11.0	2	Ad	225	19
													1 M		1	5	WE	0.75	3	35	6.5			120	10

Re - Regenerative
RS - Rivet Stoker Corp
S - Speed control
Sup - Superlov
SS - Spreader stoker
ST - Slag tap

T - Turbine drive
Tu - Tubular
V - Vane control
WE - Westinghouse Electric Corp
(545) - Stoker grate area, sq ft

1 - Pressurized furnace
2 - Flooded ash hopper
3 - H-p 3600 rpm, I-p 1800 rpm
4 - Revised data, previously listed 3/52
5 - All in operation by 6/56
6 - Btu per cu ft
7 - Preferred standard unit

8 - Revised. Originally listed 3/52 as Eddy County
9 - Type B
10 - 10-mw auxiliary generator on main shaft
11 - Second reheat at 1000 F

POWER

1953 Design Survey of Typical Nuclear Power Plants

Compiled by B G A Skrotzki, Associate Editor				First operation new units	Throttle pressure, psig	Steam temp., F		BOILERS			
Company	Location	Plant name	Consulting engineers			Throttle	Reheat	Number	Capacity, each, 1000 lb per hr	Manufacturer	Surface, sq ft
✓ The Ohio Power Co	nr Zanesville, Ohio	Philo	Am Gas & Elec Service Corp	1954	4500	1150	1050 ¹¹	1	675	BW	—
✓ Public Service Electric and Gas Co	Burlington, N. J.	Burlington	—	1954	2350	1190	1050	1	1225	BW	19.8
✓ Consumers Power Co	Essexville, Mich	John C. Meadock	Commonwealth Associates Inc	4-55	2300	1050	1000	1	1050	CE	43.6
✓ Ohio Edison Co	Shadyside, Ohio	R E Burger	Commonwealth Associates Inc	9-54	2300	1050	1000	1	1050	BW	18.9
✓ Jersey Central Power & Light Co	Saverville, N. J.	Raritan River	Burns and Roe Inc	12-54	2000	1050	1000	1	900	BW	20.4
✓ Appalachian Electric Power Co	Glasgow, N. Va.	Kanawha River	Am Gas & Elec Service Corp	4-53	2000	1050	1050	1	1335	BW	39.7
✓ Indiana & Michigan Electric Co	Lawrenceburg, Ind	Tanners Creek	Am Gas & Elec Service Corp	10-53	2000	1050	1050	1	1335	BW	39.7
✓ Indiana-Kentucky Electric Corp	Madison, Ind	Clifty Creek	Am Gas & Elec Service Corp	9-54	2000	1050	1050	1	1335	BW	39.7
✓ The Ohio Power Co	Relief, Ohio	Muskingum River ⁴	Am Gas & Elec Service Corp	1-55 ⁵	2000	1050	1050	5	1340	BW	38.3
✓ Ohio Valley Electric Corp	Cheshire, Ohio	Kyger Creek	Am Gas & Elec Service Corp	11-53	2000	1050	1050	1	1335	BW	37.4
✓ Central Hudson Gas & Electric Corp	Roseton, N. Y.	Danskammer Point	Burns and Roe Inc	1-54	2000	1050	1050	1	1335	BW	37.4
✓ Alabama Power Co	Barry, Ala	Barry	Southern Services Inc	1955	2000	1050	1050	5	1340	BW	38.3
✓ Cleveland Electric Illuminating Co	Eastlake, Ohio	Eastlake	—	8-54	1840	1000	1000	1	500	CE	21.7
✓ Rockland Light and Power Co	Tomkins Cove, N. Y.	Hudson	Burns and Roe Inc	12-53	1800	1000	1000	1	900	CE	44.7
✓ Cons. Gas, Elec. Lt. & Pwr Co of Baltimore	Anne Arundel County, Md	Herbert A. Wagner	—	4-54	1800	1000	1000	1	900	CE	44.7
✓ Dallas Power & Light Co	Dallas, Texas	Mountain Creek	Edasco Services Inc	1-56	1800	1000	1000	1	1200	RS	—
		Parkdale	Edasco Services Inc	1-55	1450	1000	—	1	1050	BW	—
		Parkdale	Edasco Services Inc	5-53	1250	950	—	1	775	BW	10.8
		Dallas	Edasco Services Inc	3-54	1250	950	—	1	650	CE	11.5
✓ Duke Power Co	W. Holly, N. C.	Riverbend	—	1954	1800	1000	1000	2	1000	CE	53.6
✓ Electric Energy Inc	Jopka, Ill	Jopka	Edasco Services Inc	—	1800	1050	1000	1	1200	CE	52.3
✓ Georgia Power Co	Krannert, Ga	Hammond	Southern Services Inc	11-53	1800	1000	1000	1	725	BW	17.5
✓ Houston Lighting & Power Co	Pasadena, Texas	Deepwater	Edasco Services Inc	2-54	1800	1000	1000	1	725	BW	17.5
✓ New York State Electric & Gas Corp	Undetermined	Undetermined	Edasco Services Inc	9-54	1800	1000	1000	1	725	BW	17.5
✓ Pacific Gas & Electric Co	Ludlowville, N. Y.	Muliken	Gilbert Associates, Inc	7-55	1800	1000	1000	1	900	CE	44.7
✓ Pennsylvania Electric Co	Pittsburg, Calif	Pittsburg	Bechtel Corp	1954	1800	1000	1000	4	1080	BW	20.1
✓ Potomac Electric Power Co	Shawville, Pa	Shawville ⁴	Gilbert Associates Inc	1954	1800	1050	1000	2	394	BW	5.4
✓ South Carolina Generating Co	Alexandria, Va	Potomac River	Stone & Webster Engrg Corp	5-54	1800	1050	1000	1	725	CE	36.1
✓ South Carolina Generating Co	Beech Island, S. C.	Urnunart	Gilbert Associates Inc	5-55	1800	1050	1000	1	725	CE	36.1
✓ Southern California Edison Co	Elwanda, Calif	Elwanda	Stone & Webster Engrg Corp	7-55	1800	1000	1000	1	700	CE	37.4
✓ Southern California Edison Co	Redondo Beach, Calif	Redondo Beach	Stone & Webster Engrg Corp	7-53	1800	1000	1000	2	920	CE	33.7
✓ Southern California Edison Co	Redondo Beach, Calif	Redondo	Stone & Webster Engrg Corp	10-54	1800	1300	1000	1	1140	BW	20.1
✓ Texas Electric Service Co	Fort Worth, Texas	Eagle Mountain	Edasco Services Inc	10-55	1800	1000	1000	1	1140	BW	20.1
✓ Long Island Lighting Co	Island Park, N. Y.	E F Barrett	Edasco Services Inc	3-55	1800	1000	1000	1	1250	RS	44.7
✓ Cincinnati Gas & Electric Co	Glenwood Landing, N. Y.	Glenwood No. 3	Edasco Services Inc	8-56	1800	1000	1000	1	1150	CE	53.8
✓ Public Service Co of Indiana	For Rockaway, N. Y.	For Rockaway No. 2	Edasco Services Inc	9-54	1450	1000	1000	1	750	CE	36.7
✓ Public Service Co of Indiana	New Richmond, Ohio	Walter C. Beckjord	Sargent & Lundy	10-53	1450	1000	1000	1	750	CE	36.7
✓ Public Service Co of Indiana	West Terre Haute, Ind	Wabash	Sargent & Lundy	5-54	1525	1000	1000	1	960	BW	15.6
✓ Illinois Power Co	Hennepin, Ill	Hennepin ⁴	Sargent & Lundy	5-54	1500	1000	1000	1	700	FW	35.7
✓ Illinois Power Co	N. Danville, Ill	Vermilion	Sargent & Lundy	8-54	1500	1000	1000	1	700	FW	35.7
✓ Arizona Public Service Co	W. Red Rock, Ariz	Jaguaro	Edasco Services Inc	5-53	1450	1000	1000	1	525	CE	29.1
✓ Northern States Power Co	Nico's, Minn	Black Dog	—	12-54	1450	1000	1000	1	525	CE	32.8

An — Anthracite
AC — Atlas-Chambers Mfg Co
Ad — Admiralty
Adl — Admiralty, polished
AlB — Aluminum bronze
AlBr — Aluminum brass

AnAd — Antimonial admiralty
AnAdl — impure antimonial admiralty
AsAd — Arsenical admiralty
AsAlB — Arsenical aluminum brass
AsCu — Arsenical copper
B — variable-pitch blades

BW — Babcock & Wilcox Co
C — Coal, bituminous
CE — Combustion Engineering, Inc
Con — Condenser generation
CuNi — Copper nickel
Cy — Cyclone furnace

D — Damper
DB — Dry bottom
Du — Dual turbine and motor drive
FW — Foster Wheeler Corp
G — Natural gas
GE — General Electric Co

Hy — Hydraulic coupling
L — Lignite
Lo — Louvers
M — Motor drive
Ma — Magnetic coupling
Mo — Two motors per fan

STEAM CENTRAL-STATION INSTALLATIONS

Ranking	Unit	Type	Heat release, 1000 Btu per cu ft per hr	Furnace bottom	Economizer surface per boiler, 1000 sq ft	Air heater surface per boiler, 1000 sq ft	Air heater type	F-D FANS		I-D FANS		Firing	FUEL		FEED PUMPS		TURBINES				Full-load deaerator pressure, psia	CONDENSERS			Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw			
								Drive	Air flow control	Drive	Gas flow control		Type	Heating value 1000 Btu per lb	Ash softening temperature, F	Drive	Flow control	Number	Capacity, 1000 kw	Manufacturer		Backpressure, psia	No. bleed points	Surface, 1000 sq ft			No. water passes	Tube material	
24.1	ST		25.6	444.2	Tu	M	H _v	M	D	P	C	C	C.O.G.	13.0	2100	3M	Hy	1	125	GE	0.75	7	200	80	2	As Ad	4025	495	
20.7	DB		30.4	317.5	Tu	M	V	M	L _o	P	P	C	C	11.0	2100	3M	R	1	135	WE	1.25	8	Con	70	1	Ac	4150	425	
21.3	DB		18.1	427.0	Tu	M	V	M	L _o	P	P	C	C	11.0	2100	3M	R	1	135	WE	1.25	8	Con	75	2	An Ad	4500	460	
42.8	ST			351.2	Tu	M	D			P	P	C	C.O.G.	13.0	2300	3M	Hy	1	100	GE	0.5	7	82.9	80	1	Ac	1950	225	
13.4	DB		16.7	246.6	Re	M	V	M	V ¹	P	P	C	C	12.0	2800	3M	R	1	200 ³	GE	0.75	7	62	90.0	1	As Ad	2470	400	
13.4	DB		16.7	246.6	Re	M	V	M	V ¹	P	P	C	C	12.0	2800	3M	R	1	200 ³	GE	0.75	7	62	90.0	1	As Ad	2470	400	
13.3	DB		16.7	246.6	Re	M	V	M	V ¹	P	P	C	C	11.0	2300	3M	R	1	200 ³	GE	0.75	7	62	90.0	1	An Ac	3225	500	
18.1	DB		13.2	246.6	Re							P	C					6	200 ³	GE	0.75						8040	1200	
18.2	ST		13.3	246.6	Re	M	V	M	V ¹	P	P	C	C	10.5	2000	3M	R	1	200 ³	GE	0.75	7	62	90.0	1	As Ad	2670	400	
18.2	ST		13.3	246.6	Re	M	V	M	V ¹	P	P	C	C	10.5	2000	3M	R	1	200 ³	GE	0.75	7	62	90.0	1	As Ad	2670	400	
18.1	DB		13.2	246.6	Re							P	C					4	200 ³	WE	0.75						4700	1000	
																		1	200 ³	GE	0.75								
22.5	DB		25.5	62.5	Tu	M	D	M	H _v	P	P	C	C	13.3	2000	2M	Hy	1	60 ⁷	GE	0.5	6	82.7	45.6	1	Ad	1000	120	
13.3	ST		25.6	204.2	Re	M	H _v	M	H _v	P	P	C	C	11.6	2550	3M	Hy	1	125	GE	1.75	5	80	87.0	2	As Ad	900	125	
13.3	ST		25.6	204.2	Re	M	H _v	M	H _v	P	P	C	C	11.6	2550	3M	Hy	1	125	GE	1.75	5	80	87.0	2	As Ad	1800	250	
25.3	DB		23.5	198.2	Re	M	V	M	V	P	P	C	C	11.4	2200	9M 1T	R	3	100	GE	0.5	6	45	60.0	1	RB	2302	375	
22.5	DB		20.0	83.5	Tu	M	V	M	S, H _v	P	P	C	C	13.0	2550	2M	S, Hy	1	60 ⁷	GE	0.5	6	81	46.6	1	Ad	1000	110	
18.8	DB		12.4	180.2	Re	M	V	M	H _v	P	P	C	C	13.4	1900	2M	Hy	1	125	WE	0.75	5	73	95.0	2		950	125	
					Re	M	V				G.O	G.O	1060 ⁶		3M	R	1	150	WE			6	Con	110	2	As Cu	2900	330	
					Tu	M	V				G.O	G.O	1060 ⁶		3M	R	1	105	WE	1.75	4	Con	75.0	2	As Cu	1825	202		
21.8	Tu		21.0	219.5	Tu	M	V				G.O	G.O	1060 ⁶		3M	R	1	82	GE	1.25	4	Con	60.0	2	As Cu	775	87		
27.1	Tu		15.7	76.0	Tu	M	V	M	V		G.O	G.O	1060 ⁶		2M	R	1	71	GE	1.25	4	56	55.0	2	As Cu	2390	230		
13.8	DB		17.9	233.6	Re	M	V	M	H _v	P	P	C	C	12.8	2280	5M	Hy	2	133	GE	0.75	6	105	85.0	2	Ad	5770	631	
14.5	DB		25.8	220.4	Re	M	D	M	D	P	P	C	C	10.7	2350	3M	R	1	125	GE	0.75	6		90.0	2	Ac	4800	500	
14.5	DB		25.8	220.4	Re	M	D	M	D	P	P	C	C	10.7	2350	3M	R	1	125	GE	0.75	6		90.0	2	Ac	4800	500	
20.8	ST		14.8	189.6	Re	M	H _v	M	H _v	P	P	C	C	12.0	2500	3M	Hy	1	100	WE	1.75	5	80	74.0	2	As Ad	725	100	
20.8	ST		14.8	189.6	Re	M	H _v	M	H _v	P	P	C	C	12.0	2500	3M	Hy	1	100	WE	1.75	5	80	74.0	2	As Ad	1450	200	
20.8	ST		14.8	189.6	Re	M	H _v	M	H _v	P	P	C	C	12.0	2500	3M	H _v	1	100	WE	1.75	5	80	74.0	2	As Ad	2175	300	
20.4			11.7	122.8	Re	M	V				G.O	G.O	1060 ⁶		3M	R	1	125	GE	1.75	6	126.5	100.0	2	Al Br	3000	304		
20.4			11.7	122.8	Re	M	V				G.O	G.O	1060 ⁶		3M	R	1	125	GE	1.75	6	126.5				1200	155		
12.9	DB		16.1	236.0	Re	M	V	M	V	P	P	C	C	13.6	2150	3M	R, Hy	1	100	WE	0.5	7	115	70.0	1	As Ac	900	106	
18.9			0	197.6	Re	M	D, V	M	D		G.O	G.O	18.5		10M	R	4	156	GE	0.75	7	115	55.0	1	Al Br	4320	625		
24.0	DB		7.8	256.7	Tu	M	V	M	V	P	P	C	C	13.0	2100	6M	R	2	125	GE	1.75	7	85.6	82.0	2	Su	1788	250	
15.3	DB		24.6	248.0	Tu	M	D	M	Ma	P	P	C	C	13.0	2000	3M	Hy	1	90	GE	0.5	7	80.5	70.0	2	Ac	3050	340	
15.3	DB		24.6	248.0	Tu	M	D	M	Ma	P	P	C	C	13.0	2000	3M	Hy	1	90	GE	0.5	7	80.5	70.0	2	Ac	3050	340	
16.0	DB		16.7	97.1	Re	M	V	M	S, V	P	P	C	C	13.7	2000	2M		1	100	GE	0.75	7	35	65.0	2	Ac	1720	250	
24.8			22.7	183.2	Re	M	D, V	M	D		G.O	G.O	18.5		6M	R	2	100	GE	1.0	6	18.8	80.0	2	As Cu	1840	200		
18.5			0	339.0	Re	M	D, V	M	D		G.O	G.O	18.5		3M	R	1	125 ¹⁰	GE	0.75	7	22.6	90.0	2	Al Br	3940	365		
18.5			0	339.0	Re	M	D, V	M	D		G.O	G.O	18.5		3M	R	1	125 ¹⁰	WE	0.75	7	23.5	90.0	2	Al Br	5080	514		
13.4	DB		13.3	122.8	Re	M	V				G.O	G.O	1050 ⁶		3M	R	1	156	GE	1.25	6	Con	100.0	2	As Ad	2350	240		
13.6	DB		20.2	114.5	Re	M	D	M	D	P	P	C	C	12.9	2000	3M	R	1	160	GE	1.25	6	Con	70.0	1	Al Br	1150	160	
14.3	DB		21.9	79.8	Re	M	V	M	D	P	P	C	C	12.9	2000	3M	R	1	90 ⁷	GE	1.25	5	Con	60.0	2	Al Br	3500	350	
14.3	DB		21.9	79.8	Re	M	V	M	D	P	P	C	C	12.9	2000	3M	R	1	90 ⁷	GE	1.25	5	Con	68.4	1	Al Br	1245	124	
15.4	DB		18.9	135.4	Re	M	D, V	M	D, Ma	P	P	C	C	12.0	2350	3M	Hy	1	125	GE	0.75	6		76.0	2	As Cu	2272	325	
15.2	DB		32.1	222.0	Re	M	V	M	H _v	P	P	C	C	11.2	1925	2M	H _v	1	90	GE	0.75	5		70.0	2	As Ad	2800	360	
15.2	DB		32.1	222.0	Re	M	V	M	H _v	P	P	C	C	11.2	1925	2M	H _v	1	90	GE	0.75	5		70.0	2	As Ad	2800	360	
15.0			9.4	172.5	Tu	M	D, H _v	M	D, H _v	P	P	C	C	10.5	1900	1M 1T	Hy	1	60	GE	0.75	5	80	50.0	2	As Cu	525	60	
14.3			25.6	170.5	Tu	M	D, H _v	M	D, H _v	P	P	C	C	11.5	2200	1M 1T	H _v	1	60	GE	0.75	5	80	55.0	2	Ad	525	60	
20.3	DB		42.5	72.6	Re	M	D, V	M	D		G.O	G.O	1080 ⁶			R	1	90 ⁷	GE	1.25	5	Con	75.0	2	As Cu	900	90		
20.3	DB		43.5	72.6	Re	M	D, V	M	D		G.O	G.O	1080 ⁶			R	1	90 ⁷	GE	1.25	5	Con	75.0	2	As Cu	1800	180		
21.5	DB		10.9	143.0	Re	M	Ma	M	Ma	P	P	C	C	10.4	1990	3M	R	1	100	AC	0.75	5		65.0		Ac	2200	260	

Oil
Pulverized-fuel fired
Pressurized admiralty
Plate
Regulator
Rad brass

Re - Regenerative
RS - Riley Stoker Corp
S - Speed control
Sup - Superloy
SS - Spreader stoker
ST - Slag tap

T - Turbine drive
Tu - Tubular
V - Vane control
WE - Westinghouse Electric Corp
(546) - Stoker grate area, sq ft

1 - Pressurized turnace
2 - Flooded ash hopper
3 - H_o 3600 rpm, I_o 1800 rpm
4 - Revised data, previously listed 3/52
5 - All in operation by 6/56
6 - Btu per cu ft
7 - Preterrac standard unit

8 - Revised. Originally listed 3/52 as Eddy County
9 - Type B
10 - 10-mw auxiliary generator on main shaft
11 - Second reheat at 1000 F

1953 Design Survey: Typical Municipal Waste

Complied by B G A Skrotzki, Associate Editor				First operation, new units	Throttle pressure, psig	Steam temp., F		BOILERS					Heat release, 1000 Btu per cu ft, per hr	Furnace bottom
Company	Location	Plant name	Consulting engineers			Throttle	Reheat	Number	Capacity, each 1000 lb per hr	Manufacturer	Surface Boiler & W	Heat release, 1000 Btu per cu ft, per hr		
Tennessee Valley Authority	Gallatin, Tenn	Gallatin		11-55 1-56	2000 2000	1050 1050	1050 1050	1 1	1650 1650	CE CE	82.2 82.2	11 11	DB	DB
	Pride, Ala	Colbert ²		10-54 1954 1955 5-55	1800 1800 1800 1800	1050 1050 1050 1050	1050 1050 1050 1050	1 1 1 1	1280 1280 1280 1280	BW BW BW BW	27.7 27.7 27.7 27.7	DB DB DB DB	DB	DB
	Harriman, Tenn	Kingston ³		53-54 3-54 1954 1954 2-55	1800 1800 1800 1800 1800	1000 1050 1050 1050 1050	1000 1050 1050 1050 1050	4 1 1 1 1	1020 1280 1280 1280 1280	CE CE CE CE CE	43.5 69.4 69.4 69.4 69.4	DB DB DB DB DB	DB	DB
	Rogersville, Tenn	John Sevier		6-55 7-56	1800 1800	1050 1050	1050 1050	1 1	1280 1280	CE CE	69.4 69.4	DB DB	DB	DB
	Paducah, Ky	Shawnee		4-53 1953 1953 1953 1954 1954 1954 1955 4-55	1800 1800 1800 1800 1800 1800 1800 1800 1800	1000 1000 1000 1000 1000 1000 1000 1000 1000	1000 1000 1000 1000 1000 1000 1000 1000 1000	1 1 1 1 1 1 1 1 1	1000 1000 1000 1000 1000 1000 1000 1000 1000	BW BW BW BW BW BW BW BW BW	21.0 21.0 21.0 21.0 21.0 21.0 21.0 21.0 21.0	DB DB DB DB DB DB DB DB DB	DB	DB
				11-54 4-54 4-54	1800 1450 1000	1000 1000 1000	1000 1000 1000	1 1 1	1200 575 517	RS CE CE	21.2 28.9 25.2	DB DB DB	DB	DB
				4-54 1-55 1-55	1250 1250 1250	950 950 950	950 950 950	2 2 1	517 450 450	CE BW BW	25.2 5.3 5.3	DB DB DB	DB	DB
				5-54 7-54 6-53 12-54	1250 1250 1250 950	950 950 950 910	950 950 950 910	1 1 1 2	380 425 550 160	BW CE SW SW	8.0 22.5 8.3 14.8	DB DB DB DB	DB	DB
				7-53 4-53 10-53 2-54	900 900 900 850	900 900 900 900	900 900 900 900	2 1 1 1	460 160 250 250	RS RS RS RS	19.4 20.1 23.2 23.2	DB DB DB DB	DB	DB
				12-54 8-53 11-51 12-54	850 850 350 850	900 900 900 900	900 900 900 900	3 2 4 1	225 160 550 200	CE So BWG BW	19.4 14.9 9.8 15.0	DB DB DB DB	DB	DB
				1-54 3-53 1-54 1-54	850 850 700 675	900 900 825 750	900 900 825 750	1 2 1 2	360 145 105 145	RS So WI WI	35.3 14.3 11.5 15.0	DB DB DB DB	DB	DB
				9-53 10-52 12-53 1-52	550 550 500 500	930 900 325 325	930 900 325 325	1 1 2 1	13 200 90 130	RS BW RS So	13.7 18.4 10.5 17.1	DB DB DB DB	DB	DB
				3-52 11-52 5-53 2-53	400 909 603 50	325 825 825 825	325 825 825 825	1 1 1 1	65 125 125 125	RS CE CE CE	8.8 16.3 16.3 16.3	DB DB DB DB	DB	DB
				5-53 10-53 4-53 1951	600 475 450 450	325 475 750 750	325 475 750 750	1 1 1 1	125 80 120 75	RS WI So BW	9.3 11.5 11.5 9.2	DB DB DB DB	DB	DB
				11-53 11-52 4-53 1-52	150 150 425 415	750 725 750 750	750 725 750 750	2 1 2 1	175 55 145 30	FW So WI WI	18.4 1.9 16.0 3.9	DB DB DB DB	DB	DB
				1-53 12-53 4-53	415 415 415	740 740 750	740 740 750	2 1 1	165 280 280	BWG BWG BWG	21.0 36.9 36.0	DB DB DB	DB	DB
				1952 1955 4-53	390 390 390	750 750 750	750 750 750	1 1 1	200 330 45	BWG BWG RS	23.7 36.0 2.0	DB DB DB	DB	DB
				5-54 7-53 12-53	375 350 200	725 490 358	725 490 358	2 1 1	11 53 53	WB WB WB	22.0 5.7 5.7	DB DB DB	DB	DB

AC — Allis-Chalmers Mfg Co
Ad — Admiralty
Adl — Admiralty, inhibited
AlB — Aluminum bronze
AlBr — Aluminum brass
AsAd — Arsenical admiralty

EE — English Electric Co
Ei — Elliott Co
G — Natural gas
GE — General Electric Co
Hy — Hydraulic coupling
L — Lignite

C — Coal, bituminous
CE — Combustion Engineering, Inc
CP — C A Parsons
D — Damper
DB — Dry bottom
Du — Dual turbine and motor drive

AsCu — Arsenical copper
BB — Brown Boveri Corp
Br — Brass
BW — Babcock & Wilcox Co
BWG — Babcock & Wilcox, Goldie-McCullough

M — Motor drive
Ma — Magnetic coupling
Mi — Murray Iron Works
Mp — Two motors per boiler
MT — One motor, main drive
Mu — Muntz metal

On — On
P — Purifier
R — Regulator
S — Safety
St — Steam control

1953 Design Survey: Typical Industry

Compiled by J. C. McCabe, Associate Editor			First Operation, new units	Nominal pressure, psi	Nominal steam temperature, F	BOILERS				Furnace volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr
Company	Location	Consulting engineers				Number	Capacity, each, 1000 lb per hr	Manufacturer	Heating surface, 1000 sq ft		
500 PSI AND ABOVE											
U. S. Naval Shipyard	Boston, Mass.		1954	2600	1100	1	25	RS	3.9	1.2	17.0
Dow Chemical Co. Plant 2	Freeport, Texas	Stone & Webster Engrg Co.	4-53	1425	900	2	450	RS	35.5	22.6	30.0
Dow Chemical Co. Plant 3	Freeport, Texas	Stone & Webster Engrg Co.	10-53	1425	950	2	450	RS	35.5	22.6	30.5
Union Bag & Paper Corp.	Savannah, Ga.		1950	1425	950	1	520	BW			
International Paper Co.	Natchez, Miss.		1953	1400	950	1	300	BW	5.6	11.0	38.5
National Lead Co.	Fredericktown, Mo.	J. G. White Engrg. Corp.	1953	1200	Sat.	2	50	FW	5.2	1.9	31.6
Kaiser Aluminum & Chemical Corp.	Chattanooga, La.	Self	9-53	1000	905	9	225	FW	30.4	3.6	35.0
Crown Zellerbach Corp.	Port Angeles, Wash.	Self	3-54	1000	550 Initial 350 Future	1	170	CE	16.4	7.2	30.0
Columbia-Southern Chemical Corp.	Barberton, Ohio	Sargent & Lundy	11-53	975	355	1	385	BW	31.5	14.4	32.9
Mead Corp.	Kingsport, Tenn.	Self	7-53	975	345	1	150	BW	13.0	10.6	19.6
Sun Oil Co.	Toledo, Ohio	Gilbert Associates	12-53	975		1	220	BW	17.2		25.4
Weirton Steel Co.	Weirton, W. Va.		5-53	975	820	1	325	CE	48.1	29.5	19.0
Bowaters Southern Paper Corp.	Cathoon, Tenn.	J. E. Surrine	3-54	950	825	1	125	CE		7.1	
Cities Service Refining Corp.	Lake Charles, La.	G. W. Sathoff	8-53	950	825	1	375	BW	21.7	14.6	38.1
Mead Corp.	Chillicothe, Ohio	Self	4-52	950	825	1	72	CE	23.0	7.2	
U. S. Steel Corp.	Gary, Ind.	United Engrs. & Constructors	6-53	950	825	1	100	BW	16.4	7.5	19.9
Pittsburgh Coke & Chemical Co.	Pittsburgh, Pa.	Guy Lewis		930	850	1	250	CE	41.9	24.0	
International Paper Co.	Springhill, La.		1954	925	825	1	250	CE	23.4	11.8	30.0
Naval Powder Factory	Indianhead, Ind.	Wearn, Vreeland, Carlson & Swett	1955	925	825	3	150	CE	15.9	9.3	20.0
E. I. duPont de Nemours & Co.	Camden, S. C.	Ebasco Services Inc.	2-52	900	800	2	165	CE	17.9	7.9	25.6
Ford Motor Co. of Canada	Windsor, Ont.	H. K. Ferguson	1-53	900	820	1	200	CE	17.7	11.5	22.2
Naval Shipyard	Boston, Mass.	C. T. Main	1953	900	825	1	150	RS	15.2		
Naval Shipyard	Philadelphia, Pa.		1954	900	825	1	125	CE			
Republic Steel Corp.	Cleveland, Ohio	United Engineers & Constructors	10-52	900	850	2	220	BW	24.4	18.3	17.6
U. S. Marine Corps	Cherry Point, N. C.	W. C. Olsen	1954	900	825	1	150	RS	15.2		18.0
U. S. Steel Corp.	Chicago, Ill.			900	800	1	650				
White Pine Copper Co.	White Pine, Mich.	Stone & Webster Engrg Co.	1954	875	900	2	170	RS	10.4	14.8	19.1
Ketchikan Pulp Co.	Ketchikan, Alaska		1953	860	825	2	160	BW	21.1	8.1	24.6
Aluminum Co. of America	Bauxite, Ark.		1953	860	825	2	100	BW	13.0	4.6	30.0
California Oil Co.	Barber, N. J.	Burns & Roe	9-52	850	950	3	175	FW	22.2	9.75	25.6
Rayonier Inc.	Jesup, Ga.	Ebasco Services Inc.	1-54	725	725	1	172	RS	16.9	8.5	30.8
				725	760	1	135	BW	11.6	6.1	28.6
St. Joe Paper Co.	Port St. Joe, Fla.	Cummins & Barnard	1953	725	760	2	200	BW	17.2	9.0	26.8
W. T. Smith Lumber Co.	Chapman, Ala.	Rust Engrg. Co.	3-52	725	750	1	50	CE	7.5		
St. Joe Paper Co.	Port St. Joe, Fla.	Cummins & Barnard	1953	720	750	2	140	CE	40.5	15.3	16.5
National Petro-Chemicals Corp.	Tuscola, Ill.	J. F. Pritchard	5-53	700	750	3	265	CE	23.7	15.8	22.6
Alaska Pine & Cellulose Ltd.	Port Alice, B. C.	W. O. Stevens	6-52	675	725	2	185	CE	20.3		
Alfred Chemical & Dye Corp.	Frankford, Pa.			675	520	2	230	BW	19.3	8.8	33.3
Dan River Mills Inc.	Danville, Va.	United Engrs. & Constructors	9-52	675	700	1	200	CE	25.9	14.8	18.5
Owens Paper Co. Ltd.	Dryden, Ont.	R. A. Hanratt	11-53	675	750	1	110	CE	15.4	10.0	21.4
Eck Falls Co. Ltd.	Duncan Bay, B. C.	H. A. Simons	9-52	675	650	2	85	CE	10.8		
Wisconsin County Institutions	Wausau, Wis.	Pfeiffer & Shultz	2-55	675	750	3	125				
Morton Salt Co.	Wana Sallee, Texas	Cummins & Barnard	4-50	675	750	1	50	Ni	7.9	3.2	27.7
Phillips Chemical Co.	Pasadena, Texas	Chem. Constr. Corp.	10-53	675	675	3	150	Vo	15.1	3.7	24.9
St. Joe Paper Co.	Port St. Joe, Fla.	Cummins & Barnard	1-53	675	765	1	150	BW	10.7	7.2	26.0
Timberline Pulp & Paper Co.	Haukauna, Wis.	Pfeiffer & Shultz	4-53	675	700	1	120	BW			
Texas Co.	Port Arthur, Texas		3-54	675	715	1	225	FW	17.7	10.4	27.8
Chinook Starch Co. Ltd.	Oriskany, Ont.	H. H. Angus	11-53	670	700	1	100	BWG	13.4		22.3
Japanese Corp. of America	Rock Hill, S. C.	Self	1952	650	750	2	290	RS	23.9	14.1	18.3
International Paper Co.	Natchez, Miss.		1952	650	750	2	113	BW	14.5	14.4	14.1
Naval Air Station	Pensacola, Fla.	Reynolds Smith & Hills	1953	650	825	2	125	BW	11.4	5.6	28.8
Navy Bureau of Yards & Docks	Jacksonville, Fla.	Reynolds Smith & Hills	1954	650	825	3	125	FW	9.3	2.8	50.8
Osage Falls Paper Mills Inc.	Osage, Mich.	Cummins & Barnard		650	750	1	52.5	Ni			
Sun Oil Co.	Houston, Texas		11-52	650	750	2	250	RS	27.2	12.7	28.4
Steel Oil Co.	Yorco, La.	J. F. Pritchard	3-54	650	750	3	175	CE	19.6	10.3	24.3
Weyerhaeuser Timber Co.	Longview, Wash.	G. F. Alcorn	6-52	650	720	2	150				
Weyerhaeuser Timber Co.	Everett, Wash.	United Engrs. & Constructors	3-53	650	725	1	150	BW	20.2	25.1	16.0
Weyerhaeuser Timber Co.	Everett, Wash.		3-53	650	725	1	150	BW	11.7	7.1	27.0
Southern Paper Co.	Houston, Texas	J. G. White Engrg. Corp.	9-53	625	775	1	250	BW	23.3	13.2	28.9
Southern Paperboard Corp.	Port Wentworth, Ga.	J. E. Surrine Co.		625	675	1	160	CE	20.6	9.5	22.0

A — Air cooled
A/B — Aluminum bronze
A/Bi — Aluminum brass
AG — Airis Chalmers Mfg. Co.
Ad — Admiralty
An — Anthracite
ASAd — Arsenical Admiralty
BB — Brown Boveri

Bi — Biegelow Co.
BL — Black liquor
BW — Babcock & Wilcox Co.
BWG — Babcock & Wilcox, Goldie
McCutcheon
C — Coal, bituminous
CE — Combustion Engineering, Inc.
CuNi — Copper Nickel

Cy — Cyclone furnace
D — Damper
DB — Dry bottom
DL — DeLaval Steam Turbine Co.
Du — Duplex pump
E — Electrostatic
EC — Erie City Iron Works
EI — Elliott Co.

FW — Foster Wheeler Corp.
G — Gas
GE — General Electric Co.
H — Hydrogen cooled
HF — Hogged fuel
Hy — Hydraulic coupling
L — Light
M — Motor drive

Me — Mechanical
Mi — Murray Iron Works
Mo — Two motors per unit
MT — One motor per unit
O — Oil
P — Pulverized
PI — Plate
R — Regulator

1953 Design Survey: Typical Industrial

Compiled by J. C. McCabe, Associate Editor			First operation new units	Nominal pressure, psi	Nominal steam temperature, F	BOILERS				TURBINES				No. of bleed points	Total boiler capacity, 1000 kw
Company	Location	Consulting Engineers				Number	Capacity, each, 1000 lb per hr	Manufacturer	Firing	Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia		
American Locomotive Co.	Dunkirk, N. Y.	Zack C Hinds	5-53	250	450	2	40	CE	SS (120)						
Agricultural & Tech College	Greensboro, N. C.	W C Olsen	9-52	250	Sat	2	30	CE	SS (82)						
Blitz Weinnard Co.	Portland, Ore.	C C Moore	1951	250	Sat	2	12	BW	O						
California School for Deaf	Berkeley, Calif.			250	Sat	4	12	BW	O, G						
Canadian Cottons, Ltd.	Cornwall, Ont.		10-53	250	388	2	60	BW	SS (133)						
Caswell Training School	Kinston, N. C.	Wiley & Wilson	5-51	250	Sat	2	19	CE	SS (60)	0.4	4500	DL	40	0	54.5
Chemical Construction Co.	Nicholas, Fla.		1953	250	Sat	1	8.1	Bi	WH						
Cincinnati Industries Inc.	Arlington Heights, Ohio	A M Kinney	12-52	250	350	1	28	CE	O						
Cincinnati Industries, Inc.	Lackland, Ohio	A M Kinney	12-52	250	350	1	30	CE	O						
Cities Services Oil Co.	Ponca City, Okla.		3-53	250	465	1	50	CE	O, G						
Dominion Tar & Chemical Co.	Montreal, Que.	Stadler & Hunter	5-53	250	447	3	30	J I	O						
E du Pont de Nemours	Newark, Del.		3-52	250	338	2	20	FW	O						
East Carolina College	Greenville, N. C.	Wiley & Wilson	10-51	250	Sat	2	35	CE	SS (105)						
						1	13	CE	SS (40)						
Elmendorf Air Base	Anchorage, Alaska	Bouillon & Griffith	1952	250	Sat	8	15	BW	O						
A D Ellis Mills, Inc.	Woburn, Mass.	A B Reed		250	500	2	35	BW	O	0.8					
General Fibre Box Co.	West Springfield, Mass.	Alderman & MacNeish	10-52	250	Sat	1	18	Bi	O						
Goodall-Sanford, Inc.	Sanford, Me.	J A Stevens	7-51	250	500	1	57	CE	O						
Heintz Mfg Co.	Philadelphia, Pa.	Kuljian Corp.	12-51	250	Sat	1	50	BW	O						
International Salt Co.	Meyers, N. Y.	F Nicolson	1953	250		2	40	BW	SS (120)	1.5	3600	WE	10		
Iowa State College	Ames, Iowa	Brown Engineering	1953	250	506	1	100	MI	TG (320)	3.0	3600	WE	10		
Johns-Manville Corp.	Nashua, N. H.		11-51	250	400	1	10	FW	O						
Johns-Manville Corp.	Pittsburg, Calif.		9-51	250	400	1	25	FW	O, G						
Kansas State Hospital	Kalamazoo, Mich.	Fargo Engineering		250	500	3	60	Wi	SS	2.0	3600	WE	5.0	1	
						1	80	Wi	TG	2.0	5500	WE	5.0	1	
Koppers Co. Inc.	Petrolia, Pa.		1-53	250	Sat	1	40	UI	SS (135)						
Louisville Refining Co.	Louisville, Ky.		1953	250	401	1	36	Vo	O, G						
Mead Corp.	Nashville, Tenn.		8-53	250	Sat	2	28	BW	O, G						
Medical College of Va.	Richmond, Va.			250	Sat	1	44	BW	SS (128)						
W. Hope Finishing Co.	Butner, N. C.		2-53	250	Sat	1	17	Wi	O						
Nixon Nitration Wk.	Nixon, N. J.		1952	250	Sat	2	25	BW	O						
Norfolk State Prison	Norfolk, Mass.	R D Kimball	1953	250	Sat	1	30	Bi	C						
Ohio Oil Co.	Markham, Texas	Hudson Engineering	1952	250	600	2	25	Wi	G						
Pennsylvania Salt Mfg.	Calvert City, Ky.		4-53	250	Sat	2	50	BW	O						
Price Bros. & Co., Ltd.	Kenogami, Que.		10-52	250	460	1	150	FW	P						
Shellman Products Corp.	Wt. Vernon, Ohio	Austin Co.	2-53	250	366	1	40	BW	SS (88)						
Shenango Furniture Co.	Sharpsville, Pa.		9-52	250	500	1	50	BW	SS (164)						
Sinai Hospital	Detroit, Mich.	Albert Kann	1-53	250		2	15	BW	O						
J M Smucker Co.	Orville, Ohio	Adacne & Case		250		1	40	CE	SS						
E R Staub & Sons Div.	New Brunswick, N. J.		1952	250	Sat	1	150	BW	O						
State Hospital	Jamestown, N. D.	Pfeifer & Shultz	12-52	250	450					0.5	5000	Wo	20	0	
Stone Container Corp.	Chicago, Ill.	Carroll, Bechtel & Langtry	9-53	250	378	1	30	Wi	O						
Texas Co.	Bayonne, N. J.		4-53	250	Sat	1	28	BW	O						
Texas Co.	Casper, Wyo.		12-53	250	450	1	115	EC	O, G						
Union Oil Co.	Portland, Ore.		1953	250	Sat	1	22	BW	O						
U. S. Naval Shipyard	Bremerton, Wash.		1954	250	Sat	1	150	Wi	O						
U. S. Navy	Monterey, Calif.	C C Moore	11-53	250	338	3	25	BW	O						
Univ. of North Dakota	Grand Forks, N. D.	Pfeifer & Shultz	9-53	250	Sat	1	75	WB	SS (148)						
Univ. of Toledo	Toledo, Ohio	C F Hoffman	4-53	250	350	2	28	UI	O						
Vancouver Gen'l Hospital	Vancouver, B. C.	Sandwell & Co.	1953	250		2	35	BWG	SS (66)						
Veterans Home & Hospital	Rocky Hill, Conn.			250	Sat	1	20	Bi	O						
Western Electrochem Co.	Henderson, Nev.	H W Beecher	1953	250	Sat	4	28	BW	O						
Wyman Gordon Co.	N. Grafton, Mass.	Anderson-Nichols	3-53	250	406	2	50	BW	O						
Apple Creek State Hospital	Apple Creek, Ohio	Beiswanger & Hoch	4-52	235	401	2	30	UI	SS	1.7	5000	Wo	20		
American District Steam Co.	N. Tonawanda, N. Y.		1-53	225	397	1	12	UI	O						
Buick Motor Co.	Flint, Mich.		2-53	225	440	1	225	CE	P						
Greenville Mills, Inc.	Greenville, Miss.	W H Lambert	5-53	225		3	50	BW	G						
Russell, Burdall & Ward	Port Chester, N. Y.		1952	225		1	49	BW	O						
International Greeting Assoc.	St. Anthony's, Mass.	Pierce Eng'g Co.	1952	220	Sat	2	15	O		0.2			45		
Aronite Co., Ltd.	Ville La Salle, Que.		1-53	213	377	2	26	CV	O						
Anaconda Amer. Brass Ltd.	New Toronto, Ont.		3-53	200	400	1	50	BW	TG (180)						
Atlas Steels Ltd.	Welland, Ont.		1-53	200	448	1	40	J I	SS (108)						
Blackford Window Glass Co.	Vincennes, Ind.		7-52	200	Sat	2	10	UI	SS						
Cadillac Motor Car Div.	Detroit, Mich.			200	Sat	4	100	BW	O, G						
Caterpillar Tractor Co.	Kenosha, Wis.	Whitman Requa'dt Assoc.	7-53	200	387	2	30	Wi	SS (144)						
Consumers Co-op Refineries	Regina, Sask.		9-52	200	370	1	20	FW	O, G						
Dept. of National Defense	Greenwood, N. S.	Kearns & Bromley	5-53	200	345	4	25	D Br	U F						
Conover Brothers Ltd.	Charlevoix, Que.		4-52	200	353	1	30	CV	SS (198)						
Eaton Paper Corp.	Pittsfield, Mass.		1953	200	Sat	2	10	Bi	O						

An - Anthracite
 Bi - Bitumens
 BW - Babcock & Wilcox
 BWG - Babcock & Wilcox, Goldie
 McCullough

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 CP - C A Parsons
 CV - Canadian Vickers Ltd

D Br - Dominion Bridge Co., Ltd.
 DL - De Laval Steam Turbine Co.
 EC - Erie City Iron Works
 EM - Edge Moor Iron Works Inc

FW - Foster Wheeler Corp
 G - Gas
 GE - General Electric Co
 J I - John Inglis Co., Ltd

Ke - Keeler
 MI - Murray
 O - Oil
 P - Pulver

Industrials, Institutionals: Below 250

Compiled by J. C. McCabe, Associate Editor

Company	Location	Consulting Engineers	First operation new units	Nominal pressure, p. psi	Nominal steam temperature, F	Number	Capacity, each, 1000 lb per hr	Manufacturer	Firing	Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia	No. of bleed points
Youngstown Hospital Assn.	Youngstown, Ohio	P. Fleming	7-53	180	Sat	3	53	CE	C					53
Univ of Colorado	Boulder, Colo		1-50	155	Sat	1	35	W	G, O					1125
Highway Paving Co.	Montreal, Que	Wiggs, Walford, Frost, Lindsay	12-52	153	Sat	2	17.5	VK	O					77
150 PSI														
American Thermos Bottle Co.	Norwich, Conn		7-53	150	Sat	1	10	Bi	O					
Associated Realty Co.	New Haven, Conn	Jack Fanning	12-52	150	Sat	1	10	Bi	O					
Canadian Pacific Railways	Winnipeg, Man			150	466	3	30		SS					
Caterpillar Tractor Co.	Joliet, Ill	Giffels & Valet	5-51	150	Sat	2	80		SS (137)					
Children's Hospital	San Francisco, Calif			150	360	1	41	EC	O, G	0.13	750	GE	3	3
Consolidated Chemical Industries	Baytown, Texas		1953	150	Sat	2	10	Bi	WH					
C. B. Cottrell & Sons Co.	Pawcatuck, Conn		1953	150	Sat	1	10	Bi	O					
Crown Petroleum Corp.	Hartford, Conn		7-52	150	Sat	1	7.3	Bi	O					
Grand Trunk Western R.R. Co.	Detroit, Mich			150	Sat	2	4.9	Bi	O					
Heckscher Home for Children	New York, N. Y.		5-52	150	Sat	1	8	Bi	O					
Holyoke Card & Paper Co.	Springfield, Mass		1-53	150	Sat	1	6	Bi	O					
H. P. Hood & Sons	New Haven, Conn		6-53	150	Sat	1	4.9	Bi	O					
E. Ingraham Co.	Bristol, Conn		7-53	150	Sat	1	7.5	Bi	C					
Institution for Delinquents	Napack, N. Y.		10-53	150	365	4	10.5	EM	O	.4	4650	Wo	10	42
International Silver Co.	Meriden, Conn		9-52	150	Sat	1	10	Bi	C					
Johnson & Crittenden Sts School	Philadelphia, Pa	A. E. D'Amby	1953	150	Sat	2	3.2	Bi	An					
Kenyon's Cleaning Co.	Westerly, R. I.		4-53	150	Sat	1	4	Bi	O					
James Lees & Sons	Glasgow, Va	Kuljian Corp		150	366	1	35		C					115
Lynn Hospital	Lynn, Mass		8-53	150	Sat	1	10	Bi	O					
W. H. Mason Lumber Co., Inc.	Elkins, W. Va		7-52	150	Sat	1	4.7	Bi	W					
Commonwealth of Mass	Boston, Mass		4-53	150	Sat	2	4	Bi	C					
New Haven State Teachers College	New Haven, Conn	Hubbard Lawless & Blakely	10-52	150	Sat	1	8.6	Bi	O					
Osborn Mill Co.	Henderson, Ky	H. K. Ferguson	10-51	150	327	1	7	EC	SS					12
Ponwail State School	Ponwail, Me			150		1	6	BW	C					58
Anna B. Pratt School	Philadelphia, Pa	A. E. D'Amby	1953	150	Sat	3	4	Bi	An					
Remington Rand, Inc.	Middletown, Conn		5-52	150	Sat	1	4.9	Bi	O					
Reynolds Metals Co.	Corpus Christi, Texas	J. G. Turnbull	4-52	150		2	6.5	EC	O					13
John A. Roebeling's Sons Corp.	Trenton, N. J.		10-53	150	450	2	30	BW	O					45
Saskatchewan Training School	Moose Jaw, Sask	E. Stuh	1953	150	366	2	18	FW	O					
Spring City Bleach & Dye Works	Spring City, Pa	Wertz Eng.		150		1	90	EC	O					
I. L. Stiles & Sons Brick Co.	North Haven, Conn		8-52	150	Sat	1	10	Bi	O					
Strathmore Paper Co.	W. Springfield, Mass		3-52	150	Sat	1	12	Bi	C					
Swift River Woolen	Westerly, R. I.		10-52	150	Sat	1	7.5	Bi	C					
Tallevs Veneer & Crate Co.	Adel, Ga	Jack Fanning	12-52	150	Sat	1	8.1	Bi	W					
U. S. Veterans Administration	Los Angeles, Calif			150	365	3	30	UI	O, G					188
Villanova College	Villanova, Pa	Gilroy & O'Malley		150	358	2	30	CE	TG					
Youngstown Hospital Assn.	Youngstown, Ohio			150		3	31		C					
149 PSI AND BELOW														
George M. Brewster & Sons	Bogota, N. J.	F. L. Smith	7-53	148	Sat	1	25	Bi	SS					244
U. S. Army Signal Corps	Tobynona, Pa		8-53	135	358	4	61		TG (240)					38
Goodyear Tire & Rubber Co.	Cartersville, Ga		9-52	130	Sat	2	15	W	UF (58)					
Canadian Pratt & Whitney Aircraft	Jacques Cartier, Que	T. Pringle	6-52	125		3	15	VK	O					
Cutler Hammer Inc.	Milwaukee, Wis		1-52	125	Sat	3	18	W	O					
Danbury Hospital	Danbury, Conn		4-52	125	Sat	1	10	Bi	O					
Fuller Mill Co.	Milwaukee, Wis			125	352	1	55	W	C					12
Greater Pittsburgh Airport	Pittsburgh, Pa	T. F. Rockwell	11-51	125	353	3	10.9	Ke	O, An					81
Commonwealth of Kentucky	Frankfort, Ky	E. R. Ronald	10-52	125	353	1	30	Vo	UF (97.5)					38
Louisburg Fisheries Ltd.	Louisburg, N. S.	Wiggs Walford, Frost Lindsay	2-52	125	350	2	15	FW	SS					
Marine Corps Schools	Quantico, Va	Kuljian Corp	6-52	125	353	2	60	Vo	O					155
Meridith Publishing Co.	Des Moines, Iowa	Elmer Borg	9-52	125		2	12	W	O					
Monsanto Chemical Co.	Nitro, N. Va		9-53	125	350	1	75	EC	SS (154)					
Mortenson Co.	Rockaway, N. J.		7-52	125	Sat	1	4.9	Bi	O					
Yu Way Laundry & Cleaner	Puaski, Tenn		7-52	125	Sat	1	5	Bi	C					
U. S. Public Health Service Hospital	San Francisco, Calif	Coddington	2-52	125		3	17	EC	O, G					34
Westvaco Chemical Div.	Lawrence, Kans	Becthel Corp	7-52	125	344	1	14	BW	O, G					140
Housing Authority of Baltimore	Baltimore, Md	Egli & Gompf	11-52	120		2	70	EC	O					40
Canadian Tube & Steel Products	Montreal, Que	R. A. Hawright	11-52	100	Sat	2	20	FW	SS					
City of New York	New York, N. Y.			100	Sat	1	4	Bi	O, WH					
Reddy Memorial Hospital	Montreal, Que	B. R. Perry	8-53	100		2	4	CV	O					
Sun Oil Co.	Warren, N. J.			100	335	1	12.6	Bi	O					153

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1953 Design Survey: Typical Industrial

Compiled by J. C. McCabe, Associate Editor			First Operation, new units	Nominal pressure, psi	Nominal steam temperature, F	BOILERS				Furnace volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr		
Company	Location	Consulting engineers				Number	Capacity, each, 1000 lb per hr	Manufacturer	Heating surface, 1000 sq ft				
American Box Board Co.	Filer City, Mich	Carroll, Bechtel & Langtry	5-53	600	750	1	200	BW	14.9				
Carbor & Carbon Chem.	Seagriff, Texas	Brown & Root	1954	600	750	2	200	RS	12.2	10.0	28.8	DB	T
Carbor & Carbon Chem.	3 Charleston, W. Va		12-53	600	700	1	250	RS					
Charles Pfizer & Co.	Stroton, Conn	Baker & Spencer	2-53	500	725	1	115	CE					
Detroit Superior Pulp & Paper	Detroit, Mich	Boddy-Benjamin Associates	12-53	600	750	1	120	CE	18.7	6.0	27.7		
El Du Pont de Nemours	Kingston, N. C.	Burns & Roe	11-52	600	700	2	130	BW	7.7	6.6	25.8		
Hudson Motor Co.	Detroit, Mich	Boddy-Benjamin Associates	2-53	600	720	3	100	BW	9.2	4.5	30.6		
Kirby Lumber Co.	Irving, Texas	H. E. Bovay, Jr.	3-54	600	750	1	100	CE			35.5		
Marine Corps Recruit Deot.	Parris Island, S. C.	J. E. Sirrine	1954	600	750	1	125	CE	12.4	4.4	41.5		
							50	RS					
Pacific Mills, Ltd.	Ocean Falls, B. C.		7-53	600	700	1	45	BW					
Power River Co., Ltd.	Power River, B. C.	Sandwell & Beecher	5-52	600	300	1	270	BWG	21.2	24.4	17.3	DB	
Proctor & Gamble Co.	Sacramento, Calif.		3-53	500	Sat	2	60	BW					
Thrimany Pulp & Paper Co.	Kaukauna, Wis.	Pfeifer & Shultz	3-52	600	700	1	115	BW					
U. S. Naval Station	Kodiak, Alaska	Leo A. Daly	1955	600	750	3	30	FW	3.8		52.0		
BELOW 500 PSI													
Chas. States, Ltd.	Toms River, N. J.		9-52	550	Sat	2	50	RS	6.2	3.0		DB	
Dow Corning Corp.	Midland, Mich	Boddy-Benjamin Associates	12-53	550		1	30	CE	14.1	5.2	18.9	DB	
Polymer Corp., Ltd.	Samia, Ont.	H. G. Acres	4-53	525	450	1	440	CE	43.3	21.6			
Hudson Pulp & Paper Corp.	Pittsika, Fla.	J. E. Sirrine		500	700								
Verck & Co.	Danville, Pa.	Wearn, Vreeland, Carlson & Sweatt	5-53	500	650	2	60	BW	9.0	4.2	18.8	DB	
Pure Oil Co.	Toledo, Ohio		10-53	500	555	2	45	CE	6.5		40.2		
Appalachian State Teachers	Boone, N. C.		4-51	475	510		30	RS					
Bradford Dyeing Assn.	Bradford, R. I.	J. A. Stevens Inc.	10-52	475	600	1	80	FW	7.8	4.1	25.6	DB	
Nekoosa Edwards Paper Co.	Nekoosa, Wis.	C. T. Main		475	700	1	110	CE	11.9	9.1		DB	
Norwich State Hospital	Norwich, Conn.	N. E. Argraves & Assoc.	1952	475	545	3	35	CE					
Pan American Petroli & Transo Co.	Texas City, Texas		1953	475	700	2	105	BW	22.5	5.4	30.0	DB	
Buckeye Steel Castings	Columbus, Ohio		9-53	450	700	1	70	BW	7.7	1.5			
Diamond Alkali Co.	Painesville, Ohio		6-53	450	489	3	110	Vo	16.0	4.8	32.5		
Friedport Sulphur Co.	Garden Island Bay, La.	Sargent & Lundy	11-53	450	455	4	71	BW	7.6	3.1	30.5		
Jarvis Packing Co.	Palmyra, N. Y.	L. J. Storzini	7-53	450	400	1	100	RS	10.0	3.8	31.2		
State Oil & Refining Co.	Lamont, Ill.		4-53	450	750	1	100	Vo	9.2			DB	
Int'l Graphite & Electrode	Niagara Falls, N. Y.	Zack C. Hinds	7-53	450	750	1	40	BW	7.7	2.9	28.0		
Nash Refrigerator Corp.	Milwaukee, Wis.		12-52	450	750	1	100	MI	6.9	3.8			
N. Carolina State College	Raleigh, N. C.	Pierston & Whitman	3-51	450	750	2	60						
Phillips Petroleum Co.	Sweeny, Texas		9-53	450	550	1	325	Vo	31.4	15.7	26.5		
Producing Rubber Div.	Youngstown, Ohio		5-53	450	550	1	150	BW	12.8	7.7	22.7	DB	
Univ. of N. Carolina	Raleigh, N. C.	W. C. Olsen	12-50	450	750	1	70	CE					
J. S. Capitol Bldg.	Washington, D. C.	Gov. B. Panero	9-53	450	750	3	110	MI	14.2	5.7	22.6	DB	
Woodward Iron Co.	Moundville, Ala.	Rust Engrg Co.	9-52	450	400	2	125	EC	18.3				
Phosphoric Chemical Co.	Pasadena, Texas		10-52	425	422	2	25	Vo	2.9	0.3	25.0		
Univ. of Wyoming	Laramie, Wyo.	Lutz & May	3-53	425	750	1	55		5.4	3.0	27.2	DB	
Garden City Co.	Garden City, Kans.	Lutz & May	3-53	420	750	1	100	BW	7.7	4.7	27.5	DB	
Ed. Lutz & Co.	Lafayette, Ind.	Ferguson Co.	7-53	410	700	3	65	BW	6.5	6.3	15.0		
American Mail & Fast Co.	Milwaukee, Wis.	Tates, Weiss & Kramer	3-53	400	600	1	25	UI	3.8	1.2	29.0		
Imperial Oil Co.	Regina, Sask.		12-53	400	750	1	50	BWG	1.5	2.9			
Quaker Oats Co.	Memphis, Tenn.	Stone & Webster Engrg Co.	1953	400	700	1	150	CE	3.4	15.3	14.8	DB	
Chem. Co. of Canada, Ltd.	Hamilton, Ont.	A. G. McKee Co.	12-52	400	514	1	25	BWG	9.1				
Quaker Oats Co.	Chicago, Ill.	Engmaster & Beyer	1953	400	500	4	70	BW				DB	
Quaker Oats Co.	East Lanes, Ill.		3-53	400	550	1	100	RS	11.0	5.1			
Quaker Oats Co. & Food Co.	Quincy, Ill.	Sargent & Lundy	11-53	350	541	1	40	RS	4.2	4.0	17.4		
Quaker Oats Co. & Food Co.	Quincy, Ill.		1-53	350	541	1	55	BW	3.3	2.3	32.0		
Quaker Oats Co. & Food Co.	Quincy, Ill.		3-52	350	541	1	70	BW	7.8	3.1	30.0		
Quaker Oats Co. & Food Co.	Quincy, Ill.	Gov. B. Panero	9-54	350	370	3	110		11.0	3.3	29.0		
Quaker Oats Co. & Food Co.	Quincy, Ill.	A. M. Kinney	11-52	325									
Quaker Oats Co. & Food Co.	Quincy, Ill.	C. C. Moore	11-52	300	400	2	22	BW	2.9	0.6	46.0		
Chemstrand Corp.	Decatur, Ala.	Lockwood & Greene	7-52	300	500	3	100	FW	3.1	5.3	23.5	DB	
Eastman Kodak Co.	Eastman, N. Y.	Zack C. Hinds	3-52	300	Sat	1	50	BW	6.2		23.8		
Eastman Kodak Co.	Eastman, N. Y.	Engmaster & Beyer	1953	200		1	40	RS	4.2	1.7	29.0		
Eastman Kodak Co.	Eastman, N. Y.	Engmaster & Beyer	11-52	200	250	3	500	CE	19.3	11.0	16.7	DB	
Eastman Kodak Co.	Eastman, N. Y.	Engmaster & Beyer	12-53	190		1	25	BW	3.1	0.7	50.2		
Eastman Kodak Co.	Eastman, N. Y.		7-53	180		1	150	BW	13.4	5.2	34.3		
Eastman Kodak Co.	Eastman, N. Y.		11-53	180		1	25	MI	7.7	0.6	39.3		
Eastman Kodak Co.	Eastman, N. Y.		12-53	170		1	25	MI	5.9	0.7	32.8		
Eastman Kodak Co.	Eastman, N. Y.		12-52	170		1	21	MI	2.0	0.5	47.5	DB	
Eastman Kodak Co.	Eastman, N. Y.		12-53	160		1	125	BWG	17.8	7.3	20.0		
Eastman Kodak Co.	Eastman, N. Y.	E. A. B. Cowan	1-53	150		1	25	BW					
Eastman Kodak Co.	Eastman, N. Y.		3-51	120	506	1	25	BW					
Eastman Kodak Co.	Eastman, N. Y.		3-54	120	500	3	150	EC	16.5	7.8	21.8	DB	
Eastman Kodak Co.	Eastman, N. Y.	Boddy-Benjamin Associates	12-53	320	Sat	3	125	RS	15.3	3.6	18.7		
Eastman Kodak Co.	Eastman, N. Y.		12-51	275	500	2	140	FW	18.0	7.7	22.1	DB	
Eastman Kodak Co.	Eastman, N. Y.		12-52	275	500	1	140	CE	18.0		17.5		
Chemstrand Corp.	Decatur, Ala.			275	500	3	100	FW	12.7	5.3			
N. Carolina State College	Winston-Salem, N. C.	Bernard C. Becker	3-52	275	241	1	30	BW				DB	
N. Carolina State College	Winston-Salem, N. C.	Bernard C. Becker	3-52	250	452	1	40	RS	5.1	2.6	18.2		

Compiled by J. C. McCabe, Associate Editor

Company	Location	Consulting Engineers	First operation new units	Nominal pressure, psi	Nominal steam temperature, F	BOILERS			Firing	TURBINES				No. of bleed points	Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw
						Number	Capacity, each, 1000 lb per hr	Manufacturer		Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia			
Fisher Bearing Co.	New Britain, Conn		1953	200	Sat	1	30	B	O							
General Motors Corp.	McCook, Ill.			200	416	2	150	B	O							
Greenheck Bros. Brewing Co.	St. Louis, Mo.	Roger-Schmidt		200	360	1	50	Vo	C							
Banta Sugar Co.	New Iberia, La.	E. A. Rose	1953	200	Sat	1	34	B	C							
International Harvester	Chicago, Ill.			200	388	1	60	Vo	TG (168)						150	
Jay Mfg Co.	Claremont, N. H.	Flag Bracket & Durgin	7-52	200	Sat	1	23	W	C						64	
Black & Co.	Albany, Ga.	Wearn, Vreeland, Carlson & Sweatt	1954	200	425	2	80	BW	O G ²						160	
Boyle Drydock Co.	Oakland, Calif	C. E. Bentley	1952	200	Sat	1	33	CE	O, G						33	
Greenhead Breweries, Ltd.	Fairville, N. B.		1951	200	Sat	1	10	FW	O						18	
Pennsylvania Commonwealth	Slippery Rock, Pa.	Rust Engrg Co.	1952	200	353	2	25	BW	UF (72)						70	
Phillips Petroleum Co.	Goldsmith, Texas		1953	200	353	1	13	Vo	G						91	
Phillips Petroleum Co.	Woods Cross, Utah	Floor Corp.	10-52	200	450	1	25	U1	G O						65	
Reading Co.	Reading, Pa.	Gilbert Assoc.	1952	200	405	1	60	CE	TG (220)						120	
Taylor Fire Co.	La Verne, Calif		9-51	200	350	1	10	BW	O, G							
Texas Roller Bearing Co.	Columbus, Ohio	C. M. Maratta		200	366	1	40	BW	SS (120)						80	
Wm. Tucker's Products Div.	Jacksonville, Ill.		10-52	200	420	2	65	Vo	O, G						130	
Wm. of Buffalo	Buffalo, N. Y.		3-53	200	Sat	1	25	BW	UF						75	
Westaco Chem Div.	S. Charleston, W. Va.	R. M. Parsons	1953	200	Sat	1	17	B	WH							
15 TO 199 PSI																
Chemical Center	Edgewood, Md.		1953	199	Sat	2	36	B	O							
Carolina Teachers	Curlew, N. C.	Six Assoc.	10-52	180	Sat	1	35	BW	SS (95)						57	0.1
General Williams Co. of Canada	Montreal, Que.			178	380	3	7	CV	An						21	
Port of Nemours	Memphis, Tenn.		1952	175	Sat	2	60	BW	G						120	
General Electric Co.	Somersworth, N. H.	Lockwood-Green	1-53	175	Sat	1	28	BW	O						52	
Dye Works Co.	Philadelphia, Pa.		5-52	175	Sat	1	40	BW	G						40	
General Mines, Ltd.	Noranda, Que.			175	525	4	22.5	J1	WH, O	2.6 3.0	3950	CP		1	90	5.6
Energy of Canada, Ltd.	Chalk River, Ont.	C. D. Howe	2-53	171	453	1	50	FW	SS (120)						150	
Electrochemical Co.	Tacoma, Wash.	Bumstead-Woolford	6-53	165	373	1	100	RS	O						232	
Long Grove State Hospital	Catonsville, Md.	Redmies & Assoc.	11-52	165	Sat	2	60	EC	SS (160)						180	
State of Colorado	Boulder, Colo.		1-50	165	Sat	1	33	CE	G, O						117.5	
State Oil Co.	Norwalk, Calif	R. M. Parsons	6-53	165	Sat	1	4.9	B	WH							
State Bus, Inc.	Barberton, Ohio		1-52	165	337	1	10	BW	SS (42)						20	
General Locomotive Co.	Auburn, N. Y.		3-53	160	338	1	15	Ke	UF						60	
General Airplane Co.	Seattle, Wash.	Boulton & Griffith	1952	160	Sat	2	16	BW	O						36	
General Washington College	Ellensburg, Wash.	Austin Co.	1953	160	Sat	2	40	BW	O						80	
General Hospital Society	Los Angeles, Calif	Boulton & Griffith	1953	160	Sat	1	25	BW	C						25	
General Orthopedic Hospital	Seattle, Wash.	L. Kelly	4-53	160	Sat	2	13.8	BW	O, G						27.6	
		D. C. Griffith	1952	160	Sat	2	12	BW	O						24	
General Brown Co. Ltd.	Winnipeg, Man.		12-53	160	353	1	20	BWG	O, G						34	
State of Engineers	Winn, Cumberland, Pa.	Kuljian Corp.	11-52	160	366	3	50	EC	TG (228)						150	
State of Air Force	San Antonio, Texas	Kuljian Corp.	1953	160	366	2	50		G						100	
State of Corrections	Lancaster, Calif		7-53	160	360	3	27	EC	O, G						81	
State of National Defence	St. Hubert, Que.	Ross, Patterson, Townsend & Fish	11-52	160	353	3	25	FW	UF (81.5)						75	
General N. Carolina Sanatorium	Wilson, N. C.	Wiley & Wilson	5-52	160	Sat	1	10.5	EC	UF (52.5)						21	
General Auto-Lite Co.	La Crosse, Wis.			160		1	45	BW	SS (127)						70	
General Hospital	San Francisco, Calif	G. M. Simonson	3-53	160	Sat	3	22.7	B	O, G							
General Mills Corp.	Fitzgerald, Ga.	Jack Fanning	11-52	160	Sat	1	8.8	B	G							
General Leflore Hospital	Greenwood, Miss.		3-52	160		2	9.7	BW	O						19.4	
General W. Maine Co.	Hemetta, N. J.	A. M. Kinney	8-53	160	Sat	3	18	BW	O						54	
General Refractories, Ltd.	Saskatoon, Sask.	F. Robin	11-52	160	371	1	25	W	O						56	
General Hospital	Weymouth, Mass.	Alderman & MacNeish	12-52	160	Sat	1	12	B	O							
C. & B. Jones, Inc.	New Haven, Conn.		6-53	160	Sat	1	20	B	O							
General Farm Corp.	Detroit, Mich.		1951	160	Sat	3	20	EC	O, G						60	
General Grain Co.	Danville, Ill.	Nelson & Nettin	7-53	160	Sat	1	80	BW	TG (150)						130	
General Hospital	Oakland, Calif		8-52	160	Sat	1	17	B	O, G							
General University	Oxford, Ohio	Fosco & Hime	1-52	160		3		Ve	UF (128)						110	
General Naval Air Station	San Diego, Calif	R. J. Michel	6-53	160	371	4	28.5	U1	O, C						114	
General Brant Co.	Niagara Falls, N. Y.		10-53	160	Sat	1	50	BW	O, G						95	
General Bowers Inc.	Stamford, Conn.	Westcott & Mages	2-52	160	Sat	1	12	B	O							
General School for Boys	Paso Robles, Calif	S. Smyth	7-53	160	345	2	12.5	BW	O						25	
General Board of Education	Rocky River, Ohio		4-53	160		1	10	BW	C, G							
General Hospital	Fairbanks, Alaska			160		2	6.5	EC	UF						13	
General Hospital	Phoenix, Ariz.	G. E. Quick	5-53	160	Sat	3	8	BW	O, G							
General Hospital	Wichita, Kan.	C. W. LeVelle	4-52	160	430	3	120	EC	O						360	
General Mercy Hospital	Dubuque, Iowa		1-52	160		2	22	WB	SS (41.6)						45	
General Memorial Hospital	Galt, Ont.	H. H. Angus	8-53	160	371	2	12.5	BW	TG (64)						25	
General Texas State Teachers	San Marcos, Texas	H. Smith		160	363	2	16	EC	G						36	
General Co.	Port Neches, Texas		7-53	160	361	1	60	EC	O, G						240	
General Training Center	San Diego, Calif	M. A. Hiskman	1-52	160	366	5	37.5	U1	O						187.5	
General North Carolina Sanatorium	Black Mt., N. C.	Six Assoc.	9-52	160	Sat	1	16	EC	UF (63)						32	

U1 — Union Iron Works
Vo — Henry Vogt Machine Co
VK — Vickers Keeler
W — Wood

WB — Wm Bros Boiler & Mfg Co
WE — Westinghouse Electric Corp
WH — Waste heat
W1 — Wickes Boiler Co

W2 — Worthington Corp
(120) — Stoker grate area, sq ft

1 — Bagasse
2 — Future bituminous coal
3 — Design pressure 700 psi

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Institutional Steam Plants, Above 250 Psi

Plant Name	DUST COLLECTORS		F-D FANS		I-D FANS		Firing	FUEL		FEED PUMPS		TURBINES					Generator cooling	CONDENSERS			Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw	
	Mechanical	Electrostatic	Drive	Air volume control	Drive	Gas volume control		Type	Heating value, 1000 Btu per lb	Ash fusion temperature, F	Drive	Flow control	Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia		No. bleed points	Surface, 1000 sq ft	No. water passes			Tube material
Albany			V		V				11.2	2100	1T	S.R	5.0	3600	GE	50	1	A			425	11.0	
Albany			V		V				11.2	2100	1T	S.R	3.0	3600	WE	1.25	2	A			400	3.0	
Albany			V		V				12.5	2350	2T	S.R	6.0	3600	WE	200	0	A			1670	23.0	
Albany			V		V				18.4		1M		6.0	3600	GE	50	2	A			340	11.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A			320	14.0	
Albany			V		V				11.5				5.0	3600	GE	43	2	A					

1955 Design Survey: Typical Hydroelectric

Company or government agency	Designing or consulting engineers	Project name	New or redeveloped	River	State or Province	Project started, date	Dam type	Crest length, ft.	Capacity, kw
NEW ENGLAND STATES									
Central Maine Power Co	Chas T. Main, Inc. Neosco Services, Inc.	Indian Pond	New	Kennebec	Me.	1952	CG	500	100
Great Northern Paper Co	Stone & Webster Engrg Corp	Rioogenus	New	West Br Penobscot	Me.	1951	CG	—	—
Rumford Falls Power Co	Chas T. Main, Inc.	Lower Station	Red	Androscoggin	Me.	1953	—	—	—
White Mountain Power Co	Pierce Consulting & Engrg Co	Goodrich Falls	Red	Ellis	N.H.	1952	CG	150	20
Green Mountain Power Co	Chas T. Main, Inc.	Waterbury	New	Waterbury	Vt.	1951	—	—	—
Electric Power, Inc.	Chas T. Main, Inc.	Shepaug	New	Housatonic	Conn.	1953	CG	1,412	130
MIDDLE ATLANTIC STATES									
Central Hudson Gas & Elec Corp	Chas T. Main, Inc.	Neversink	New	Neversink	N.Y.	1948	Earth	2,800	200
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	Stewart Bridge	Red	Sacandago	N.Y.	1947	Earth	1,650	112
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	Slack	New	Raquette	N.Y.	1955	C&E	235	50
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	Five Falls	New	Raquette	N.Y.	1953	C&E	500	90
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	Rainbow Falls	New	Raquette	N.Y.	1954	C&E	600	70
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	South Colton	New	Raquette	N.Y.	1952	C&E	500	40
Niagara Mohawk Power Corp	Niagara Mohawk Power Corp	Slake Falls	New	Raquette	N.Y.	1954	C&E	600	50
Rochester Gas & Electric Corp	Rochester G & E Corp, Louis S Bernstein	Station 25A	Red	Genesee	N.Y.	1951	SG	—	—
Rockland Light & Power Co	Chas T. Main, Inc.	Grahamsville	New	Genesee	N.Y.	1952	Note 5	—	—
EAST NORTH CENTRAL STATES									
U.S. Corps of Engineers	U.S. Corps of Engineers Erik Floor & Associates	St Mary's Falls	New	St Mary's	Mich.	1947	—	—	—
Wisconsin-Michigan Power Co	Mead & Hunt, Inc.	McGinnis Falls	New	Michigan	Mich.	1951	CG&EF	1,421	52
Wisconsin-Michigan Power Co	Mead & Hunt, Inc.	Hemlock Falls	New	Michigan	Mich.	1951	CG&EF	—	—
Wisconsin-Michigan Power Co	Mead & Hunt, Inc.	Lower Paint Falls	New	Paint	Mich.	1951	CG&EF	616	25
Tomanawc Pulp Co	Mead & Hunt, Inc.	Tomanawc	Red	—	Wis.	1951	—	—	—
Consolidated Water Pwr & Pwr Co	—	Wisconsin Rapids	Red	—	Wis.	1951	—	—	—
WEST NORTH CENTRAL STATES									
St. Anthony Falls Water Power Co	—	Lower Dam	Red.	Mississippi	Minn.	1951	—	—	—
Union Electric Co of Missouri	Stone & Webster Engrg Corp	Sagehen Dam	New	Osage	Mo.	1930	CG	2,543	148
U.S. Corps of Engineers	U.S. Corps of Engr, Chas T. Main	Garrison	New	Missouri	N.D.	1945	EF	12,000	210
U.S. Corps of Engineers	U.S. Corps of Engineers	Oane	New	Missouri	S.D.	1948	EF	9,300	142
U.S. Corps of Engineers	U.S. Corps of Engr, Erik Floor & Assoc	Fort Randall	New	Missouri	S.D.	1946	EF	10,500	190
U.S. Corps of Engineers	U.S. Corps of Engr, Harza Engrg Co	Gavins Point	New	Missouri	S.D. & Neb.	1948	EF	8,790	74
SOUTH ATLANTIC STATES									
Washington Suburb Sanitary Dist	—	Hyattsville	New	—	Md.	1951	—	—	—
U.S. Corps of Engineers	U.S. Corps of Engineers Chas T. Main, Inc.	John H Kerr (was Buggs Island)	New	Roanoke	Va. & N.C.	1948	CG&EF	22,035	144
U.S. Corps of Engineers	U.S. Corps of Engineers	Philcott	New	Smith	Va.	1948	CG	892	220
Appalachian Electric Power Co	Am. Gas & Elec Service Corp	Niagara	Red.	Roanoke	Va.	1953	—	—	—
Nantahala Power & Light Co	Aluminum Co of America	Cedar Cliff	New	E Fork Tuckasegee	N.C.	1950	R&EF	579	117
Clifton Wg Co	—	Converse	New	—	N.C.	1951	—	—	—
South Carolina Electric & Gas Co	Company engineering staff	Columbia	Red	Broad	S.C.	1950	RFTC	1,000	14
U.S. Corps of Engineers	U.S. Corps of Engineers Chas T. Main	Clark Hill	New	Savannah	S.C. & Ga.	1947	CG&EF	5,680	200
U.S. Corps of Engineers	U.S. Corps of Engineers Erik Floor & Associates	Buford	New	Chattahoochee	Ga.	1950	Earth	1,530	192
Georgia Power Co	Southern Services, S.H. Woodward	Furman Shoals	New	Oconee	Ga.	1950	CG&EF	2,732	102
Hadersham Mills	—	Hadersham	New	—	Ga.	1951	—	—	—
City of Augusta	—	Augusta	New	—	Ga.	1951	—	—	—
U.S. Corps of Engineers	U.S. Corps of Engr, Erik Floor & Assoc	Jim Woodruff	New	Apalachicola	Fla.	1947	CG	5,134	105
EAST SOUTH CENTRAL STATES									
Alabama Power Co	—	Martin Dam	New	Tallapoosa	Ala.	1923	CG	1,277	168
Tennessee Valley Authority	Tennessee Valley Authority	Pickwick Landing	New	Tennessee	Tenn.	1935	CG&EF	7,715	113
Tennessee Valley Authority	Tennessee Valley Authority (New extension only)	Hales Bar	New	Tennessee	Tenn.	1905	CG	2,315	112
Tennessee Valley Authority	Tennessee Valley Authority	Boone	New	S Fork Holston	Tenn.	1950	CG	1,330	148
Tennessee Valley Authority	Tennessee Valley Authority	Fontana	New	Little Tenn.	N.C.	1942	CG	2,365	185
Tennessee Valley Authority	Tennessee Valley Authority	Cherokee	New	Holston	Tenn.	1940	CG&EF	6,760	470
Tennessee Valley Authority	Tennessee Valley Authority	Fl. Patrick Henry	New	S Fork Holston	Tenn.	1951	CG	740	95
Tennessee Valley Authority	Tennessee Valley Authority	Chattuge	New	Hiwassee	N.C.	1941	EF	2,850	144
Tennessee Valley Authority	Tennessee Valley Authority	Douglas	New	French Broad	Tenn.	1942	CG&EF	1,705	232
Tennessee Valley Authority	Tennessee Valley Authority	Hiwassee	New	Hiwassee	N.C.	1937	CG	1,295	308
U.S. Corps of Engineers	U.S. Corps of Engr, Chas T. Main	Dale Hollow	New	Obe	Tenn.	1942	CG	1,717	185
U.S. Corps of Engineers	U.S. Corps of Engineers Chas T. Main, Inc.	Wolf Creek	New	Cumberland	Ky.	1942	CG&EF	5,735	240
U.S. Corps of Engineers	U.S. Corps of Engr, Amoulsen Engrg Corp	Old Hickory	New	Cumberland	Tenn.	1951	CG&EF	3,750	90
U.S. Corps of Engineers	U.S. Corps of Engineers	Cheatham	New	Cumberland	Tenn.	1950	CG	495	75
WEST SOUTH CENTRAL STATES									
U.S. Corps of Engineers	U.S. Corps of Engineers	Table Rock	New	White	Ark.	1952	CG&EF	6,388	250
U.S. Corps of Engineers	Harza Engineering Co	Blakesley Mountain	New	Jucinta	Ark.	1947	Earth	1,150	230
U.S. Corps of Engineers	U.S. Corps of Engineers Erik Floor & Associates	Bull Shoals	New	White	Ark.	1947	CG	2,256	284
U.S. Corps of Engineers	U.S. Corps of Engr, Fargo Engineering Co	Fort Gibson	New	Grand	Okl.	1946	CG&EF	2,850	131
U.S. Corps of Engineers	U.S. Corps of Engineers	Tennille Ferry	New	Illinois	Okl.	1948	Earth	3,000	197
Lower Colorado River Authority	Fargo Engineering Co	Granite Shoals	New	Colorado	Texas	1949	CG&EF	765	105
Lower Colorado River Authority	Fargo Engineering Co	Marble Falls	New	Colorado	Texas	1949	CG	820	80
U.S. Corps of Engineers	U.S. Corps of Engr, Amoulsen Engrg Corp	Whitney Dam	New	Brazos	Texas	1947	CG&EF	9,925	163
Int Boundary & Water Commission of United States and Mexico	R. J. Tritton, J. L. Burkholder, Walker Young & U.S. Bureau of Reclamation	Falcon Dam	New	Rio Grande	Mexico Texas	1950	EF	26,264	150

The term "New" applies to a project on a site not developed before. "Redeveloped" indicates a project on a site that has been developed before and now has new turbines, settings of generators, or a new plant.

CGA, concrete arch; CG, concrete gravity; C&E, concrete and earth; CG&EF, concrete gravity and earth fill; C&B, concrete slab and bulkhead; C&S, concrete slab and buttress; EF, earth fill; P&G, piers and gates; R&EF, rock and earth fill; RE, rippled earth; RF, rock filled; RFTC, rock fill concrete

face, RFTC, rock filled, timber crib; SC, sector gates.

AC - Allis-Chalmers Mfg Co
BL - Baldwin-Lima-Hamilton Corp
BCL - Becco Canada Ltd
CAC - Canadian Allis-Chalmers Ltd

CGE - Canadian General Electric
CVL - Canadian Vickers Ltd
CWC - Canadian Westinghouse Co
DEC - Dominion Engineering Co
EC - Elliott Co
EEC - English Electric Co of Canada
EM - Electric Machinery Mfg Co

Rated capacity, hp	Added capacity, no. of units	Added capacity, date	Ultimate capacity, hp	No. of units installed	Waterwheel capacity, hp	Waterwheel type	Speed, rpm	Static head, ft.	Design head, ft.	Waterwheel manufacturer	Governor manufacturer	Scroll case, concrete or steel	Pensstock valve, type	Generator capacity, kva	Synchronizing, automatic or manual	Thrust bearing, location	Design power factor	Kilovolts	Cycles	Generator manufacturer
63,000			105,000	1	42,000	Francis	128.6	155	145	BL	W	Plate st	Head gt	33,333	Auto or man	BG	0.9	13.8	60	GE
30,270			45,330	2	21,000	Francis	180	155	145	BL	W	Plate st	Head gt	16,677	Auto or man	BG	0.9	13.8	60	GE
18,000			27,000	2	2,300	Francis	600	155	145	MS	W	Plate st	Head gt	1,750	Manual	AG	0.8	2.4	60	GE
750			750	1	15,110	Francis	266.7	186-15	165	MS	W	Plate st	Down	13,500	Manual	AG	0.9	6.9	40	GE
7,700			7,700	1	9,000	Francis	180	80	77	AC	W	Plate st	Head gt	8,000	Auto or man	AG	0.80	11.5	60	AC
57,000			57,000	1	750	Francis	514	67	67	JL	W	Cast iron	Head gt	625	Automatic	HS	0.80	2.4	60	EM
				1	7,700	Francis	327	140	136	JL	W	Plate st	Head gt	6,900	Automatic	AG	0.80	4.16	60	GE
				1	57,000	Kaplan	138.5	99-72	96	AC	W	Concrete	Head gt	43,750	Auto or man	BG	0.80	11.5	60	AC
41,000			41,000	1	41,000	Francis	300	551-463	474	NN	W	Cast steel	Butterfly	35,250	Manual	AG	0.80	13.8	60	GE
42,500			42,500	1	42,500	Francis	106.9	100	97	BL	W	Concrete	Head gt	37,500	Manual	BG	0.80	13.8	60	GE
32,000			32,000	1	32,000	Francis	120	105	104	MS	W	Plate st	Head gt	25,000	Automatic	BG	0.90	11.5	60	GE
30,600			30,600	1	30,600	Francis	120	104	101	MS	W	Plate st	Head gt	25,000	Automatic	BG	0.90	11.5	60	GE
30,600			30,600	1	30,600	Francis	120	102	101	MS	W	Plate st	Head gt	25,000	Automatic	BG	0.90	11.50	60	GE
25,400			25,400	1	25,400	Francis	120	85	83	MS	W	Plate st	Head gt	21,500	Automatic	BG	0.90	11.5	60	AC
18,650			18,650	1	18,650	Francis	112.5	69	67	MS	W	Plate st	Head gt	16,000	Automatic	BG	0.90	6.9	60	AC
5,000			5,000	1	5,000	Kaplan	150	25	25	AC	W	Plate st	Head gt	4,500	Manual	AG	0.80	4.4	60	AC
28,000			28,000	1	28,000	Francis	327	330	NN	NN	W	Plate st	Pivot	20,000	Manual	AG	0.90	13.8	60	WE
23,975	1	1953	72,750	3	6,975	Propeller	80	23-18	21	AC	W	Concrete	Head gt	5,313	Manual	BG	0.90	13.8	60	GE
13,000			13,000	2	3,000	Kaplan	128.5	23-12	21	MS	W	Concrete	Head gt	2,500	Manual	AG	0.90	4.16	60	GE
3,800			3,800	1	6,500	Francis	277	60	60	AC	W	Concrete	Head gt	5,333	Automatic	AG	0.90	4.8	60	AC
155			155	1	3,800	Kaplan	200	34	34	AC	W	Concrete	Head gt	3,111	Automatic	AG	0.90	4.16	60	AC
420			420	1	155	Francis	514	21	21	AC	W	Open flume	Head gt	100	Induction generator			0.48	60	AC
286			286	2	420	Francis	225	23	23	JL	W	Concrete	Head gt	Connects to existing Westinghouse generator						
				2	143	Francis	143	8	8	JL	W	Open flume	Head gt	Connects to existing generator						
11,680			11,680	10	1,168	Francis	225	24	24	JL	W	Concrete	Head gt	875	Manual	AG	0.80	0.80	60	EM
287,050	2	1953	274,050	6	33,500	Francis	112.5	94	90	AC	AC	Plate st	Head gt	23,888	Manual	BG	0.80	13.8	60	WE
				2	3,025	Francis	327	94	90	AC	AC	Plate st	Head gt	3,000	Manual	AG	0.70	2.4	60	WE
				2	33,500	Francis	112.5	90	90	AC	AC	Plate st	Head gt	23,888	Manual	BG	0.80	13.8	60	WE
440,000			440,000	5	88,000	Francis	90	187-100	150	BL	W	Plate st	Head gt	84,210	Manual	BG	0.95	13.8	60	GE
194,000			485,000	5	97,000	Francis	94.7	210-130	170		W	Plate st	Head gt	70,000	Manual	BG	0.95	13.8	60	GE
440,000			480,000	8	57,500	Francis	85.7	145-76	112	AC	W	Plate st	Head gt	42,105	Manual	BG	0.95	13.8	60	WE
162,000			162,000	3	54,000	Kaplan	75	66-40	48	BL	W	Concrete	Head gt	35,100	Manual	BG	0.95	13.8	60	GE
6,750			6,750	3	2,250	Francis	900	123	123	JL	W	Plate st	Head gt	Drives pumps						
290,200	3	1953	290,200	6	45,000	Francis	85.7	108-60	90	NN	W	Plate st	Head gt	35,555	Manual	BG	0.90	13.8	60	WE
				1	17,000	Francis	138.5	108-60	90	BL	W	Plate st	Head gt	13,333	Manual	BG	0.90	13.8	60	WE
				2	1,600	Francis	450	108-60	90	JL	W	Service unit	Head gt	1,250	Manual	AG	0.80	0.48	60	WE
19,680			19,680	2	9,400	Francis	257	176-108	152	JL	W	Plate st	Head gt	7,500	Manual	AG	0.90	13.8	60	GE
4,400			4,400	2	860	Francis	720	176-108	152	JL	W	Service unit	Head gt	750	Manual	AG	0.80	0.48	60	GE
9,400			9,400	1	2,200	Francis	277	60	60	JL	W	Plate st	Head gt	1,500	Automatic	AG	0.80	2.4	60	EC
770			770	1	9,400	Francis	360	172-168	170	MS	W	Plate st	Head gt	7,500	Automatic	AG	0.85	6.6	60	EM
3,000			3,000	2	770	Propeller	38	38	38	JL	W	Concrete	Head gt	625	Manual	AG	0.80	0.6	60	WE
388,600	3	1953	388,600	7	55,000	Francis	100	150-111	135	NN	AC	Plate st	Head gt	44,444	Manual	BG	0.90	13.8	60	GE
				2	1,800	Francis	600	150-111	135	JL	W	Plate st	Head gt	1,250	Manual	AG	0.80	0.48	60	GE
118,400			118,400	2	55,000	Francis	100	170-104	136	NN	W	Plate st	Head gt	44,444	Manual	BG	0.90	13.8	60	WE
60,000			60,000	2	8,400	Francis	277	170-104	136	JL	W	Plate st	Head gt	6,667	Manual	AG	0.90	13.8	60	WE
550			550	2	30,000	Francis	105.9	92-72	85	MS	W	Concrete	Head gt	25,000	Manual	BG	0.80	6.9	60	GE
1,550			1,550	1	550	Francis	257	26	26	JL	W	Concrete	Head gt	500	Manual	AG	0.80	2.3	60	WE
42,000			42,000	3	1,550	Francis	225	30	30	JL	W	Concrete	Head gt	Drives a pump						
				3	14,000	Terry	75	32-14	26	NN	W	Concrete	Head gt	11,111	Manual	BG	0.90	13.8	60	WE
213,000	1	1952	213,000	3	45,000	Francis	120	146-86	145	1M, 2AC	W	Plate st	Head gt	37,500	Manual	AG	0.88	12.0	60	GE
302,000	2	1951	302,000	4	78,000	Francis	112.5	146-86	145	MS	W	Plate st	Head gt	60,000	Manual	BG	0.80	12.0	60	GE
				4	48,000	Kaplan	81.8	63-29	47	AC	AC	Concrete	Head gt	40,000	Manual	BG	0.90	13.8	60	WE
				2	55,000	Kaplan	81.8	63-29	47	AC	AC	Concrete	Head gt	40,000	Manual	BG	0.90	13.8	60	WE
				8	7,700	Francis	112.5	37.5	37.5	MS	W	Plate st	Head gt	6,500	Automatic	AG	1.00	6.6	60	GE
				2	4,200	Francis	112.5	37.5	37.5	MS	W	Plate st	Head gt	3,750	Automatic	AG	0.80	6.6	60	GE
				4	4,100	Francis	100	37.5	37.5	MS	W	Plate st	Head gt	3,133	Automatic	AG	0.80	6.6	60	GE
				2	34,000	Kaplan	69.2	37.5	37.5	MS	W	Concrete	Head gt	27,000	Manual	AG	0.90	13.8	60	GE
103,500	3	1952	103,500	3	34,500	Francis	100	124-36	90	NN	W	Concrete	Head gt	31,250	Manual	BG	0.80	13.8	60	WE
274,500	1	1952	274,500	3	91,500	Francis	150	429-244	330	AC	AC	Plate st	Head gt	75,000	Manual	BG	0.90	13.8	60	WE
166,000	1	1952	166,000	4	41,500	Francis	100	149-55	100	MS	W	Plate st	Head gt	33,333	Manual	BG	0.90	13.8	60	WE
50,000			50,000	2	25,000	Kaplan	138.5	75-56	61	NN	W	Concrete	Head gt	20,000	Auto or man	BG	0.90	13.8	60	GE
13,800			13,800	1	13,800	Francis	180	123-55	100	JL	W	Plate st	Head gt	11,111	Auto or man	BG	0.90	6.9	60	WE
159,500	1	1954	159,500	2	42,500	Francis	94.7	129-47	100	MS	W	Concrete	Head gt	33,330	Manual	BG	0.90	13.8	60	GE
160,000	1	1955	160,000	1	35,500	Francis	90	95-47	80	MS	W	Concrete	Head gt	28,888	Manual	BG	0.90	13.8	60	GE
70,000	205 ft. head pump	1953	70,000	1	80,000	Francis	120	195	190	NN	W	Plate st	Head gt	64,000	Manual	BG	0.90	13.8	60	WE
377,000	3	1953	377,000	16	62,500	Francis	105.9	154-118	140	MS	W	Plate st	Head gt	70,000	Manual	BG	0.90	13.8	60	AC
				1	2,000	Francis	600	214-111	160	BL	W	Plate st	Head gt	20,000	Manual	BG	0.90	13.8	60	WE
				4	45,000	Kaplan	75	60-25	45	BL	W	Concrete	Head gt	31,250	Manual	BG	0.80	13.8	60	GE
				3	20,000	Kaplan	60	32	32	NN	W	Concrete	Head gt	15,333	Manual	BG	0.90	13.8	60	WE
272,000			272,000	4	68,000	Francis	128.6	228-134	190		W	Plate st	Head gt	42,105	Manual	BG	0.95	13.8	60	WE
104,000			104,000	2	52,000	Francis	120	196-135	168	MS	W	Plate st	Butterfly	41,667	Manual	BG	0.90	13.8	60	AC
212,000	2	1953	212,000	4	52,000	Francis	128.6	239-132	190	AC	W	Plate st	Head gt	42,100	Manual	BG	0.95	0.48	60	WE
				2	1,500	Francis	600	239-132	190	JL	W	Service unit	Head gt	1,250	Manual	AG	0.80	0.48	60	AC
96,000			96,000	4	16,000	Francis	100	90-56	59	BL	W	Concrete	Head gt	12,500	Manual	BG	0.90	13.8	60	GE
47,000			47,000	2	23,500	Francis	150	181-104	132	MS	W	Plate st	Butterfly	17,895	Automatic	BG	0.95	13.8	60	EC
66,000			66,000	2	33,000	Francis	100	83	83	BL	W	Plate st	Head gt	25,000	Auto or man	BG				

1950 Design Survey: Typical hydroelectric

Compiled by F A Annett Contributing Editor																		
Company or government agency	Designing or consulting engineers	Project name	New or redeveloped	River	State or Province	Project started, date	Dam, type	Crest length, ft.	Max. height, ft.	Max. length, ft.	Capacity, cu ft	Cost, \$	Notes					
MOUNTAIN STATES																		
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Pole Hill	New	Colo. Big Thompson	Colo.	1950						47,500						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Flatiron	New	Colo. Big Thompson	Colo.	1951						20,000						
This unit is operated in reverse as a lift																		
Spring City Corp.		Spring City	New		Utah	1951						150						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Boysen	New	Big Horn	Wyo.	1947	EF	1,000	150			450						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Alcova	New	North Platte	Wyo.	1951	EF	763	205			71,000						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Hungry Horse	New	So. Fork Flathead	Mont.	1948	CA	2,100	544			11,000						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Canyon Ferry	New	Missouri	Mont.	1949	CG	1,000	270			20,000						
Montana Power Co.	Edasco Services, Inc.	Kerr	New	Flathead	Mont.	1930	CA	385	200			7,500						
U. S. Corps of Engineers	Sverdrup & Parcel, Inc.	Albion Falls	New	Pend Oreille	Idaho	1951	CG	755	43			77,000						
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Palisades	New	Snow	Idaho	1952	EF	2,200	200			54,800						
Washington Water Power Co.	Edasco Services, Inc.	Cabinet Gorge	New	Clark Fork	Idaho	1951	CA	320	170			20,000						
PACIFIC COAST STATES																		
U. S. Corps of Engineers	U. S. Corps of Engineers	Chief Joseph	New	Columbia	Wash.	1949	CG	2,315	225			1,000,000						
U. S. Corps of Engineers	U. S. Corps of Engineers	McNary	New	Columbia	Wash.	1947	CG&EF	8,000	157			1,000,000						
U. S. Corps of Engineers	U. S. Corps of Engineers	Dalles	New	Columbia	Wash. & Ore.	1951	CG					1,500,000						
PUD No. 1, Clallam County	Stone & Webster Engrg. Corp.	Rock Island	New	Columbia	Wash.	1930	CG	1,080	120			1,500,000						
PUD No. 1, Pend Oreille County	Farza Engineering Co.	Box Canyon	New	Pend Oreille	Wash.	1952	SG	200	105			10,000						
City of Seattle, Dept. of Lig.	Dr. J. L. Savage	Ross Dam	New	Skagit	Wash.	1937	CA	1,300	540			10,000						
City of Tacoma, Lighting Div.	Lighting Div. Engrg. staff	Cushman No. 2	New	Skokomish	Wash.							10,000						
Pacific Power & Light Co.	Edasco Services, Inc.	Yale	New	Lewis	Wash.	1951	EF	1,500	323			11,000						
Portland General Electric Co.	Portland General Electric Co.	Station M	Red.	Clackamas	Ore.	1909		410	90			14,000						
Portland General Electric Co.	J. C. Stevens, Portland Gen. Elec.	T. W. Sullivan	Red.	Willamette	Ore.	1952	CG	4,900	55			25,750						
California Oregon Power Co.	Pioneer Service & Engrg. Co.	Fish Creek	New	Fish Creek	Ore.	1951	RFTC	215	11			24,400						
California Oregon Power Co.	Pioneer Service & Engrg. Co.	Lemora No. 1	New	North Umpqua	Ore.	1953	RFTC	385	120			10,000						
California Oregon Power Co.	Pioneer Service & Engrg. Co.	Lemora No. 2	New	North Umpqua	Ore.	1953	CS&B	195	25			10,000						
California Oregon Power Co.	Pioneer Service & Engrg. Co.	Clearwater No. 1	New	Clearwater	Ore.	1951	EF	384	30			10,000						
California Oregon Power Co.	Pioneer Service & Engrg. Co.	Clearwater No. 2	New	Clearwater	Ore.	1951	RFTC	157	76			10,000						
U. S. Corps of Engineers	U. S. Corps of Engineers	Detroit	New	North Santiam	Ore.	1949	CG	1,526	450			10,000						
U. S. Corps of Engineers	U. S. Corps of Engrs. Stevens & Thompson Engrs.	Lookout Point	New	Middle Fork Willamette	Ore.	1949	CG&EF	4,740	254			10,000						
U. S. Corps of Engineers	U. S. Corps of Engineers	Big Chilly	New	North Santiam	Ore.	1951	CG	295	172			10,000						
U. S. Corps of Engineers	U. S. Corps of Engineers	Dexter	New	Middle Fork Willamette	Ore.	1953	EF	2,835	80			10,000						
Pacific Gas & Electric Co.	Pacific Gas & Electric Co.	Bear River	Red.	Bear	Calif.	1950	RF	360	235			10,000						
Pacific Gas & Electric Co.	Pacific Gas & Electric Co.	Murphy	Red.	N. Fork Stanislaus	Calif.	1953						1,000						
U. S. Corps of Engineers	U. S. Bureau of Reclamation	Folsom	New	American	Calif.	1947	CG&EF	10,230	340			22,700						
U. S. Bureau of Reclamation	U. S. Engineer Corps	Nimbus	New	American	Calif.	1952	CG	913	50			10,000						
U. S. Bureau of Reclamation	J. S. Bureau of Reclamation	Droo No. 2	New	All American Canal	Calif.	1952						10,000						
U. S. Possessions																		
U. S. Bureau of Reclamation	U. S. Bureau of Reclamation	Eklutna	New	Lake Eklutna	Alaska	1951	EF					10,000						
Kekaha Sugar Co.		Kauai			Hawaii	1951						1,000						
Puerto Rico Water Resources Auth.	Jackson & Moreland	Caonillas No. 2	New	Arecibo	P. R.	1950	CG	735	65			1,400						
CANADA																		
Anglo-Newfoundland Dev. Co.		Bishop Falls	Red.	Exploits	N. F.	1952						10,000						
Newfoundland Lt. & Pr. Co.	Montreal Engineering Co.	Horse Chops	New	Horse Chops	N. F.	1951	EF	2,000	34			10,000						
Newfoundland Lt. & Pr. Co.	Montreal Engineering Co.	Cape Broyle	New	Horse Chops	N. F.	1950	EF	730	37			1,500						
Iron Ore Co. of Canada		Menikhe Lake	New		Lab. N. F.	1952						10,000						
Avon River Power Co.	Montreal Engineering Co.	White Rock	Red.	Gaspereau	N. S.	1951	CG		90			1,000						
Nova Scotia Light & Power Co.	Montreal Engrg. Co.; N. S. Light & Pwr. Co.	Nictaux	New	Nictaux	N. S.	1952	RE	1,100	50			1,000						
Nova Scotia Power Commission	K. E. Whitman	Guich	New	Bear	N. S.	1950	EF	730	54			1,500						
Valne & New Brunswick Elec. Pwr. Co.	Stone & Webster Engrg. Corp.; E. C. Wilson	Tinker	Red.	Aroostook	N. B.	1951						10,000						
New Brunswick Elec. Power Comm.	Power Corp. of Canada	Tobique	New	Tobique	N. B.	1950	CG	350	30			10,000						
Quebec Hydro-Electric Comm.	H. G. Acres & Co.	Beauharnois No. 2	New	St. Lawrence	Que.	1948	P&G	4,500	31			10,000						
Quebec Hydro-Electric Comm.	H. G. Acres & Co.; Frazer Brace Engrg.	Rapids No. 2	New	Ottawa	Que.	1951	CG	1,025	170			10,000						
Aluminum Company of Canada	Shawinigan Engineering Co.	Periowaka No. 1	New	Periowaka	Que.	1950	CG	1,390	120			10,000						
Aluminum Company of Canada	Shawinigan Engineering Co.	Periowaka No. 2	New	Periowaka	Que.	1951	CG	3,000	130			10,000						
Manicouagan Power Co.	H. G. Acres & Co.	McCormick Dam	New	Manicouagan	Que.	1951	CG	4,575	95			10,000						
Gulf Power Co.	Stadler, Hurter & Co.	Marguerite	New	Marguerite	Que.	1951	CG	450	120			10,000						
Lake Megantic Municipal Corp.		Graymurst	New	Chaudiere	Que.	1952						1,500						
Price Bros. & Co. Ltd.	Montreal Engineering Co.	Jim Gray	New	Shishshaw	Que.	1951	Earth	1,000	145			1,000						
Price Bros. & Co. Ltd.	Montreal Engineering Co.	Brochet	New	Shishshaw	Que.	1951	Earth	1,325	22			1,000						
Quaker Oats Co.		Peterborough	New	Niagara	Ont.	1952						1,000						
Hydro-Elec. Power Comm. of Ont.	Hydro-Elec. Power Comm. of Ont.	Sir Adam Beck	New	Niagara	Ont.	1950						1,000						
Hydro-Elec. Power Comm. of Ont.	Hydro-Elec. Power Comm. of Ont.	Niagara No. 2	New	Ottawa	Ont. & Que.	1948	CSB	2,500	130			10,000						
Hydro-Elec. Power Comm. of Ont.	Hydro-Elec. Power Comm. of Ont.	Otto Holden	New	Ottawa	Ont.	1947	CG	3,000	150			10,000						
Great Lakes Power Co.	Harza Engineering Co.	Pine Portage	New	Nipigon	Ont.	1950	C&E	980	90			10,000						
Great Lakes Power Co.	Harza Engineering Co.	Scott Falls	New	Michicottien	Ont.	1951	C&E	520	70			10,000						
Manitoba Hydro-Electric Board	H. G. Acres & Co.	Woon Creek	New	Michicottien	Ont.	1951	C&E	520	70			10,000						
Manitoba Hydro-Electric Board	H. G. Acres & Co.; Dr. T. H. Hogg	McArthur Falls	New	Winnipeg	Man.	1952	CG&EF	31,000	65			10,000						
Sherrill Gordon Mines, Ltd.	H. G. Acres & Co.	Pine Falls	New	Winnipeg	Man.	1948	CG	910	73			10,000						
Northwest Territories Power Comm.	H. G. Acres & Co.	Laurie River	New	Laurie	Man.	1951	CG	820	110			10,000						
Calgary Power Co.	Montreal Engineering Co.	Mayo River	New	Yukon	Yukon	1951	RE	400	64			1,000						
Calgary Power Co.	Montreal Engineering Co.	Bearsaw	New	Bow	Alta.	1953	CG&EF	1,200				10,000						
Aluminum Company of Canada	Montreal Engineering Co.	Ghost Extension	New	Bow	Alta.	1952						10,000						
Aluminum Company of Canada	B. C. International Engrg. Co.	Kemano	New	Nechako	B. C.	1951	RF	1,550	317			10,000						
British Columbia Electric Co.	B. C. International Engrg. Co.																	
British Columbia Electric Co.	British Columbia Electric Co.	Wanleach Lake	Red.	Wanleach Lake	B. C.	1950	EF	1,400	55			10,000						
British Columbia Electric Co.	C. Wain, Rhodes & Wooster	Bridge River	New	Bridge	B. C.	1945	EF	1,000	250			10,000						
Cons. Mining & Smelting Co. of Canada	Stone & Webster-Canada Ltd.	Waneta	New	Pend Oreille	B. C.	1951	CG	950	140			10,000						
British Columbia Power Comm.	H. G. Acres & Co.	John Hart	New	Campbell	B. C.	1945	CG	2,900	20			10,000						
British Columbia Power Comm.	B. C. Power Commission	Clownom Falls	New	Clownom	B. C.	1950	CG	160				1,000						
Alaska Pine & Cellulose, Ltd.		Port Alice	New		B. C.	1952						1,000						

The term "New" applies to a project on a site not developed before. "Redeveloped" indicates a project on a site that has been developed before and now has new turbines, settings or generators, or a new plant.

CGA, concrete arch; CG, concrete gravity; C&E, concrete and earth; CG&EF, concrete gravity and earth fill; CSB, concrete sluiceway and bulkhead; CSAB, concrete slab and buttress; EF, earth fill; P&G, piers and gates; R&EF, rock and earth fill; RE, rock earth; RF, rock filled; RFTC, rock fill, concrete

face; RFTC, rock filled, timber crib; SC, sector gates.

AC - Allis-Chalmers Mfg. Co.
BL - Baldwin-Lima-Hamilton Corp.
SCL - Seeco Canada Ltd.
CAC - Canadian Allis-Chalmers Ltd.

CGE - Canadian General Electric
CVL - Canadian Vickers Ltd.
CWC - Canadian Westinghouse
DEC - Dominion Engineering Co.
EEC - Elliott Co.
ECC - English Electric Co. of Canada
EM - Electric Machinery Co.

GE - General Electric
IE - Ideal Electric
JPM - J. P. Morris
JL - James L. Jeff
JL - John Jeff
JL - John Jeff
JL - John Jeff

Net capacity, hp	Added capacity, no. of units	Date of added capacity	Ultimate capacity, hp	No. of units installed	Waterwheel capacity, hp	Waterwheel type	Speed, rpm	Stroke head, ft	Design head, ft	3-phase wheel manufacturer	2-governor manufacturer	Scroll case, concrete or steel	Penstock valve, type	Generator capacity, kw	Synchronizing, automatic or manual	4-thrust bearing location	Design power factor	Kilovolts	Cycles	3-generator manufacturer
47,500			47,500	1	47,500	Francis	450	840-825	815	PW	W	Cast st	Head gt	35,000	Automatic	AG	0.95	13.8	60	EC
108,000			108,000	1	48,000	Francis	574	1118-1078	1045	PA	W	Cast st	Butterfly	35,000	Auto. or man	AG	0.90	13.8	60	WE
300,000			300,000	1	12,000	Francis	257		290	AC	W	Plate st	Butterfly	8,500	Manual	AG	1.00	13.8	60	AC
450			450	1	450	Francis	600		460	PW	W									
21,000			21,000	2	10,500	Francis	180	112-70	96	NN	W	Plate st		8,333	Manual	AG	0.90	6.9	60	WE
53,000			53,000	2	26,500	Francis	163.6	165-143	155	NN	W	Plate st	Butterfly	18,950	Manual	AG	0.95	6.9	60	EC
70,500			70,500	3	105,000	Francis	180	485-262	400	AC	W	Welded pl st	Head gt	75,000	Manual	AG	1.00	13.8	60	GE
70,500			70,500	3	23,500	Francis	156	160-80	125	NN	W	Plate st	Head gt	16,667	Manual	AG	1.00	6.9	60	GE
77,000			77,000	3	77,000	Francis	112.5	151	189	2 NN, 1 BL	W	Plate st	Head gt	56,000	Manual	AG	0.90	13.8	60	WE
58,800			58,800	3	19,600	Kaplan	54.5	33-8	22	BL	W	Concrete	Head gt	15,778	Manual	AG	0.90	13.8	60	GE
158,000			158,000	3	39,500	Francis	163.6	245-114	190	MS	W	Welded pl st	Butterfly	30,000	Manual	AG	0.95	11.5	60	GE
282,000			282,000	3	70,500	Propeller	120	100-85	99	BL	W	Plate st	Head gt	55,555	Manual	AG	0.90	13.8	60	WE
282,000			282,000	3	70,500	Kaplan	120	100-85	99	BL	W	Plate st	Head gt	55,555	Manual	AG	0.90	13.8	60	WE
2,700,000			2,700,000	10	100,000	Francis	100	183-148	165	NN	AC	Plate st	Head gt	67,368	Manual	AG	0.95	13.8	60	WE
2,226,000			2,226,000	10	111,300	Kaplan	85.7	92-62	80	MS	AC	Concrete	Head gt	73,684	Manual	AG	0.95	13.8	60	GE
2,226,000			2,226,000	10	4,500	Francis	277	92-62	80	PW	W	Concrete	Head gt	3,750	Manual	AG	0.80	4.16	60	EM
2,226,000			2,226,000	10	123,800	Kaplan	85.7	91-60	81	BL	W	Concrete	Head gt	82,105	Manual	AG	0.95	13.8	60	GE
2,226,000			2,226,000	10	21,000	Propeller	100	51-20	32	AC	AC	Concrete	Head gt	16,667	Manual	AG	0.90	13.8	60	GE
2,226,000			2,226,000	10	34,000	Kaplan	100	51-20	45	AC	AC	Concrete	Head gt	25,000	Manual	AG	0.90	13.8	60	AC
2,226,000			2,226,000	10	24,500	Kaplan	100	46-20	41	AC	W	Concrete	Head gt	16,667	Manual	AG	0.90	13.8	60	EC
2,226,000			2,226,000	10	120,000	Francis	150		355	BL	W	Welded pl st	Butterfly	100,000	Auto. or man	AG	0.90	13.8	60	WE
2,226,000			2,226,000	10	37,500	Francis	300	484-450	440	AC	AC	Cast st	Butterfly	30,000	Manual	AG	0.90	12.6	60	AC
2,226,000			2,226,000	10	70,000	Francis	150	272-190	224	MS	W	Plate st	Head gt	60,000	Automatic	AG	0.90	13.8	60	GE
2,226,000			2,226,000	10	32,550	Francis	300	85-80	81	MS	W	Plate st	Head gt	5,000	Manual	HS	1.00	11.00	60	GE
2,226,000			2,226,000	10	1,600	Propeller	242	44-16	40	PW	W	Open frame	Head gt	1,200	Automatic	AG		4.16	60	WE
2,226,000			2,226,000	10	15,400	Impulse	400	1034	995	PW	PW	Butterfly	Butterfly	12,941	Automatic	HS	0.85	6.9	60	GE
2,226,000			2,226,000	10	40,000	Francis	400	755-745	710	AC	W	Welded pl st	Butterfly	30,527	Automatic	AG	0.95	11.5	60	WE
2,226,000			2,226,000	10	46,000	Francis	400	727-704	705	AC	W	Welded pl st	Butterfly	34,737	Automatic	AG	0.95	11.5	60	WE
2,226,000			2,226,000	10	21,000	Francis	514	661-620	634	MS	W	Welded pl st	Butterfly	17,647	Automatic	AG	0.85	7.2	60	WE
2,226,000			2,226,000	10	36,000	Francis	450	750-745	742	MS	W	Steel	Butterfly	30,588	Automatic	AG	0.95	11.5	60	GE
2,226,000			2,226,000	10	70,000	Francis	163.6	375-225	285	BL	W	Plate st	Head gt	55,555	Manual	AG	0.90	13.8	60	WE
2,226,000			2,226,000	10	52,500	Francis	128.5	233-126	185	PW	W	Plate st	Head gt	42,222	Manual	AG	0.90	13.8	60	GE
2,226,000			2,226,000	10	26,500	Francis	163.6	98-73	91	BL	W	Plate st	Head gt	20,000	Automatic	AG	0.90	13.8	60	WE
2,226,000			2,226,000	10	20,700	Kaplan	128.6	58-51	51	NN	W	Concrete	Head gt	15,000	Automatic	AG	1.00	13.8	60	GE
2,226,000			2,226,000	10	53,500	Impulse	400	2009-1893	1960	PW	PW	Spherical	Spherical	33,000	Manual	AG	0.90	13.8	60	GE
2,226,000			2,226,000	10	5,300	Impulse	400		690	PW	PW	Spherical	Spherical	4,500	Automatic	AG	0.85	2.4	60	GE
2,226,000			2,226,000	10	74,000	Francis	163.6	340-145	300	NN	W	Plate st	Head gt	60,000	Manual	AG	0.90	13.8	60	WE
18,800			18,800	2	9,400	Kaplan	150	51-20	42	MS	PW	Concrete	Head gt	7,500	Manual	AG	0.90	4.16	60	EC
15,000			15,000	2	7,500	Kaplan	100	25.5	25.5	BL	W	Concrete	Head gt	6,500		AG	0.80	6.9	60	GE
50,000			50,000	2	25,000	Kaplan	600	870-780	800	NN	W	Cast st	Butterfly	16,667	Manual	AG	0.90	6.9	60	OC
1,500			1,500	1	1,500	Impulse	300		265	PW	W			1,250	Manual	AG	0.80	6.9	60	GE
5,400			5,400	1	5,400	Francis	400	205-175	190	JL	W	Welded pl st	Butterfly	5,000	Auto. or man	AG	0.80	4.16	60	WE
12,900			12,900	6	2,700	Francis	231	35	35	MSC	W	Plate st	Butterfly	2,256	Manual	HS	0.90	6.9	50	CWC
10,000			10,000	1	10,000	Francis	450	290	276	DEC	W	Plate st	Butterfly	9,000	Automatic	AG	0.85	6.9	60	CGE
7,500			7,500	1	7,500	Francis	360	192-180	176	CVL	W	Plate st	Butterfly	7,000	Automatic	AG	0.85	6.9	60	CWC
12,000			12,000	2	6,000	Propeller	150	34	34	CAC	W	Concrete	Head gt	5,000	Manual	AG	0.85	6.9	60	CWC
4,000			4,000	1	4,000	Francis	200	65-60	60	CVL	W	Welded pl st	Head gt	4,000	Automatic	AG	0.80	6.9	60	CWC
9,000			9,000	1	9,000	Francis	600	405	382	DEC	W	Cast st	Butterfly	8,500	Automatic	AG	0.80	6.9	60	CWC
8,500			8,500	1	8,500	Francis	400	252-247	225	CVL	W	Pl steel	Butterfly	7,500	Manual	AG	0.80	13.8	60	CWC
14,000			14,000	1	5,000	Francis	300	87-75	85	MSC	L	Pl steel	Head gt	4,400	Manual	AG	0.80	12.0	60	CWC
27,000			27,000	2	13,500	Kaplan	225	80-66	75	MSC	W	Pl steel	Head gt	12,500	Manual	AG	0.80	6.9	60	CGE
(Beaumont No. 1 completed in 1949, has 758,000 hp installed in 14 - 53,000-hp and 2 - 8,000-hp units)																				
53,000			53,000	6	Francis	75	82-75	80	CAC	W	Concrete	Head gt	51,000	Automatic	AG	0.80	13.8	60	CWC	
53,000			53,000	6	Francis	75	82-75	80	DEC	W	Concrete	Head gt	51,000	Automatic	AG	0.80	13.8	60	CGE	
64,000			64,000	2	16,000	Francis	120	69-64	68	DEC	W	Concrete	Head gt	15,000	Manual	AG	0.85	6.9	60	CWC
275,000			275,000	5	55,000	Francis	105.9	115-95	113	CAC	W	Concrete	Head gt	53,500	Manual	AG	0.70	13.8	60	CWC
275,000			275,000	5	57,000	Francis	105.9	115-95	115	DEC	W	Concrete	Head gt	53,500	Manual	AG	0.70	13.8	60	CWC
337,200			337,200	2	56,200	Francis	112.5	128-116	124	MSC	W	Welded pl st	Head gt	37,500	Automatic	AG	0.95	13.8	60	CGE
26,000			26,000	2	13,000	Francis	200	122-70	100	CAC	W	Plate st	Butterfly	11,000	Manual	AG	0.80	13.8	60	CGE
4,800			4,800	2	2,250	Francis	300	64	64	DEC	W	Plate st	Head gt	2,000	Manual	AG	0.80	2.3	60	NEC
70,000			70,000	2	35,000	Francis	277	338	338	CAC	W	Plate st	Head gt	30,000	Automatic	AG	0.95	13.80	60	CWC
9,000			9,000	1	9,000	Propeller	180	46	46	CAC	W	Concrete	Head gt	7,500	Automatic	AG	0.35	6.9	60	CGE
2,300			2,300	1	2,300	Francis	150		27	CVL	W	Concrete	Head gt							CWC
1,200,000			1,200,000	12	100,000	Francis	150	305-294	292	DEC	W	Plate st	Head gt	80,000	Automatic	AG	0.95	13.8	60	6 CGE
1,200,000			1,200,000	12	100,000	Francis	150	305-294	292	DEC	W	Plate st	Head gt	80,000	Automatic	AG	0.95	13.8	60	6 CWC
264,000			264,000	14	33,000	Francis	94.7	82-72	77	CAC	W	Concrete	Head gt	27,000	Automatic	AG	0.9	13.8	60	CWC
164,000			164,000	12	33,000	Francis	94.7	82-72	77	JIC	W	Concrete	Head gt	27,000	Automatic	AG	0.9	13.8	60	CWC
20,000			20,000	1	41,000	Francis	109.1	110-100	105	CAC	W	Plate st	Head gt	33,000	Manual	AG	0.9	13.8	60	CWC
15,000			15,000	2	10,000	Francis	109.1	110-100	105	MSC	W	Plate st	Head gt	38,000	Manual	AG	0.90	13.8	60	CWC
80,000			80,000	8	10,000	Kaplan	225	78-61	70	MSC	W	Plate st	Head gt	8,500	Manual	AG	0.80	12.5	60	CGE
114,000			114,000	6	7,500	Kaplan	200	51-47	48	MSC	W	Concrete	Head gt	5,000	Manual	AG	1.00	11.5	60	CGE
7,000			7,000	2	3,500	Propeller	85.7	23-5	23.5	DEC	W	Concrete	Head gt	8,500	Automatic	AG	0.90	6.9	60	CGE
8,000			8,000	1	3,500	Propeller	94.7	37	37	DEC	W	Concrete	Head gt	15,500	Auto. or man	AG	0.90	13.6		

Government-Agency Hydroelectric Plan

(Does not include municipal plants)

Government agency	Project	State or Possession	River	Ultimate capacity, hp	Initial capacity, hp	Installed capacity, hp	On order or being installed, hp
U. S. Bureau of Reclamation	Eklutna	Alaska	Lake Eklutna	50,000	50,000		50,000
	Grand Coulee	Wash.	Columbia	1,102,900	538,000	3,102,000	
	Hungry Horse	Mont.	So. Fork Flathead	429,000	420,000	210,000	210,000
PUD No. 1, Chelan County	Rock Island	Wash.	Columbia	288,000	84,000	84,000	204,000
	Bonneville	Ore. & Wash.	Columbia	729,000	137,000	729,000	
	Big Cliff	Ore.	North Santiam	26,500	26,500		26,500
	Lookout Point	Ore.	Mid Fk. Willamette	157,500	157,500		157,500
U. S. Corps of Engineers	Detroit	Ore.	North Santiam	140,000	140,000		140,000
	Dexter	Ore.	Mid Fk. Willamette	20,700	20,700		20,700
	Chief Joseph	Wash.	Columbia	2,700,000	1,000,000		1,000,000
	Dalles	Ore. & Wash.	Columbia	2,723,600	1,733,200		1,733,200
	McNary Dam	Ore. & Wash.	Columbia	2,226,000	1,567,200		1,567,200
	Albeni Falls	Idaho	Pend Oreille	58,800	58,800		58,800
PUD No. 1, Pend Oreille County	Box Canyon	Wash.	Pend Oreille	122,500	98,000		98,000
	Anderson Ranch	Idaho	Boise	55,500	37,900	37,000	
	Minidoka	Idaho	Snake	26,500	9,000	19,500	
U. S. Bureau of Reclamation	Palisades	Idaho	Snake	158,000	158,900		158,000
	Shasta	Calif.	Sacramento	522,000	419,000	522,000	
	Kawick	Calif.	Sacramento	102,000	102,000	102,000	
	Folsom	Calif.	American	225,000	225,000		225,000
Imperial Irrigation District	Oroq No. 4	Calif.	All Am. Canal	28,300	13,300	28,300	
	Parker Dam	Ariz. & Calif.	Colorado	160,000	120,000	160,000	
	Davis Dam	Ariz. & Calif.	Colorado	311,000	311,000	311,000	
	Hoover Dam	Ariz. & Nev.	Colorado	1,857,000	522,000	1,742,000	
	Elegant Butte	N. M.	Rio Grande	34,500	34,500	34,500	
	Green Mountain	Colo.	Blue	30,000	30,000	30,000	
U. S. Bureau of Reclamation	Estes Park	Colo.	Colo. Big Thompson	53,000	53,000	63,000	
	Pale Hill	Colo.	Colo. Big Thompson	47,500	47,500		47,500
	Flatiron	Colo.	Colo. Big Thompson	108,000	108,000		108,000
	Kartas	Wyo.	North Platte	55,500	55,000	55,000	
	Boysen	Wyo.	Big Horn	21,000	21,000	21,000	
	Alcova	Wyo.	North Platte	53,000	53,000		53,000
	Seminole	Wyo.	North Platte	45,000	45,000	45,000	
	Canyon Ferry	Mont.	Missouri	70,500	70,500		70,500
U. S. Corps of Engineers	Fort Peck	Mont.	Missouri	150,000	70,000	120,000	
Platte Valley Public Pr. & Irr. Dist.	Sutherland	Nea.	North Platte	35,000	35,000	35,000	
Loup River Public Power District	Columbus	Nea.	Loup	54,000	54,000	54,000	
Central Neb. Public Pwr. & Irr. Dist.	Jeffery Canyon	Neb.	Platte	26,000	26,000	26,000	
	Johnson No. 1	Neb.	Platte	26,000	26,000	26,000	
	Johnson No. 2	Neb.	Platte	50,000	25,000	25,000	
	Fort Randall	S. D.	Missouri	460,000	460,000		460,000
	Oahe	S. D.	Missouri	485,000	194,000		
	Garrison	N. D.	Missouri	440,000	440,000		440,000
U. S. Corps of Engineers	Gavins Point	S. D. & Neb.	Missouri	162,000	162,000		162,000
	St. Mary's Falls	Mich.	St. Mary's	72,750	23,925	23,925	
	Norfolk	Ark.	North Fork	168,000	42,540	84,540	
	Blakely Mountain	Ark.	Ouchita	104,000	104,000		104,000
	Bull Shoals	Ark.	White	419,000	211,000	211,000	
	Table Rock	Ark.	White	272,000	272,000		
	Narrows	Ark.	Little Missouri	36,000	24,000	24,000	
Grand River Dam Authority	Pensacola Dam	Okla.	Grand	120,750	80,750	120,750	
U. S. Corps of Engineers	Fort Gibson	Okla.	Grand	96,000	64,000		64,000
	Tenkiller Ferry	Okla.	Illinois	47,000			47,000
	Oenison Dam	Okla. & Texas	Red	282,080	56,080	114,080	
	Buchanan Dam	Texas	Colorado	51,900	34,600	51,900	
Lower Colorado River Authority	Marshall Ford	Texas	Colorado	90,000	90,000	90,000	
	Granite Shoals	Texas	Colorado	66,000	66,000	66,000	
	Marble Falls	Texas	Colorado	42,900	42,000	42,000	
Brazos River Conserv. & Reclam. Dist.	Possum Kingdom	Texas	Brazos	51,000	34,000	34,000	
International Boundary & Water Comm.	Falcon Dam	Texas & Mex.	Rio Grande	88,500	88,500		88,500
U. S. Corps of Engineers	Whitney Dam	Texas	Brazos	41,400	41,400		41,400
	Wolf Creek	Ky.	Cumberland	377,000	377,000	188,500	188,500
	Kentucky	Ky.	Tennessee	220,000	176,000	220,000	
	Pickwick	Tenn.	Tennessee	302,000	96,000	302,000	
	Wilson	Ala.	Tennessee	610,000	206,000	610,000	
	Wheeler	Ala.	Tennessee	360,000	90,000	360,000	
	Guntersville	Ala.	Tennessee	141,000	102,000	141,000	
	Jales Bar	Tenn.	Tennessee	140,000	72,000	140,000	
	Chickamauga	Tenn.	Tennessee	144,000	108,000	144,000	
	Watts Bar	Tenn.	Tennessee	210,000	126,000	210,000	
	Norris	Tenn.	Clinch	132,000	132,000	132,000	
	Fort Loudoun	Tenn.	Tennessee	176,000	88,000	176,000	
Tennessee Valley Authority	Cherokee	Tenn.	Holston	166,000	83,000	166,000	
	Douglas	Tenn.	French Broad	154,000	83,000	118,500	35,500
	South Holston	Tenn.	South Holston	49,500	49,500	49,500	
	El Patrick Henry	Tenn.	So. Fork Holston	50,500	50,000		50,000
	Boone	Tenn.	So. Fork Holston	103,500	103,500	103,500	
	Wautauga	Tenn.	Wautauga	69,000	69,000		69,000
	Fontana	N. C.	Little Tennessee	274,500	183,500	274,500	
	Apalachia	Tenn.	Hiwassee	106,000	106,000	106,000	
	Hiwassee	N. C.	Hiwassee	160,000	80,000		80,000
	Noltey	Ga.	Noltey	22,000	22,000		22,000
	Ocoee No. 3	Tenn.	Ocoee	33,500	33,500	33,500	
	Ocoee No. 2	Tenn.	Ocoee	25,000	15,000	25,000	
	John H. Kerr	Va. N. C.	Roanoke	290,000	290,000	145,000	145,000
	Center Hill	Tenn.	Carney Fork	188,750	188,750	188,750	
U. S. Corps of Engineers	Dale Hollow	Tenn.	Ober	75,000	50,000	75,000	
	Old Hickory	Tenn.	Cumberland	180,000	180,000		180,000
	Allatoona	Ga.	Etowah	152,900	102,900	102,900	
	Bulford	Ga.	Chattahoochee	118,400	118,400		118,000
	Jim Woodruff	Fla.	Chattahoochee	42,000	42,000		42,000
	Clark Hill	Ga. & S. C.	Savannah	388,600	388,600	388,600	
S. Carolina Public Service Authority	Santee-Cooper	S. C.	Santee	215,728	173,000	175,720	
Greenwood County Board of Comm.	Buzzards	S. C.	Saluda	30,000	22,200	22,200	
Total Capacity				26,561,625	15,633,900	13,256,700	8,263,030

NOTE: Because of space limits 15 plants of 20,000-hp capacity and below, totalling 190,000-hp, have been omitted.