

1950 Design Survey of Typical New

Compiled by B G A Szwedzi, Associate Editor

Compiled by B G A Sirostski, Associate Editor				First operation, new units	Nominal pressure, psig	Nominal temperature, °F	BOILERS				Superheater surface, 1000 sq ft	Furnace volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr	Efficiency, %	
Company	Location	Plant Name	Consulting Engineers				Number	Capacity, each, 1000 lb per hr	Manufacturer	Boiler, waterwall surface, 1000 sq ft					
1500 PSIG AND ABOVE															
Indiana & Michigan Electric Co.	Lawrenceburg, Ind.	Tanners Creek	Amer. Gas & Elec Co.	1-51 ¹	2000	1050 ²	1	930	BW	31.0	95.9 ³	79.8	16.4		
Consolidated Edison Co of N. Y.	Astoria, Queens, N.Y.	Astoria		12-52 ¹ 4-53 ¹	1800	1000 ²	2	1200	BW	22.7	35.0	93.0	17.0		
Central Hudson Gas & Elec Corp.	Danstormer Pt, N.Y.	Danstormer	Burns & Roe, Inc.	1-52 ¹	1650	1000 ²	1	500	CE	20.5	32.4 ³	27.2	22.5		
Jersey Central Power & Light Co.	South Amboy, N.J.	South Amboy	Burns & Roe, Inc.	12-52 ¹	1650	1000 ²	1	475	BW	15.0	37.5 ³	12.7	45.2		
Wisconsin Electric Power Co.	Glenwood Land'g, NY	Glenwood No. 3	Ebasco Services, Inc.	12-52 ¹	1575	1000 ²	1	795	CE	37.3	18.3 ³	102.0	10.4		
Long Island Lighting Co.	Sewaren, N.J.	Sewaren		1952	1525	1000 ²	1	750	CE	33.1		62.0	16.1		
Public Service Elec & Gas Co.				1951	1500	1050 ²	1	822	CE	18.2	69.1 ³	67.8	16.5		
1000 TO 1499 PSIG															
Toledo Edison Co.	Toledo, Ohio	Acme	G W Southoff	1951	1450	1000	1	650	BW	21.7	32.6	47.4	16.9		
Cincinnati Gas & Elec Co.	New Richmond, Ohio	Clermont	Electric Advisers, Inc.	2-49	820	950	2	500	BW	39.5		49.5	16.3		
Central Illinois Publ Service Co.	Mortonville, Ill.	Mortonville	Sargent & Lundy	3-52	1450	1000 ²	1	706	CE	36.0	70.3 ³	64.2	14.7		
Virginia Electric & Power Co.	Wheelwright, Va.	Chesterfield	Stone & Webster	1952	1450	1000 ²	1	525	CE						
Carolina Pwr & Light Co.	Lumberton, N. C.	Lumberton	Ebasco Services, Inc.	5-52	1450	1000 ²	1	550	CE	34.8	46.0	39.0	26.0		
Carolina Pwr & Light Co.	Lumberton, N. C.	Lumberton	Ebasco Services, Inc.	6-52	1450	1000 ²	1	750	CE	26.1	35.0	39.0	18.6		
Niagara-Mohawk Pwr Corp.	Albany, N. Y.	Albany		1952	1450	1000 ²	2	675	CE	32.8	42.3	58.0	15.8		
New York State Elec & Gas Corp.	Johnson City, N. Y.	Gauley	Gilbert Associates, Inc.	1951	1450	1000 ²	1	560	CE	29.3	43.7 ³	44.6	17.0		
Illinois Power Co.	W. of LaSalle, Ill.	Mennequin	Sargent & Lundy	10-53	1450	1000 ²	1	525	CE						
Florida Power & Light Co.	Nr Miami, Fla.	South Florida	Ebasco Services, Inc.	8-52	1450	1000 ²	1	550	CE	26.1	35.0	39.0	18.6		
Potomac Electric Power Co.	Washington, D. C.	Benning	Stone & Webster	1952	1450	1000	1	675	CE	30.7		55.4	14.4		
Duke Power Co.	Mr. Holly, N. C.	Riverbend		5-52	1300	950 ³	1	810	CE	40.5	44.3 ³	68.0	15.6		
Duquesne Light Co.	Elrama, Pa.	Elrama		7-52	1300	950 ³	1	810	CE	40.5	44.3 ³	68.0	15.6		
Iowa Power & Light Co.	Des Moines, Iowa	Des Moines, No. 2	United Lt & Rwy Serv. (Black & Veatch)	12-51 12-50	1300 1290	950 925	1	860 375	BW CE	28.9 18.0	35.1 14.5	69.8 25.2	19.0		
Texas Electric Service Co.	Fort Worth, Texas	North Main	Ebasco Services, Inc.	3-52	1250	955	1	775	CE						
Wisconsin Power & Light Co.	Sheboygan, Wis.	Edgewater	Sargent & Lundy	6-51	1250	950	1	660	BW	13.2	31.1	24.1	30.0		
Georgia Power Co.	Yates, Ga.	Yates	Southern Services, Inc.	1950	1250	950	1	975	CE	40.9	36.2	74.0	15.4		
Columbus & S. Ohio Elec Co.	Aurora, Minn.	Aurora	Ebasco Services, Inc.	1953	1250	950	1	650	CE	27.0		44.0	18.0		
Minnesota Power & Light Co.	San Diego, Calif.	Silver Gate	Ebasco Services, Inc.	3-53	1250	950	2	425	CE	15.7	16.2	31.0	17.9		
San Diego Gas & Electric Co.			Pioneer Serv & Engrg.	8-50	1250	950	1	575	BW	9.7	21.0	25.0	28.7		
Pennsylvania Electric Co.	Erie, Pa.	Front St.	Gilbert Associates, Inc.	7-52	1250	950	2	400	CE	19.2	25.7	25.5	19.6		
Florida Power Corp.	Oldsmar, Fla.	Booth Point	Kuljian Corp.	5-51 1953	1250 1250	950 950	1	450	BW			26.0			
	Avon Park, Fla.	Avon Park	Kuljian Corp.	7-52	1250	950	1	450	BW			26.0			
	St. Petersburg, Fla.	Bayboro	Kuljian Corp.	12-49	850	900	1	330	BW	21.9		24.3			
800 TO 999 PSIG															
Northern States Power Co.	Minneapolis, Minn.	Riverside	Pioneer Serv & Engrg.	7-50	900	900	1	570	BW	13.5	22.9	37.5	20.0		
New York State Elec & Gas Corp.	East Canaan, N. Y.	Black Dog	Pioneer Serv & Engrg.	6-52	850	950	1	600	CE	17.4	21.0	43.3	17.6		
Eastern Shore Publ Service Co.	Vienna, Md.	Vienna	Gilbert Associates, Inc.	1952	850	950	2	220	BW	24.4	8.7	12.5	22.4		
Hydro-Elec Pwr Comm of Ontario	Toronto, Ont.	Richard L Hearn	United Engrs & Constr.	4-51	850	900	1	300	BW	23.3	10.6	21.0	17.6		
	Windsor, Ont.	Windsor	Stone & Webster	11-51	850	900	2	350	BW	49.1	18.8	69.3	15.5		
			H G Acres & Co.	9-51	850	900	2	650	BW	44.4	17.6	52.5	15.0		
Union Electric Power Co.	Venice, Ill.	Venice No. 2	Stone & Webster	10-50 12-50	850 850	900 900	1	900	BW	29.0	29.2	83.8	13.7		
Southern California Edison Co.	Redondo Beach, Calif.	Redondo	Stone & Webster	1949	850	900	3	400	BW	7.3	14.8	13.9	39.0		
Hartford Electric Light Co.	Hartford, Conn.	South Meadow	Stone & Webster	4-50	850	900	1	450	BW	25.7	14.4	38.4	14.7		
Public Service Co of Colorado	Denver, Colo.	Arapahoe	Ebasco Services, Inc.	10-50 4-51 1952	850 850 850	900 900 900	1	450	BW	33.1	19.8	41.9	14.3		
Alabama Power Co.	Chickasaw, Ala.	Chickasaw	Southern Services, Inc.	1951	850	900	1	425	CE	27.2	10.5	21.2	24.0		
Mississippi Power Co.	Hattiesburg, Miss.	Eaton	Southern Services, Inc.	3-49	850	900	1	230	RS	20.2	7.3	14.8	20.2		
	Meridian, Miss.	Sweatt	Southern Services, Inc.	3-51	850	900	1	425	BW	9.9	10.4	22.3	24.3		

A - Air cooled
AAd - Arsenical Admiralty
AC - Allis-Chalmers Mfg Co
Ad - Admiralty
Adl - Admiralty, inhibited
AlB - Aluminum-brass
AlBr - Aluminum-brass
AnAd - Antimony-Admiralty
An - Anticore
AsAd - Arsenical Admiralty

AsCu - Arsenical copper
BF - Babcock & Wilcox Co
C - Coal, bituminous
CE - Combustion Engineering-Super-heater, Inc.
CP - C. A. Parsons
CuNi - Copper-nickel
Cy - Cyclone furnace
D - Damper
DB - Dry bottom

DL - DeLaval Steam Turbine Co
EC - Erie City Iron Works
EE - English Electric
EI - Elliott Co
EV - Edge Moor Iron Works, Inc.
FW - Foster Wheeler Corp.
G - Natural gas
GE - General Electric Co
H - Hydrogen cooled
Hy - Hydraulic coupling

L - Lignite
M - Motor drive
Ma - Magnetic coupling
Mf - Murray Iron Works Co
Mo - Two motors per fan
MT - One motor, one turbine per fan
Mu - Muntz metal
O - Oil
P - Pulverized coal fired
PAd - Phosphorized Admiralty

Stream Central-Station Installations

	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				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-refining temperature, F	Drive	Flow control	Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia	No. of bleed points	Generator cooling			Surface, 1000 sq ft	No. water passes	Tube material
DB	16.4	281.4	Re	M	V	M	V	P	C	11.4	2300	3M	R	150	3600 ¹	GE	0.79	7	H	65.0	1	AsCu	930	150
DB	25.1	456.6	Re	M ¹³	V	.....	.....	P, O, G	C, O, G	.....	2050	3M	R	160	3600	WE	0.5	7	H	105.0	1	AlBr	2,400	320
DB	13.5	83.5	Tu	M	D, V	M	D, Hy	P	C	13.3	2300	2M	Hy	60	3600	GE	0.5	6	H	46.6	1	Ad	500	60
ST	0	166.6	Tu	M	V	.....	.....	Cy, O	C, O	13.0	2300	2M	Hy	50	3600	GE	0.5	6	H	40.0	1	Ad	1,225	125
DB	34.0	284.4	Re	M	S	M	S	P	C	12.4	.....	2T	S	120	3600 ¹	AC	0.5	6	H	85.0	1	Ad	785	120
OS	9.0	79.8	Re	M ¹²	D	M ¹²	D	P, O, G	C, O, G	13.5	2500	3M	S	100 ¹	3600	GE	1.25	5	H	60.0	2	AlBr	2,750	272
ST	17.8	169.0	Re	M	S, Hy	M	D	P, O, G	C, O, G	13.2	2050	3M	S, Hy	125 ¹	3600	WE	0.75	8	H	65.0	1	AlBr ⁴	3,372	455
DB	10.0	198.0	Tu	M ¹²	V	M ¹²	V	P, G	C, G ¹⁸	12.3	2000	2M, 1T	S	60	3600	GE	0.5	7	H	45.0	2	PAd	.....	.....
DB	0	103.0	Tu	M ¹²	V	M ¹²	V	P	C	12.3	2000	3M, 2T	S	90	3600	WE	0.5	7	H	70.0	2	PAd	.....	.....
DB	9.5	192.6	Re	M	D, V	M	D, Ma	P	C	13.0	2500	3M	R, Hy	100	3600	WE	0.5	5	.....	55.0	2	AsCu	706	100
DB	.....	.....	Re	M	V	M	Ma	P	C	11.3	2000	2M	Hy	60/75	3600	GE	0.5	4	H	55.0	2	AsCu	1,125	130
DB	21.4	136.0	Re	M ¹²	V	M ¹²	V	P, O	C, O	13.0	2300	3M	Hy	90	3600	GE	0.75	5	H	65.0	2	AA	1,925	200
DB	14.8	149.4	Re	M	D	M	D	P	C	13.8	2100	2M	R	66	3600	GE	0.75	5	H	50.0	2	AsCu	1,400	154
DB	14.8	149.4	Re	M	D	M	D	P	C	13.8	2100	2M	R	66	3600	GE	0.75	5	H	50.0	2	AsCu	.....	.....
DB	15.4	99.3	Re	M	V	M	S	P	C	13.0	2050	6M	S, Hy	80 ¹	3600	GE	0.5	7	H	45.0	1	Ad	1,350	160
DB	13.3	115.0	Re	M	V	M	V	P	C	12.9	2600	3M	R, Hy	60/75	3600	WE	1.25	5	H	52.5	2	AA	1,784	169
DB	.....	.....	Tu	M	D	M	D, Hy	P	C	10.4	1900	1M, 1T	Hy	60	3600	GE	0.5	5	H	50.0	2	AlBr	525	60
DB	14.8	149.4	Re	M	D	M	D	P, O	C, O	18.3	.....	3M	Re	66	3600	GE	1.25	5	H	50.0	2	AlBr	1,400	154
DB	23.7	122.5	Tu	M	D	M	Ma	P, O	C, O	13.0	2000	3M	Hy	25	3600	GE	415	.....	.....	.....	.....	.....	.....	260
DB	15.8	181.6	Re	M	V	M	Hy	P	C	13.0	2100	2M	R	100	3600	WE	0.75	6	H	65.0	2	Ad	2,970	265
DB	15.8	181.6	Re	M	V	M	Hy	P	C	13.0	2100	2M	R	100	3600	WE	0.75	6	H	65.0	2	Ad	3,780	365
DB	22.6	175.5 ¹⁰	Re, Tu	M	V	M	D	P	C	12.5	.....	3M	R	80 ¹	3600	WE	0.75	7	H	65.0	1	.....	3,600	320
DB	5.6	81.2	Re	M	V	M	Hy	P, G	C, G	9.2	1980	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DB	5.6	77.0	Re	M	V	M	Hy	P, G	C, G	9.2	1980	2M	R	40	3600	WE	1.0	2	.....	6.0	2	AsCu	1,335	85
DB	.....	.....	Re	M	V	M	Hy	P, G	C, G	9.2	1980	2M	R	40	3600	WE	0.75	5	H	35.0	2	AsCu	1,335	90
DB	.....	.....	Tu	M	D	M	D	G, O	C, O	10.62 ¹¹	.....	3M	R	75 ¹	3600	WE	1.75	4	H	60.0	2	AsCu	1,550	130
ST	17.8	158.0	Tu	M	D	M	Ma	Cy	C, G	12.3	2100	2M	Hy	60	3600	AC	0.5	5	H	40.0	2	Ad	1,260	120
DB	25.7	297.0	Re	M	Hy	M	Hy	P, G	C, G	12.0	2500	3M	Hy	100	3600	GE	1.75	5	H	81.5	2	AA	2,925	300
DB	25.7	83.9	Tu	M	V	M	V	P	C	11.6	2000	3M	R	60 ¹	3600	.....	0.75	5	H	55.0	2	AsCu	.....	.....
DB	13.6	96.0	Re	M	D, V	M	D	P	C	12.0	2200	4M	R	40 ¹	3600	WE	0.75	5	H	27.5	1	Ad	850	98
DB	12.6	121.0	Re	M	D, V	M	D, Hy	O, G	O, G	18.0	.....	3M	R	50	3600	GE	0.75	5	H	37.5	2	AlBr	1,575	135
DB	14.4	52.7	Re	M	V	Mp	V	P	C	11.3	2000	3M	.....	40	3600	GE	0.5	5	H	37.0	2	Ad	1,200	105
DB	.....	.....	Tu	M ¹²	.....	M ¹²	D	O	O	18.0	.....	3M	R	40 ¹	3600	GE	1.0	5	H	32.5	1	CuNi	450	40
DB	.....	.....	Tu	M ¹²	.....	M ¹²	D	O	O	18.0	.....	3M	R	40 ¹	3600	GE	1.0	5	H	32.5	1	CuNi	900	80
DB	.....	.....	Tu	M ¹²	.....	M ¹²	D	O	O	18.0	.....	3M	R	40 ¹	3600	GE	1.0	5	H	32.5	1	CuNi	640	55
DB	.....	.....	Re	M ¹²	V	M ¹²	.....	O	O	18.0	.....	3M	R	10 ¹¹	3600	WE	1.0	3	A	10.0	1	AlBr	890	53.5
DB	10.3	141.6	Re	M	Ma	M	Ma	P, G	C, G	10.4	1900	2M	.....	60	3600	GE	0.75	4	H	45.0	2	PAd	3,690	262
DB	14.5	103.4	Re	M	Ma	M	Ma	P, G	C, G	10.4	1900	2M, 1T	.....	60	3600	WE	0.75	5	H	50.0	2	PAd	600	60
DB	5.4	25.2	Tu	M	V	M	Ma	TG (742)	AA	11.0	.....	2M	R	40	3600	GE	0.75	5	H	42.5	2	AA	790	85
DB	.....	.....	Re	Mp	D, V	Mp	D	P	C	13.0	2500	2M	R	30 ¹	3600	WE	0.75	5	H	27.5	2	Ad	996	87
DB	9.5	165.2	Re	M	D	M	D	P, O	C, O	.....	.....	6M	R	100 ¹	1800 ¹	CP	0.75	4	H	60.0	2	Ad	1,700	203
DB	8.5	136.8	Re	M	Hy	M	Hy	P, O	C, O	.....	.....	4M	Hy	60 ¹	3600	EE	0.75	5	H	28.0	1	Ad	1,300	120
DB	26.0	85.4	Re	M	S, Hy	M	S, Hy	P	C	10.7	1900	2M	R	80	1800	GE	0.7	4	H	77.0	2	Ad	3,000	320
DB	26.0	85.4	Re	M	S, Hy	M	S, Hy	P	C	10.7	1900	2M	R	80	3600	WE	0.7	5	H	77.0	2	Ad	3,900	400
DB	5.8	62.4	Re	M	D, V	M	D	O, G	O, G	18.5	.....	6M	R	60 ¹	3600	GE	0.75	4	H	42.5	2	AlBr	2,800	264
DB	0	87.0	Re	M	D, Hy	M	D, Hy	P, O	C, O	14.0	.....	2M, 1T	.....	45	3600	WE	18.0	0	A	.....	.....	Ad	2,500	230
DB	0	118.4	Tu	M ¹²	V	M ¹²	V	P, G	L, G	9.3	2090	3M	R	40 ¹	3600	GE	0.75	5	H	30.0	2	PAd	450	40
DB	0	118.4	Tu	M ¹²	V	M ¹²	V	P, G	L, G	9.3	2090	3M	R	40 ¹	3600	WE	0.75	5	H	30.0	2	PAd	900	80
DB	0	118.4	Tu	M ¹²	V	M ¹²	V	P, G	L, G	9.3	2090	3M	R	40 ¹	3600	GE	0.75	5	H	30.0	2	PAd	1,350	120
DB	0	92.1	Re	M	D, V	M	D, V	P, G	C, G	12.0	2700	2M	R	40 ¹	3600	AC	1.0	5	H	30.0	1	Ad	1,225	120
DB	0	35.0	Tu	Mp	V	Mp	D	C, O	C, O	10.45 ¹¹	.....	2M	R	24	3600	WE	1.0	3	H	20.4	2	Ad	690	72
DB	18.1	36.5	Re	M	V	M	D	C, O	C, O	10.40 ¹¹	.....	2M	R	40 ¹	3600	GE	1.33	5	H	32.5	2	Ad	425	44

PI - Plate
 Re - Regulator
 R - Repressurizer
 RS - Riley Stoker Corp
 S - Speed control
 SS - Springfield Boiler Co
 ST - Spreader stoker
 ST - Slog trap
 T - Turbine drive

TC - Traveling-grate stoker
 Tu - Tubular
 UF - Underfeed stoker
 UJ - Union Iron Works
 V - Vane control
 FB - Wm Bras Boiler & Mfg Co
 FE - Westinghouse Electric Corp
 FI - Wickes Boiler Co
 (306) - Sq ft stoker area

¹ - Revised, first listed 1949 survey
² - Reheat to 1000 F
³ - Includes reheat
⁴ - AIEE-ASME preferred standard
⁵ - 7,500 kw house generator
⁶ - AIB in air-cooler section
⁷ - Forced circulation
⁸ - 2 units installed
⁹ - Reheat to 950 F

¹⁰ - Two-section heater
¹¹ - Btu per cu ft
¹² - 2 fans
¹³ - Extraction at 315 psig
¹⁴ - Also 1500 rpm
¹⁵ - Pressurized furnace
¹⁶ - M-p 3600, L-p 1800 rpm
¹⁷ - Used equipment to meet critical conditions
¹⁸ - Coke-oven gas

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Compiled by B G A Skroski, Associate Editor

Company	Location	Plant Name	Consulting Engineers	First operation, new units	Nominal pressure, psig	Nominal steam temperature, °F	BOILERS					Superheater surface, 1000 sq ft	Economic volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr.
							Number	Capacity, each, 1000 lb per hr	Manufacturer	Boiler, waterwall surface, 1000 sq ft				
Minnesota Power & Light Co.	Duluth, Minn.	H. L. Hibbard	Ebasco Services Inc.	5-51	850	900	1	350	EC		9.8	21.5		
Florida Power & Light Co.	N. Palatka, Fla.	Palatka	Ebasco Services Inc.	1951	850	900	1	350	CEH					
Worcester County Elec. Co.	Worcester, Mass.	Webster St.	United Engrs & Constr.	10-50	850	900	1	325	RS	33.1	11.2	20.0	19.5	
El Paso Electric Co.	Nr El Paso, N.M.	Rio Grande	Stone & Webster	2-51	850	900	1	335	BW	23.1	6.7	14.4	32.2	
West Texas Utilities Co.	Quanah, Texas	Lake Pauline	Sargent & Lundy		850	900	1	250	BW	17.7				
Otter Tail Power Co.	Ortonville, Minn.	Ortonville	J F Pritchard & Co.	11-50	850	900	1	160	CE	20.5	5.7	12.3	19.6	
Central Illinois Light Co.	Peara, Ill.	R S Wallace	Commonwealth Ass. Inc.	2-52	810	900	1	600	RS	39.9	26.7	57.2	14.5	
	Essexville, Mich.	J C Woodcock	Commonwealth Ass. Inc.	11-49	800	875	2	600	PW	22.2	15.6	36.6	19.0	
Consumers Power Co.	Comstock, Mich.	B E Morrow	Commonwealth Ass. Inc.	8-49	800	875	1	600	PW	22.2	15.6	36.6	19.0	
	Muskegon, Mich.	B C Cobb	Commonwealth Ass. Inc.	8-50	850	900	1	600	CE	18.4	16.4	40.6	22.4	
Arkansas Power & Light Co.	Nr Hot Springs, Ark.	Lake Catherine	Ebasco Services Inc.	3-50	850	900	2	450	CEH	23.8	7.3	21.0	29.6	
	Tecumseh, Kan.	Tecumseh	Black & Veatch	3-49	850	900	1	280	CEH					
				7-51	850	900	1	350	CEH					
The Kansas Power & Light Co.	Hutchinson, Kan.	Hutchinson, No. 2	Black & Veatch	4-50	850	900	3	270	CE					
	Lawrence, Kan.	Lawrence	Black & Veatch	1-52	850	900	1	350	CE	19.2		20.2	21.2	
600 TO 799 PSIG														
Iowa Public Service Co.	Sioux City, Iowa	Kirk		3-51	700	750	1	90	BW			4.1	29.6	
Southern Colorado Power Co.	Pueblo, Colo.	Pueblo	Pioneer Serv & Engr.	6-49	650	900	1	185	BW	16.5	7.5	14.4	17.7	
	Rocky Ford, Colo.	Rocky Ford	Stearns-Roger Mfg Co.	4-51	600	850	1	100	BW	10.3	5.0	5.4	23.8	
Maine Public Service Co.	Caribou, Maine	Caribou	Stone & Webster	11-50	600	825	1	90	CE	10.3	2.8	5.5	22.6	
Western Colorado Power Co.	Montrose, Colo.	Montrose		2-51	600	825	1	70	RS	10.6		4.5	20.0	
Mr Carmel Public Utility Co.	Mr Carmel, Ill.			12-51	600	825	1	80	CE	9.8		4.3	24.9	
UNDER 600 PSIG														
Southern Public Service Co.	Sunray, Texas	Moore County	Stearns-Roger Mfg Co.	10-50	450	750	1	225	CE	20.7		10.0	29.0	
Saskatchewan Power Corp.	Estevan, Sask.	Estevan	R E Hanright	2-51	415	750	2	100	CE	10.6		4.7	37.0	
Otter Tail Power Co.	Crookston, Minn.	Crookston	J F Pritchard & Co.	12-49	400	825	1	75	RS	11.4	1.5	4.8	22.7	
Montana-Dakota Utilities Co.	Madridge, S.D.	Madridge	Stearns-Roger Mfg Co.	11-50	400	750	2	50	BW	7.2		2.7	28.2	
Iowa Public Service	Carroll, Iowa	Carroll	Black & Veatch	10-51	400	750	2	60	RS	8.8	1.5	4.0	19.6	
Central Kansas Power Co.	Colby, Kansas	Colby		6-51	400	750	1	75	BW	8.9		3.1	31.0	
Northern States Power Co.	Fargo, N.D.	Fargo	Pioneer Serv & Engr.	8-49	400	750	1	75	VO	10.5	1.3	4.2	26.0	
Iowa Southern Utilities Co.	Centerville, Iowa	Centerville	Federal Engrg Co.	2-49 ¹⁷	200	550	1	100						
	Ottumwa, Iowa	Ottumwa	Federal Engrg Co.	10-49 ¹⁷	200	550	1	100						
Pacific Power & Light Co.	Yakima, Wash.	Strm Hng Plant	J Donald Knecker	10-50	150	500	2	18	BW	2.0				
MUNICIPAL AND COOPERATIVE PLANTS														
Board of Public Utilities	Kansas City, Kansas	Quindaro No. 2	Burns & McDonnell	5-51	875	910	1	200	BW	22.9	9.9	20.0	21.4	
Central Power Electric Coop Inc.	Valtaire, N.D.	Wm J Neal	Vern E Alden Co	9-51	850	900	2	230	CE	23.2	6.6	17.2	19.0	
Dairiland Power Cooperative	Alma, Wis.	Alma	Vern E Alden Co	12-50	850	900	1	230	RS	23.3	7.3	1.5	21.7	
	Cassville, Wis.	E J Stoneman	Vern E Alden Co	12-50	850	900	1	230	RS	23.3	7.3	1.5	21.7	
City of Muscatine	Muscatine, Iowa		Stanley Engrg Co.	11-49	650	825	1	160	BW	18.2	9.1	6.8	32.0	
Corn Belt Power Cooperative	Humboldt, Iowa	Humboldt	Stanley Engrg Co.	3-50	610	825	2	90	EM	10.3	2.8	6.3	21.0	
Southern Federal Power Coop	Creston, Iowa	Creston	Stanley Engrg Co.	2-51	600	825	2	100		0.8	7.0	4.7	27.0	
Brass River Transmission Elec Coop	Beiton, Texas	Beiton	Laramore & Douglass	3-50	600	825	1	115		17.1	3.9	8.9		
City of Tallahassee	St Marks, Fla.	St Marks	Reynolds, Smith & Hills	10-51	600	825	3	85	BW	8.2		3.8		
City of Lafayette	Lafayette, La.	Barnard & Burk		6-51	600	825	2	60	BW	6.5	1.7	3.1	25.8	
Minnesota Power Cooperative	Grand Forks, N.D.	Franklin P Wood	Ellerbe & Co.	12-49	600	815	1	135	RS	17.5		7.8	25.0	
							2	72	RS	9.5		4.0	25.0	
Dept of Municipal Services	Windsor, Mich.	Emery, Markest, Emery		5-51	600	300	1	140	BW					
Water, Gas & Electric Dept	Danville, Va.	Brantly	Chas T Main, Inc.	6-49	600	750	1	85	RS	11.0	0.5	5.3	20.2	
Monticello Public Utilities	Monticello, Wis.			3-51	450	750	1	150	W	18.8		8.4	25.0	
Greenville Utilities Commission	Greenville, N.C.	Greenville	W C Olsen		450	750	3	30	CE					
Borough of Chambersburg	Chambersburg, Pa.		A C Wood Assoc	12-50	450	750	2	60	EM					
City Water & Light Dept	Ottawa, Kansas		Black & Veatch		450	750	2	50	RS	7.2				
City of Jackson	Jackson, Minn.		Pfeifer & Shultz	2-50	450	750	1	45	W	7.7		2.9		
Borough of Etna	Etna, Pa.			1-50	450	750	1	18	UI			1.6	22.0	
Department of Utilities	Fremont, Neb.	Lutz & May		10-50	400	825	1	90	W			3.0	50.0	
Orrville Municipal Utilities	Orrville, Ohio	N Vine St.	H R Heatlow	9-49	400	750	1	30	W					
City of Colorado Springs	Colorado Springs, Colo.		Lutz & May	12-49	400	750	1	150		14.9	2.8		25.2	
Water & Light Department	Thomasville, Ga.			1951	400	750	1	68	BW	6.3			37.7	
City of Cedar Falls	Cedar Falls, Iowa		Stanley Engrg Co.	9-50	400	750	1	72	W	8.3	1.6	3.0	35.0	
Frankfort Light & Power Plant	Frankfort, Ind.		Emery, Markest, Emery	10-49	375	700	1	110	BW	13.5		5.0		
City of Newburn	Newburn, Sask.			5-49	300	700	1	25	FW	3.7		1.2		
City of Medicine Hat	Medicine Hat, Alberta			1-49	270	550	1	70	FW	8.6	0.5	3.4	23.8	

A - Air cooled
Ad - Arsenical Admiralty
AC - Allis-Chalmers Mfg Co
Ad - Admiralty
AdI - Admiralty, inhibited
AlB - Aluminum-bronze
AlBr - Aluminum-brass
AnAd - Antimony-Admiralty
A - Anthracite
AsAd - Arsenical Admiralty

AsCu - Arsenical copper
BF - Babcock & Wilcox Co
C - Coal, bituminous
CE - Combustion Engineering-Super-heater, Inc
CP - C A Parsons
CuNi - Copper-nickel
Cv - Cyclone furnace
D - Damper
DB - Dry bottom

DL - DeLaval Steam Turbine Co
EC - Erie City Iron Works
EE - English Electric
EI - Elliott Co
EW - Edge Moor Iron Works, Inc
FF - Foster Wheeler Corp
G - Natural gas
GE - General Electric Co
H - Hydrogen cooled
Hy - Hydraulic coupling

L - Lignite
W - Motor drive
Wa - Magnetic coupling
Wf - Murray Iron Works Co
Wp - Two motors per fan
WT - One motor, one turbine per fan
Wm - Muntz metal
O - Oil
P - Pulverized coal fired
PAd - Phosphorized Admiralty

Steam Central-Station Installations

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				CONDENSERS			Total boiler capacity incl. new units, 1000 lb	Total generator capacity, 1000 kw		
				Drive	Air-flow control	Drive	Gas-flow control		Type	Heating value, 1000 Btu per lb	Ash-soaking temperature, °F	Drive	Flow control	Capacity, 1000 kw	Speed, rpm	Manufacturer	Backpressure, psia	No. of bleed points	Generator cooling	Surface, 1000 sq ft			No. water passes	Tube material
DB	51.8		M	V	M	V	P	O	C	13.4		2M, 1T		30*	3600	WE	0.5	4	H	20.0	1	Ad	1325	120
DB	0	72.5	Tu	M	D	O	P	P	C	18.3		3M		30*	3600	GE	1.25	5	H	30.0	2	AlBr	350	30
DB	0	61.2	Re	M	D, V	M	D, V	G, O	G, O	1115 ¹¹		2M	R	30*	3600	WE	0.75	5	H	27.5	2	AlBr	1120	75
DB	34.1		Tu	M	O	M	O	G, O	G, O	1083 ¹¹		1M, 1T		20*	3600	GE	0.75	4	H	19.0	2	Ad	1074	107
	6.1	17.2						SS(445)	L	6.6	2000	2M, 1T		15	3600	GE	1.0	4	H	16.0	2	Ad	160	15
	10.5	127.5	Tu	M	Hy	M	Hy	P	C		1950	2M	R	60*	3600	WE	0.5	4	H	45.0	2	AnAd	2440	210
DB	34.6	60.1	Tu	M	V	M	Hy	P	C	12.5	2300	2M		60*	3600	GE	0.75	4	H	42.5	2	PA	3100	290
DB	34.6	60.1	Tu	M	V	M	Hy	P	C	12.5	2300	1M		60*	3600	WE	0.75	4	H	42.5	2	PA	1950	180
DB	20.4	111.0	Pl	M	Hy	M	Hy	P	C	12.5	2300	1M		60*	3600	WE	0.75	5	H	42.5	2	AnAd	1800	180
DB	66.6		Tu	M	V	M	D	G, O	G, O	1050 ¹¹		2M, 1T	R	40*	3600	AC	0.75	4	H	27.5	1	Ad	900	88
DB			Re	M	Ma	M	Ma	P, G, O	C, G, O	11.5	1900	1M, 1T	R	30*	3600	WE	0.75	4	H		2	AsCu	950	82
DB			Re	M	Ma	M	Ma	P, G, O	C, G, O	11.5	1900	1M	R										1300	82
DB			Re	M	V	M	Ma	P, G, O	C, G, O	1000 ¹¹		2M, 1T	R	20*	3600	GE	0.75	4	H		2	AsCu		20
														20*	3600	WE	0.75	4	H		2	AsCu	810	40
														30	3600	GE		5	H		2	AsCu	810	70
														30*	3600	WE	1.0	5	H	36.0	2	AsCu	470	40
	3.8	6.9	Tu	M	V	M	S, D	SS(176)	C, O, G	11.0	2000	1M	R	7.5	3600	GE	1.0	3	A	8.0	2	PA	375	20.7
DB	0	31.8	Re, Pl	M	D, Hy	M	D, Hy	P, G	C, G	10.5	2200	3M	R	15	3600	GE	0.75	3	A	16.0	2	Ad	415	30
DB	0	16.0	Tu	M	V	M	D	G, O	G, O	1000 ¹¹		2M	R	7.5	3600	WE	0.75	3	A	9.5	2	Ad	100	7.5
DB	2.1	6.6	Tu	M	O	M	D	SS(211)	C, O	10.5	1900	2M	R	7.5	3600	El	0.75	3	A	7.0	2	Ad	90	7.5
DB	0	14.0	Tu	M	D, V	M	D, V	P	C	12.5	2300	2M		5.0	3600	GE	0.75	3	A	5.0	2	Ad	70	5
	2.0	4.8	Tu	M	D	M	D	TG(228)	C	11.0	2300	1M, 1T	R	7.5	3600	AC	0.75	3	A	10.0	2	Ad	220	15
DB	0	27.8	Re	M	V		D, V	G	G	1080 ¹¹		2M	R	15	3600	GE		4	H	20.0	2	AsAd	330	26.2
	0	4.8		M	D	MT	Hy	TG(434)	L	7.0	2000	2M, 1T		15	3600	CP	0.4	1	A	13.0	2	Ad	240	22.5
	0	6.3								6.6	2000	2M		5	3600	GE	1.0	3	A	7.0	2	Ad	150	10
	0	4.9	Tu	M	V	M	Hy	SS(117)	L	7.7	2200	2M, 1T	R	7.5	3600	GE	0.75	3	A	8.5	2	Ad	136	12
	1.5	3.7	Tu	M	Y	M	Hy	SS(155)	C	10.0	1980	1M, 1T	R	5.0	3600	WE	0.75	3	A	6.5	2	PA	120	5.7
DB	0	9.8	Tu	M	V	M	D	G, O	G, O	1000 ¹¹		1M, 1T		5.0	3600	WE	0.75	3	A	8.0	2	Ad	75	5.0
	0	5.0	Tu	M	V	M	D	SS(230)	C	6.6	2043	1M	R	5.0	3600	GE	0.75	3	A	3.75	3	Ad	338	20
			T	V	T	D	SS	C	C	9.5	2000	1T	R	5.0	3600	WE	1.5		A				290	9.7
			T	V	T	O	SS	C	C	10.0	2000	1T	R	10	1800	GE	1.5		A	11.0	2	Ad	420	24.3
			M	D	M	D	O	O	O	18.0		2M	R										36	
ST	0	65.3	Re	M	V	M	Hy	P, G	C, G		1950	2M		30*	3600	WE	1.0	4	H	32.5	2	Ad	1100	100
DB	0	58.4	Tu	M	Hy	M	Hy	P	C	6.6	2200	3M	R	20*	3600	GE	0.75	4	H	15.0	2	Ad	460	40
DB	0	54.0	Tu	M	D, Hy	M	D, Hy	P	C	11.0	2200	2M	R	15*	3600	GE	1.0	4	H	12.0	2	Ad	550	45
DB	0	54.0	Tu	M	D, Hy	M	D, Hy	P	C	11.0	2200	2M	R	15*	3600	GE	1.0	4	H	12.0	2	Ad	260	15
	11.5	0	Ma	D, V	Ma	V	SS, TG	C, G	C, G	11.0	2070	M	R	12.5	3600	GE	1.0	3	A	14.0	1	Ad	440	27.3
	2.9	6.6	Tu	Ma	D	Ma	V	SS, TG	C, G	11.0	2150	1M, 1T	R	7.5*	3600	El	1.0	3	A	10.0	2	Ad	180	15
	2.5	6.3	Tu	Ma	D	Ma	D	SS, TG	C, G	10.1	2000	1M	R	7.5*	3600	GE	1.0	3	A	10.0	2	Ad	200	15
DB	0	14.6	Tu	M	V	M	Ma	G	G	1047 ¹¹		1M, 1T	R	11.5*	3600	El	1.25	4	A	14.0	2	As	115	11.5
	4.8		Tu	M		Ma		O	O			6M		7.5	3600	WE	1.25	3	A	9.0	2	AlBr	170	22.5
DB	0	5.9	Tu	M	V	Ma	S, V	G, O	G	1100 ¹¹		2M, 1T	R	4.0*	3600	GE	1.25	3	A	5.0	2	Ad	120	8
	4.4	16.8	Tu	M	V	M	Hy	TG, SS	L, O	7.0	1900	2M	R	11.5*	3600	GE	0.75	3	A	13.0	2	Ad		
	2.1	8.6	Tu	M	V	M	Hy	TG, SS	L, O	7.0	1900	1M, 1T	R	5.0*	3600	DL	0.75	2	A	6.8	2	Ad	279	21.5
DB	0	7.6	Tu	M, T	S	M, T	SS	P	C			1M, 1T		11.5*	3600	GE		4	A				320	25
			Tu	M	V	M	V	P	C	14.0	2600	1M, 1T	S	7.5	3600	WE	1.0	2	A		2		85	7.5
DB	11.6	0	MT	V	MT	D	TG(14)	C	C	13.5	2700			10	3600	AC	1.0	4	A	13	2	Ad	480	30
DB	0		Re	M	V	MT	D	P	C	14.0		1M, 3T	R	15	3600	GE		1	A		2		240	15
DB	0		Tu	M	D	T	D	P	C			1M, 1T	R	5	3600	WE	0.5		A				140	11
DB	0	0	Tu	M	S	G	G	G	G			2M, 1T	R	4	3600	GE	0.5	2	A				100	5.8
DB	0	4.3	Tu	T	D	M	D	G, O	G, O	1010 ¹¹		1M, 1T	R	2.0	3600	El	1.0	1	A	3.0	2	Ma	85	3.4
	0	0	MT	V, Ma	MT	V, Ma	TG(120)	C	C	12.5	2450												300	21
	0		Ma	S, D	Ma	S, D	UF(1981)	C, G	C, G	12.5	2000	2M, 1T	S	10	3600	GE	0.75		A	10.0	3	Ad		
	0		MT	S, D	MT	S, D	SS	C	C	11.5	2000	M, T		5	3600	AC	1.0	2	A		2	Ad	114	10
DB	0	1.9	Tu	M	V	Ma	S, V	G	G	1000 ¹¹		1M, 1T	R	10	3600	GE	0.75	4	A	13.0	2	PA	410	25
DB	0	7.3	Tu	M	D	Ma	Hy	P	C	13.0	2650	1M, 1T	R	5	3600	WE	1.25	3	A	6.0	2	Ad		15
	5.5	0		M	V	M	V	SS	C	11.0	2100	1M, 1T	R	5	3600	GE	1.0	3	A	4.0	1	Ad	200	9.0
	2.9	0	MT	Ma, V	MT	Ma, V	SS(252)	C	C	11.2	2000	2M, 1T	R	10	3600	El							282	12.8
	0	0		M	Ma	Ma	SS(84)	C	C			2M		1.5	3600	CP	0.75	2	A	2.1	2		55	2.8
DB	0	0		M	D, V	M		G	G	980 ¹¹		2T	R	5	3600	CP	0.75	3	A	4.8	2		192	13.4

Pl - Plate
 R - Regulator
 Re - Regenerative
 S - Riley Stoker Corp
 S - Speed control
 SP - Springfield Boiler Co
 SS - Spreader stoker
 ST - Slog top
 T - Turbine drive

TG - Traveling-grate stoker
 Ts - Tubular
 UF - Underfeed stoker
 V - Union Iron Works
 V - Vane control
 FB - Wm Bras Boiler & Mfg Co
 WE - Westinghouse Electric Corp
 WT - Wickes Boiler Co
 (306) - Sq ft stoker area

1 - Revised, first listed 1949 survey
 2 - Reheat to 1000°F
 3 - Includes reheater
 4 - AIEE-ASME preferred standard
 5 - 7,500 kw house generator
 6 - AIB in air-cooler section
 7 - Forced circulation
 8 - 2 units installed
 9 - Reheat to 950°F

10 - Two-section heater
 11 - Btu per cu ft
 12 - 2 fans
 13 - Extraction at 315 psig
 14 - Also 1500 rpm
 15 - Pressurized furnace
 16 - M-p 3600, L-p 1800 rpm
 17 - Used equipment to meet critical conditions
 18 - Coke-oven gas

1950 Design Survey of Typical Industrial and

Compiled by J C McCabe, Associate Editor			BOILERS										
Company	Location	Consulting Engineers	First operation, new units	Nominal pressure, psi	Nominal steam temperature, F	Number	Capacity, each, 1000 lb per hr	Manufacturer	Heating surface, 1000 sq ft	Furnace volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr	Furnace bottom	Economizer surface, per boiler, 1000 sq ft
600 PSI AND ABOVE													
Carnegie-Illinois Steel Corp.	Chicago, Ill.	United Engrs & Constr Corp.	1951	1025	900	1	650	RS	75.1	49.0	17.5	OB	12.0
Imperial Irrigation Distr.	El Centro, Calif.	Gibbs & Hill	1952	960	900	1	300	BW	28.4	11.1	34.3	OB	
Macon Kraft Co.	Macon, Ga.		1949	850	750	2	150	CE			19.3	OB	
Mack Molding Co.	Arlington, Vt.		1949	800	518	1	12	BW	2.0				
Gulf Oil Corp.	Toledo, Ohio		1948	725	605	2	70	BW	7.4				
Pacific Mills, Ltd.	Ocean Falls, B. C.		1948	725	750	1	175	BWG	15.6	7.0	19.7	OB	0
Fraser Paper, Ltd.	Madawaska, Me.	Stone & Webster	5-50	700	750	1	150	CE		9.3	19.0		
American Boxboard Co.	Filer City, Mich.	Carroll, Bechtel & Langtry	5-50	675	750	1	125	BW	11.8			OB	
American Cyanamid Co.	Pearl River, N. Y.		1950	675	750	1	85	FW	14.1	5.3	22.7		
Central Sogo Co.	Decatur, Indiana	Sargent & Lundy	1950	675	760	1	80	BW	7.9	3.4	27.3		5.2
National Container Corp.	Ontonagon, Mich.	Helmick, Edesbury & Lutz	1949	675	700	1	47	CE	13.9				1.7
Carnegie-Illinois Steel Corp.	Gary, Indiana	United Engrs & Constr Corp.	9-49	650	825	3	250	RS	79.6	18.0	19.9	OB	4.7
Continental Oil Co.	Ponca City, Okla.		1-50	650	750	1	90	Vo	9.8	4.8	27.9		0
Fibreboard Products, Inc.	East Anchorage, Calif.	Leola S. Rosener	1949	650	750	2	160	BW	15.2			OB	
H J Heinz Co.	Pittsburgh, Pa.		1950	650	730	2	70	CE	23.2				4.6
Thilmann Pulp & Paper Co.	Kaukauna, Wis.	Pfeifer & Schultz	1949	650	700	1	90	BW	7.8	3.0			2.9
Carnegie-Illinois Steel Corp.	Ramstein, Pa.		4-50	625	750	1	300	RS	119.3	23.0	19.9	OB	0
Jefferson Chemical Co.	Port Neches, Texas		1949	625	760	3	85	FW	12.1	4.8	23.7	OB	0
Riegel Paper Co.	Acme, N. C.	J E Sirrine	1951	625	725	1	52	CE					
Tennessee Eastman Corp.	Kingsport, Tenn.		1949	620	710	3	150	BW	18.8	8.1	26.4		7.3
American Boxboard Co.	Filer City, Mich.	Carroll, Bechtel & Langtry	5-50	615	750	1	125	BW	11.8		21.5	OB	
Medford Corp.	Medford, Oregon		1950	600	680	1	100	RS	18.5	9.7	18.2		0
West Virginia Pulp & Paper	Charleston, S. C.		1950	600	700	1	325	FW	26.6	17.5	26.0	OB	22.8
West Virginia Pulp & Paper	Luke, Md.		1949	600	700	1	103	BW	22.5				5.2
West Virginia Pulp & Paper	Luke, Md.		1950	600	700	1	103	BW	22.5				5.2
West Virginia Pulp & Paper	Luke, Md.		1950	600	700	1	103	BW	22.5	15.2		ST	5.2
300 - 599 PSI													
Minneapolis Street Ry.	Minneapolis, Minn.		1949	525	850	1	160	BW	17.7	9.1	26.2		8.4
Dow Chemical Co.	Freeport, Texas		1-51	500	750	1	250	RS	24.6	11.0	34.2		0
Hudson Pulp & Paper Corp.	Palatka, Fla.	J E Sirrine	1951	500	750	1	60	BW	3.4	2.5		OB	
New York & Pennsylvania Co.	Johnsburg, Pa.		1950	500	500	1	85	CE	3.4	2.5		OB	
Pabst Brewing Co.	Milwaukee, Wis.	Stone & Webster	1-50	500	575	3	68	EM	12.7	3.2	26.9	OB	3.9
St. Joseph Lead Co.	Josephtown, Pa.		1950	500	700	3	8	BW					
Tulsa Water Works	Tulsa, Okla.	G F Phillips & Assoc.	4-50	500	750	1	34	UI	4.7		28.0		0
W T Carter & Brother, Lumber	Camden, Texas	M E Baydar, Jr.	1950	475	580	2	35	Vo	5.4		18.7		
J I Case Co.	Racine, Wis.		1949	475	750	1	100	MI	7.9		35.5		1.7
Crossart Paper Mills	Crossart, Ark.		1949	475	700	1	89	CE	22.1			ST	2.8
Florida State Hospital	Chattahoochee, Fla.	Reynolds, Smith & Hills	3-50	475	575	1	60	BW					
International Paper Co.	Corinth, N. Y.		1950	475	700	1	80	CE	11.3	3.1	33.8	OB	4.9
Miller Brewing Co.	Milwaukee, Wis.	A G Benning	1950	475	700	2	40	BW	7.0	2.7	22.0	OB	
Stranoud Oil & Gas Co.	Andrews County, Texas		1949	475	712	3	40	W					
Sutherland Paper Co.	Kalamazoo, Mich.		1950	475	650	1	100	W	11.5	5.3	24.6	OB	6.4
Lee Rubber & Tire Co.	Cornshackon, Pa.		1950	460	700								
Harvard Brewing Co.	Lowell, Mass.	C T Main, Inc.	1949	450	353	2	21	BW	2.8				
Hudson Pulp & Paper Corp.	Palatka, Fla.	J E Sirrine	1951	450	725	1	113	BW	13.7			ST	4.9
International Paper Co.	Georgetown, S. C.		1949	450	675	1	200	BW	17.6	13.0	20.0		2.9
Magnolia Petroleum Co.	Beaumont, Texas		9-50	450	675	1	175	CE	15.9	8.4	27.8	OB	
Magnolia Petroleum Co.	Rush Springs, Okla.		1950	450	690	2	25	Vo					
John Morrell Co.	Sioux Falls, S. D.	Helmick, Edesbury & Lutz	1950	450	700	1	100	BW	10.4	9.2			
National Container Corp.	Jacksonville, Fla.		4-50	450	700	1	75	CE	20.0				2.3
Niagara Alkali Co.	Niagara Falls, N. Y.		1950	450	421	1	65	BW	6.3				
Quaker State Oil Refining	Emmerton, Pa.		1950	450	525	1	60	BW		2.5		OB	
Riegel Textile Corp.	Ware Shoals, S. C.		1950	450	535	1	120	RS	16.8	7.8		OB	0
Sprackles Sugar Co.	Sprackles, Calif.		7-50	450	600	1	175	CE	15.3	7.3	30.0		
Celina Searic Acid Co.	Celina, Ohio		1948	425	500	1	12	BW					
Fletcher Paper Co.	Alpena, Mich.	Cummins & Barnard		425	700	1	45	W	6.2	2.4	26.7	OB	3.6
Congalium-Nairn Inc.	Keamy, N. J.		1949	420	710	1	60	BW	7.0	2.7	30.0	OB	
American Coating Mills	Midletown, Ohio	B M Baxter	1949	400	600	1	55	SW	6.1				3.6
Deer of Public Works	Chicago, Ill.		1952	400	648	4	45	EM	7.5	2.3			0
Liberty Powder Co.	Mt. Broadock, Pa.		1949	400	371	2	17	BW	2.8			OB	0
Lone Star Steel Co.	East Texas, Texas			400	750	1	100	RS				OB	
Lone Star Steel Co.	East Texas, Texas			400	750	3	100	BW	50.0	25.0		OB	

† - Air-cooled
Ad - Arsenal Admiralty
AC - Allis-Chalmers Mfg Co
AsCs - Arsenal copper
Ad - Admiralty
Al - Ames Iron Works
An - Anthracite
Bl - Bigelow Co
BL - Black liquor
Br - Brass

BF - Babcock & Wilcox Co
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McCullough
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GE - General Electric Co

H - Hydrogen cooled
HF - Haged Fuel
Hy - Hydraulic coupling
Ke - E Keeler Co
M - Motor drive
Mc - Magnetic coupling
Me - Mechanical
VT - One motor, one turbine per fan
Mu - Muntz metal
O - Oil

Institutional Power Plants: 200 Psi and Above

Air-heat surface, per boiler, 1000 sq ft	All-heat type	F-D FANS		I-D FANS		Firing	FUEL		FEED PUMPS		TURBINES					CONDENSERS			Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw		
		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, psi	No. of bleed pts	Generator cooling	Surface, 1000 sq ft			No. water passes	Tube material
100.0	Tu	M	D	M	S	O, G ¹	C	90	2 T	S	60	3600	GE	1.0	5	H	55.0	2	Ad	650	60	
40.1	Tu	M	V	M	D	O, G ²	C	18.2	2 M	R	30	3600	AC	1.0	5	H	27.5	2		560	50	
						P		13.0	2200													
						W		6.8		2M, 1T	R	5.0	3600	GE	1.0	1	A					
						O		17.5		2 Du	R	7.5	3600	GE	1.0	1	A					
4.1	Tu	O	M, T	V	V	O, G	O		2 T	S, R											456	0
21.2	Tu	O	T	S	T	O ²	O	18.4	2060	1M, 1T	R	5.0	3600	Qe	140	1	A				400	14
	Tu	M	D	M	D	P	C	10.5		1M, 2T	R										355	12
43.2	Pl	M	D	M	V	P, O	C	11.1	2000	2 T	S	5.0	3600	GE	50	2	A	4.5	2	Ad	700	17.5
6.9						SS (214)	O, G, An															
	O	M	D	M	D	SS (145)	C	10.6	1900	1M, 1T	R	2.0	3600	GE	35	1	A				150	4.0
	Tu	O	M	D	M	Hy	O, BL	6.5		2 T	S, R	1.0	3600	WE	175		A				100	3.5
38.5	Tu	O	T	S	T	S, D	O, G ¹	90		1M, 3T	S, R										2000	145
9.9	Tu	O	T	S	T	S	O, G	1.3		1M, 2T	S, R	8.0	3600	WE	190		A					
												1.0	3600	EL	1.0		A				4.2	2
												1.0	3600	AC	1.0		A					
21.9	Tu	E	T	S	T	S	O, G	18.0														
11.2	Tu	M	D	M	D	BL	BL	6.5														
	Tu	M	D	M	D	SS (189)	C	12.0	2250	1M, 2T	R	5.0	3600	GE	50		A				429	15
7.6	Tu	M	M	M	M	SS (212)	C	12.5		1 T	R	3.0	3600	WE	125	1	A				175	3.0
75.0	Tu	O	T	S, V	T	P, G ¹	G	90		3 T	S, R										1650	62
6.4						G	C															
4.7						SS	W	4.6														
13.2						O	O	18.5				7.5	3600	GE	1.0	2					252	7.5
						BL	O															
						SS (232)	C			1 T	S, R	6.0	1800	GE	1.0	1	A	8.6	2		1842	43.5
21.6	Tu	M	D	T	D	P, O	C	11.1	2000	2 T	S, R	5.0	3600	GE	0.75	2	A	4.5	2	Ad	340	8.0
13.2	Tu	M	V	T	S	W	W	8.0		1M, 1T	S	4.5	3600		150		A				200	4.5
11.1	Tu	E	M	V	T	S, D	SS (516)	C, O	12.5	2200											1400	
11.1	Tu	E	M	D	T	S	BL	4.0														
11.1	Tu	E	M	D	T	S	BL	4.0														
11.1	Tu	E	M	D	T	S	BL	4.0													925	
21.2	Tu	O	T	D	M	SS (347)	C, G	12.0	2100	1 T	S, R										770	85
						G	O	1.0		1M											2000	97
6.8	Tu	M	D	M	D	O	O	17.7		1M, 2T, 1Du	R	7.5	3600	GE	1.25	2	A	5.0	2	Ad	500	15
						W	W															
						BL	BL	5.0		1M, 1T											700	11
	O	M	V	M	D	SS (154)	C, O	12.0	2200	1M, 2T		1.5	3600	WE	10	1	A				204	3.0
												0.3	3600	GE	25	1	A					
												1.0	5000	GE	25	1	A	1.25	2	Ad	38	1.3
	Tu		D			O, G	G	1.0		2T	Hy		3600	DL	0.75	2					68	
						W	W	4.5														
6.5	Tu	M	V	M	Hy	SS (183)	C	11.0	2000	1M, 1T	S	5.4	3600	GE		4	A	8.4	2	Ad	260	10
7.0	Tu	E	M	Hy	M	BL	BL, O, G	3.0		2M, 1T	S, R	6.0	3600	WE	0.5	1	A	7.0	2	Ad	475	14.5
	Tu	O	M	D	M	P, C	C	14.4	2400	2M, 3T	S	1.0	3600	W	100	1					160	1.75
												0.75	3600	GE	100	1						
3.1	Tu	M	V	M	D, Hy	TG (330)	An	12.1	2900	1M, 1T											380	15
					S, D	SS (117)	C, O	12.1	2000	1M, 1T	S, R	2.5	3600	WE	15	1	A				125	3.0
	O	M	T	S	T	G	G	1.1		1M, 1T	R										120	1.5
					S	SS (212)	C	12.5	2400	1M, 1T	S										325	10.8
										1M, 1T	S, R	2.0	3600	EL	130		A				80	2.0
						O	O														42	
10.3	Tu	M	S	T	S	BL	BL	6.8													500	15
25.3	Tu	M	D	T	S	SS (398)	W, O	18.4		2T	R										1500	30
14.2	Tu		D	T	S	G	G														1655	32.5
						O, G	C	1.1		2T	R	1.2	4800	GE							50	1.2
17.9	Tu	M	M	M	P, O, G	BL	BL			1M, 2T	S										300	
6.5	Re	M	D	T	S	Hy	P			1M											300	10
																					200	
10.4	Tu	M	V	M	D	TG (149)	C	13.3	2110	2Du	S										190	
21.5	Re	O	M	D	M	O, G	O	14.0	2600	3M, 1Du	S, R	7.0	3600	GE	40		A				290	7.0
								18.5		2M, 1T	S	3.0	3600	WE	60		A				680	5.2
	O	M	D, V	M	D	UF (50)	C	14.0	2650	4Du	R	0.2		SE	2		A					
						SS (111)	C	11.6		1M, 1T		2.5		EL	2.0	1	A	2.5				
6.5	Tu	M	T	S	M	P, O	C	13.5	2600	1M	R										150	2.8
						TG (174)	C			1M, 1T	R	1.5	3600	WE	20	1	A				55	1.5
						UF (130)	C	13.0	2000	2M, 1T	S, R										100	
	C	M	D		D	SS (90)	C	14.0		2Du	R										34	12
	Tu	C	M	D	M	G	G	90														
	Tu	O	M	D	M	G	G	90		1M, 2T	R	10.0	1800	WE	1.0	O	A	45.0	2	Mu	400	17.5

Oe - Maschinen Fabrik Oerlikon
 P - Pulverized-fuel firing
 Pl - Plate
 R - Regulator
 RS - Riley Stoker Corp
 S - Speed control
 SE - Skinner Engine Co
 SS - Sarcader stoker
 ST - Slag Tap

T - Turbine drive
 Te - Terry Steam Turbine Co
 Tu - Tubular
 UF - Underfeed stoker
 UJ - Union Iron Works
 V - Vane control
 Vo - Henry Vogt Machine Co
 W - Wood
 WH - Waste heat

WB - Wm Bras-Berlin & Mfg Co
 WE - Westinghouse Electric Corp
 Fi - Wickes Boiler Co
 Fo - Worthington Pump & Machy Corp,
 Moore Steam Turbine Division
 FT - Wood waste
 1 - Blast-furnace gas
 2 - Future coal
 3 - Flat grate
 4 - Steam-heated

5 - Gas-air heater
 6 - Blast-furnace, natural and coke-oven
 7 - Bagasse
 8 - Pitch
 9 - Steam engines
 10 - Coke breeze
 11 - From zinc-concentrator roasting
 (150) - Stoker grate area, sq ft

1950 Design Survey of Typical Industrial and

Compiled by J C McCabe, Associate Editor

Company	Location	Consulting Engineers	First operating, year units	Nominal pressure, psi	Nominal steam temperature, F	BOILERS					Heat release, 1000 Btu per cu ft per hr	Furnace bottom
						Number	Capacity, each, 1000 lb per hr	Manufacturer	Heating surface, 1000 sq ft	Furnace volume, 1000 cu ft		
Sonoco Products Co	Hartsville, S. C.			400								
Canadian National Rwy.	Montreal, Que.		1949	380	493	1	15	FW	2.4	0.9	27.6	DB
Carthage Fabrics Corp	Carthage, N. C.		1950	375	410	1	3.6	CE	0.25			
Pure Oil Co.	Warland, Wyo.		11-49	375	Ser	3	24	EC	3.5	1.0	32.5	DB
Southwest Gas Producing Co.	Dubach, La.		1949	360	536	3	60	Vo				
Marinette Paper Co.	Marinette, Wis.		1950	350	500	1	50	BW	7.9	2.6		
Sarco Co.	Bathlehem, Pa.		1949	350	Ser	1	3.5	IB	0.4	0.1	38.0	DB
Gypsum Lime & Alabastine Ltd.	Winnipeg, Man.	W M Bird	2-50	325	400	1	30	FW	4.6	1.6	26.2	
American Seating Co.	Grand Rapids, Mich.	Hamilton, Weiler & Ward	1950	300	600	1	60	Wi	8.1	3.0	25.4	3.2
Connecticut State Hospital	Middletown, Conn.	Fletcher Thomson	5-51	300	455	4	40	BI	6.1	1.8	29.0	
Cooperative Refinery Assn.	Coffeyville, Kan.		1950	300	464	1	50	EC	6.9	2.4	28.0	DB
Great Falls Bleachery & Dye Wks.	Somersworth, N. H.		4-50	300		3	25	Wi	2.5	0.6	55.7	
Mansfield State Training	Mansfield, Conn.	Hurley & Capocceola	11-50	300	456	3	30	BI	4.3	1.4	28.0	
Shell Oil Co.	Elk City, Okla.		1950	300	406	3	18.5	Vo	3.2	1.1	22.5	
J P Stevens & Co.	Cheraw, S. C.	J E Sirrine	1950	300	Ser	1	80	CE	9.4			
Texas Gulf Sulphur Co.	Warland, Wyo.		1950	300	403	3	50	BW	4.0			
Tarrant State Hospital	Tarrant, Pa.	H F Lenz	1950	300	366	1	45	BW	6.9	1.9	24.5	0
United States Rubber Co.	Los Angeles, Calif.		8-50	300	Ser	1	70	BW	7.4	3.2	28.0	
Univ of Oklahoma	Oklahoma City, Okla.	Collins	1949	300		2	10	MI				
Walker Bros.	Conshohocken, Pa.		1950	300	Ser	1	14	FW	1.7			
250 TO 299 PSI												
Bethlehem Steel Co.	Steelton, Pa.		4-50	275	500	1	150	EC	21.1	13.5	14.8	DB
California Co.	Mico, La.		1949	275	406	2	33	BW				
Martinsburg State Hospital	Macedonia, Ohio	Beiswinger & Hoch	5-50	275	401	2	30	BW				
Indiana Farm Bureau Refinery	Mr Vernon, Ind.		1950	275	406	1	22	Vo	3.2			3.4
Liquid Carbonic Co.	Cincinnati, Ohio		6-50	275	475	1	17	EC	3.1	1.0	32.5	DB
Studebaker Corp.	South Bend, Ind.		1948	275	520	1	210	Fw	22.3	9.7	29.1	4.6
Texas State College for Women	Denton, Texas		1-49	275	509	2	32	Vo	5.6			
Univ of Connecticut	Storrs, Conn.	Hubbard, Lawless & Bleckly	1950	275	Ser	2	35	Bi	5.0	1.9	24.0	
Liquid Carbonic Co.	Indianapolis, Ind.		1950	270	480	1	15	CE				
Hughes Tool Co.	Houston, Texas		1950	255	474	2	21	BW	2.9			
American Can Co.	Milwaukee, Wis.		6-50	250	Ser	2	50	EC	6.9	2.3	30.0	DB
American Hide & Felt Co.	Newark, N. J.	Geo London	1950	250	Ser	1	45	CE	6.2	1.8	30.7	DB
Armco Steel Co.	Ashland, Ky.		1950	250	488	3	70	BW	10.0		25.0	
Atlanta Water Wks.	Atlanta, Ga.		1949	250	538	1	44	BW				
Aurora Gasoline	Damart, Mich.		10-50	250	Ser	1	35	Bi	5.0	1.8	26.0	
P Ballantine & Sons	Newark, N. J.		1949	250	366	1	60	BW	7.8			
Barton Salt Co.	Hutchinson, Kan.		1951	250	500	1	39	BW	6.2			
Beaver Wood Fibre Co, Ltd	Thurford, Ont.		1-51	250	Ser	2	65	FW				
Burkhardt Brewery	Alton, Ohio		1949	250	Ser	2	27	Vo	4.4	1.5		DB
Certain-Tied Products Corp.	York, Pa.	R W Sargent	1948	250	Ser	1	50	EC				
Consumers Heating Co.	Klamath Falls, Ore.		1-50	250	Ser	1	25	RS	3.6	1.9	19.7	DB
Cranston Print Wks.	Fletcher, N. C.	J E Sirrine	1-50	250	500	1	50	BW	6.8	2.3		0.6
Du Quoin Packing Co.	Du Quoin, Ill.	Ferris & Hamig	10-49	250	500	1	17	EC	3.0	0.7	35.0	DB
Formers Union Central Exch.	Laurel, Mont.		1950	250	Ser	1	75	Vo	10.1	4.1	21.3	
Fried Packing Co.	Owensboro, Ky.	A M Kinney	1949	250	416	1	27	CE				
Ford Motor Co.	Hamoung, N. Y.	Fairbrother & Michls	1950	250	Ser	3	40	CE	6.1	1.7	30.9	DB
Gonic Wg Co.	Gonic, N. H.	Harrison G White	1948	250	500	1	30	BW	4.4			
Great Northern RR.	Grand Forks, N. D.		5-50	250	381	1	29	WB	4.0	1.1	35	
Hockessack Water Co.	Oradell, N. J.		1951	250	507	2	30	CE	5.8	1.7	24.0	3.9
Hanes Dye & Finishing Co.	Winston-Salem, N. C.	W O Sprinkle	7-48	250	Ser	1	40	BW	7.1			
Jones Manville Prod Corp.	Richmond, Ind.		1950	250	Ser	1	18	CE	3.2	0.7		DB
Juice Industries Div.	Dunedin, Fla.	B C Skinner	1950	250	Ser	1	60	CE				
Kalamazoo Vegetable Parchment	Espanola, Ont.		2-50	250	450	1	100	CE	11.1	1.7	40.5	DB
Kansas State College	Mannattan, Kan.		1950	250	500	2	50	CE	6.8			0
Kerr Bleaching & Finishing Wks.	Concord, N. C.		1949	250	397	1	60	BW	7.9	2.4	30.0	0
King & Co.	Richmond, Va.	Allen J Saville, Inc.	1950	250	324	1	33	BW	4.8	1.1	39.7	
Charles Lachman Co.	Phoenixville, Pa.	C T Main	1950	250	Ser	3	22	CE	3.9			
Lima-Hamilton Corp.	Lima, Ohio		1950	250	Ser	2	75	CE	8.9	3.7	25.7	0
Long Lac Pulp & Paper Co.	Terrace Bay, Ont.	Stapler, Hunter & Co.	1948	250	Ser	3	85	FW	12.4	5.6	18.1	DB
Lukens Steel Co.	Coatesville, Pa.		1950	250	500	2	23	FW	28.2			ST
Lula Factory Inc.	Belle Rose, La.		10-50	250	490	1	43	CE	5.9	1.5		
Lynchburg State Colony	Colony, Va.		1950	250	Ser	1	21	CE				
Manson State Hospital	Paimor, Mass.	E C Brown Co.	5-50	250	Ser	1	36	EC	4.3	0.9	53.0	DB
National Vulcanized Fibre Co.	Newark, Del.		1949	250	Ser	1	27	CE	4.0	1.0	35.0	
National Waterproof Papers	Camden, N. Y.		1950	250	Ser	1	21.6	CE	3.2			
Neville Co.	Pittsburgh, Pa.		1949	250	400	1	16	CB				
N. Y. Butchers Dressed Meat	New York, N. Y.		7-50	250	Ser	2	50	CE	6.8		31.8	0
N. Y. Central System	Elkhart, Ind.		1948	250	Ser	1	24.7	BW	4.0			

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Institutional Power Plants: 200 Psi and Above

Air-heater surface, per boiler, 1000 sq ft	Air-heater type	F-D FANS				I-D FANS		Firing	FUEL		FEED PUMPS		TURBINES					CONDENSERS					Total boiler capacity incl new units, 1000 lb	Total generator capacity incl new units, 1000 kw
		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, psi	No. of bleed pts	Generator cooling	Surface, 1000 sq ft	No. water passes	Tube material				
2.7	Tu	Me	M	M	D	M	D	O	O	13.3	1970	1M, 1T	R	10.0	3600	GE	35	1	A				285	14
9.5	Tu	Me	M	M	D	M	D	O	O	19.0													105	
			M	T	O	T	S	O	G	1.0		1M, 1T	S, R	0.7	3600	GE			A				180	1.4
		Me	M	O	M	M	O	O	G	13.0	2800	2M, 1T	S										115	
2.5	Tu	Me	M	V	M	M	O	O	G	18.5													30	
		Me	M	V	M	M	S, O	O	G	7.1	2200	2M	R										145	3.0
								O	G	13.6	2600	1T	S, R											
			T	S	T	D	O	O	G	17.5		1M, 1T	R				25		1.6	2	Ad	400		
			M	D				O	G	18.3		1M, 1T		0.9	327	SE	18		A			75	0.9	
								O	G															
7.1	Tu	Me	M	V	M	T	O	O	G	13.5	2150	1M, 1T	R										80	
		O	T	D		T		G	G	1.1		3T	S										230	
0		O	MT	S, D				WH	C	12.8	2300	3T	S, R	0.5		SE	5						120	0.5
4.7	Tu	MT	V	M	MT	V		UF(128)	O, G	18.5		1M, 1T	S										150	
						Ma		G	O	1.0		2T	S, R										20	
		M						O	O			1M											14	
17.5	Tu	PI	T	D	T	D	D	G ¹ , O	G ¹ , O	1.0		2T	S										66	
			T	V	T	D	D	SS	SS	10.8	2350	2M, 1MT	R	0.5	5000	We	5		A				105	1.0
			T	T, S	T	T	T, S	O, G	O, G			1M, 1T											50	
		Me	MT	V	MT	M	S, D	O, G	O, G	11.0	2200												1,050	16
								O, G	O, G	1.0		2M		1.0	3600	MI		1	A	1.3	2	Cu	64	2.5
								O	O															
		M	V			M		O	O			2M	R										15	
						M		O	O	1.0		1M, 2T	S, R										42	
0		MT	D	O	O	D		O, G	O	18.4		1M, 1Du	R										100	
								O, G ¹	O, G ¹														746	
			T	Hy	T	Hy		UF	C, O, G			1T	R											
								O	O															
			T	D	T	D		O	O	1.0		2T											150	0.5
								O, G	O, G														98	
0		Me	MT	O	MT	O		SS(154)	C	12.5		1M, 1T, 1Du	S, R		3600	WE							54	
								SS	C														80	
3.1	Tu	Me	T	O	T	D		SS(110)	HF	4.5		1M, 2Du	S, R											
3.5	Tu	Me	M	O	M	D		SS(157)	C	13.5		1M, 1T	R										50	
								TG	C															
			T	O	T	D		O, G	O, G	17.9														
1.7		M	O	M	D	O		SS	O					0.4		El							37	
								O	O														120	
2.6	Tu	MT			MT			O	O	6.7	2050	1M, 1T		0.8	3600	GE	10	0	A				65	1.9
			T	O	T	S, D		SS	O	18.5														
	Tu	Me	M	D	M	D		SS(128)	C	12.8	2808	1M, 1Du	R										120	
								SS(61)	C	11.6		1Du	R										88	
	O	O	M	S, D	M	S, D		O	C			1M, 1T		1.3	5000	We	3.5	1	A				70	
	PI				Hy	M	O	P	C	14.0	2400	M, T	R										150	2.0
0		M	D					O, G	C	1.0		1M, 2T	R	2.0	3600	WE	5	0	A				350	5.1
4.8	Tu	Me	V	2Me	D			SS(174)	C, O	13.5	2500	2M	R										228	3.8
									C														90	
		M	D		D			UF(88)	C	12.8	2400	2Du	R										50	
		MT	Hy	MT	D, Hy	UF		SS(198)	C			1M, 2Du	R		1750	Te								
0								SS(198)	C			1M, 1T	R										300	1.8
9.5	Tu	E	M	D	M	S, D		P	C, WW			2M, 1T	R											
								BL	C															
			T	S, D				O	O	4.1		1M, 1T	R											
								SS(85)	O			3T	S, R										135	
								SS	C															
								UF	C															
		T	D	M	D			O	O	18.5														
								O	O	18.4		2Du												
0								O, G	O, G	1.0		2Du	R										28	
								O	O	18.9		1M, 1T, 1Du	R										100	
								SS	C			3Du	R										47.5	

Oe - Maschinen Fabrik Oerlikon
 P - Pulverized-fuel firing
 PI - Plume
 R - Regulator
 RS - Riley Stoker Corp
 S - Speed control
 SE - Skinner Engine Co
 SS - Spreader stoker
 ST - Slog Tap

T - Turbine drive
 Te - Terry Steam Turbine Co
 Tu - Tubular
 UF - Underfeed stoker
 UI - Union Iron Works
 V - Vane control
 Yo - Henry Vogt Machine Co
 P - Wood
 WH - Waste heat

FB - Wm Bras. Boiler & Mfg Co
 FE - Westinghouse Electric Corp
 FI - Wickes Boiler Co
 Fo - Worthington Pump & Machy Corp,
 Moore Steam Turbine Division
 FF - Wood waste
 1 - Blast-furnace gas
 2 - Future coal
 3 - Flot grate
 4 - Steam-heated

5 - Gas-air heater
 6 - Blast-furnace, natural and coke-oven
 7 - Gases
 8 - Bagasse
 9 - Pitch
 10 - Steam engines
 11 - Coke breeze
 12 - From zinc-concentrator roasting
 (150) - Stoker grate area, sq ft

1950 Design Survey of Typical Industrial and

Compiled by J C McCabe, Associate Editor

Compiled by J C McCabe, Associate Editor			First operation, new units	Nominal pressure, psi	Nominal steam temperature, °F	BOILERS				Purco volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr	Purco bottom	Escamator surface, per boiler, 1000 sq ft
Company	Location	Consulting Engineers				Number	Capacity, each, 1000 lb per hr	Manufacturer	Heating surface, 1000 sq ft				
Northampton State Hospital	Northampton, Mass.	E C Brown Co.	5-50	250	Sat	1	35	EC	4.6	0.9		DB	
Owens-Corning Fiberglass	Newark, Ohio		1949	250	Sat	1	40	CE	6.8				
L W Packard Co.	Ashland, N.H.	G H Perkins	11-49	250	Sat	1	30	Bi	5.0	1.6	25.0		
Pure Carbonic Inc.	Chicago, Ill.	R N Palmquist	1948	250	Sat	1	30	CE					
Raleigh State Hospital	Raleigh, N.C.	Wiley & Wilson	1951	250	Sat	1	50	BW	16.8		30.0	DB	0
Remington Arms Co.	Illion, N.Y.		1948	250		2	25	CE				DB	0
Revere Copper & Brass	Detroit, Mich.			250		2	22	CE	7.9				
Rockford Drop Forge	Rockford, Ill.	Lockwood Greene	1950	250		2	30	CE					
Safety Car Htg & Ltg Co	New Haven, Conn.		1949	250	Sat	1	5	Bi					
Shellmar Products Co.	Mt Vernon, Ohio	Ralph Spangle	1948	250	366	1	30	BW	3.9	1.2	33.6	DB	0
Spaulding Fibre Co.	Tonawanda, N.Y.		1949	250	Sat	2	32.5	CE					
Saratoga Electric Co.	North Adams, Mass.	F P Sheldon & Sons	1949	250	397	3	25	BW					
Standard-Coase-Thatcher Co.	Rossville, Ga.		1-50	250	Sat	1	15	CE					
Susquehanna Mills, Inc.	Sunbury, Pa.	Franklin Engrs.	1948	250	Sat	2	35	CE	5.5		25.0	DB	
United Chemical & Organic Products	Calumet City, Ill.		1949	250	371	1	40	BW	6.2				0
United Rayon Mills	Elberton, Ga.		1949	250	Sat	1	20	CE					
United States Rubber Co.	Naugahuck, Conn.		1949	250	366	3	35	W	5.5	1.6	26.5		0
U S Vanadium Corp.	Rifle, Colo.			250	Sat	1	15	RS					
Univ of Florida	Tallahassee, Fla.		1948	250	Sat	1	31	BW	3.9				
Univ of Houston	Houston, Texas		1950	250	Sat	2	27	CE	3.9				
Univ of Kentucky	Lexington, Ky.	Proctor & Ingles	1950	250	477	2	60	BW	7.8	2.7			
Univ of Maryland	College Park, Md.	Egli & Gompf	1948	250	Sat	1	100	RS	12.4	5.4	22.0	DB	
Univ of Oregon	Eugene, Ore.	J. Donald Kroecker	10-50	250	500	3	35	CE	6.9	1.9	22.7		
Upper Snake River Valley Dairy Assn.	Idaho Falls, Idaho	Power Engrg Co.	1948	250	350	1	23	CE	3.9				0
Western Gypsum Co.	Sigurd, Utah		1948	250	396	1	40	BW	5.7				
200 TO 249 PSI													
Brown Knitting Co.	Warsaw, N.Y.		1949	240	353	1	22	WB	2.6	0.9	27.6		
Ross & Roberts, Inc.	Stamford, Conn.		11-49	230	Sat	1	5	Bi					
Buld Co.	Detroit, Mich.		1949	225	366	1	120	BW	11.5	6.3			
Cornell Dubilier Elec Corp.	New Bedford, Mass.		1949	225	388	1	15	BW	2.4				
Dan River Mills	Danville, Va.	United Engrs & Constr Corp	9-50	225	500	1	100	CE	14.5	7.1	17.5	DB	
Esso Standard Oil Co.	Everett, Mass.		1950	225	485	3	80	RS	8.6	4.0	25.0	DB	0.3
Massachusetts Inst of Tech.	Cambridge, Mass.	Jackson & Moreland	11-50	225	490	2	70	W	8.4	3.1	28.6		2.6
McCarthy Chemical Co.	Winnipeg, Texas		1948	225	387	3	70	UI					
Minnesota State Hospital	Fergus Falls, Minn.		1950	225	Sat	1	28	RS	4.0	1.4			
Ohio State Univ.	Columbus, Ohio	Sargent & Lundy	1951	225	615	1	80	BW	6.7	4.4	24.3	DB	3.0
Villanova College	Villanova, Pa.	Gilbay & O'Malley		220		2	30	CE	5.5	1.5	28.5		0
Dominion Alkali & Chem Co.	Beauharnois, Quebec		1949	213	360	2	18	CB	2.5				
Howard Smith Paper Mills, Ltd.	Montreal, Quebec		1948	213	Sat	1	15	CB					
American Forge Co.	Niles, Calif.		1948	200	Sat	1	24.6	EC					
Belcher Oil Co.	Miami, Fla.		1949	200	Sat	1	17	CB	2.1				
Bowser, Inc.	Fort Wayne, Ind.		1949	200	Sat	2	25	EC	3.9		30.0		
Briggs Mfg Co.	Youngstown, Ohio		1950	200	366	1	74	BW	7.6	2.7			
Buffalo State Hospital	Buffalo, N.Y.		1950	200	364	4	53.5	BW	8.3				
Canadian Pacific Rwy	Montreal, Que		1950	200	495	2	20	FW					
Celina Stearic Acid Co.	Celina, Ohio		200		Sat	1	18	Vo					
Crown Zellerbach Co.	West Linn, Oregon		200	500	2	120	BW	10.0	5.0	33.6		0	
Dalhousie Univ.	Halifax, Nova Scotia	Engrg Serv Co.	1950	200	Sat	2	15	FW					
O Norman Beatty Memorial Hosp.	Westville, Ind.		1950	200	366	3	40	UI	6.0	1.8			
Faure Mineral Co.	Easton, Pa.		10-49	200	Sat	1	21	EC	3.5	1.0	26.0	DB	
Gilet Carbonizing Co.	Lowell, Mass.		1948	200	Sat	2	17	CB					
Girard College	Philadelphia, Pa.		1949	200	366	1	12	BW	2.5				
Hotel Dennis	Atlantic City, N.J.	Pennell & Wiltburger	9-50	200	Sat	1	14	Bi					
International Harvester Co.	West Pullman, Ill.	E K Moore	1950	200	377	1	60	Vo	8.4	2.4	31.0		
Minneapolis-Moline Co.	Moline, Ill.		1948	200	370	2	25	MI	4.0				
Moose Lake State Hospital	Moose Lake, Minn.	Talitz, King & Day	1950	200	378	1	24	UI	3.5	1.1	27.5		0
Morgan Dyeing & Bleaching Co.	Rochelle, Ill.	E H Casson	1949	200	366	1	30	BW					
New York & Pennsylvania Co.	Lock Haven, Pa.		1949	200	500	1	70	EC	8.5	3.2	30.9		
New York & Pennsylvania Co.	Willbore, N.Y.		3-50	200	Sat	2	8	EC	4.1				
Oswego Falls Corp.	Fulton, N.Y.	Burns & Roe	1950	200	415	3	50	RS	6.9	2.2	28.1	DB	1.1
Paraffine Co.	Metuchen, N.J.		1950	200	365	2	40	BW					
Reeves Mfg Co.	Dover, Ohio	Paul Prince & Assoc	1949	200	Sat	2	40	EC	5.8	1.8	29.0	DB	
Rock Island Refining Corp.	Rock Island, Ind.		1950	200	470	1	36	Vo	5.3	2.1	25.0		
St Joseph's Hospital	Lancaster, Pa.		9-50	200	353	3	13.5	BW	2.5	0.5			
St Peter State Hospital	St Peter, Minn.	Talitz, King & Day, Inc.	1-50	200	Sat	1	28	EC	5.0	1.3	28.0	DB	
Sears Roebuck & Co.	Seattle, Wash.	H W Beecher	200	200	Sat	2	22	BW	6.5				
A G Spaulding & Bros, Inc.	Chicago, Mass.		11-50	200	Sat	1	16	Bi					
State Penitentiary	Jefferson City, Mo.	Fitzpatrick & Nash	2-50	200	Sat	2	28	W	2.8	0.7	51.5	DB	0
Stauffer Chemical Co.	Niagara Falls, N.Y.		1949	200	366	1	45	BW	6.8				
Sun-Citrus Products Co.	Haines City, Fla.		200			1	25	EC					
U S Dept of Interior	Rifle, Colo.		1950	200	385	1	15	UI	2.5	0.7	29.3		
U S Tobacco Co.	Chicago, Ill.		1948	200	378	1	40	BW	6.5				
Univ of Alberta	Edmonton, Alta		1950	200	382	2	50	FW					
Univ of Toronto	Toronto, Ont.	H G Acres	1951	200	387	2	75	JI	8.0	4.1	21.7		
Walla Walla College	Walla Walla, Wash.	E F Cross	1949	200	Sat	2	20	EC	6.2	0.6		DB	
Wells Lumber Supply Co.	Springfield, Mass.		1948	200	Sat	1	22	RS	3.3				
Western Milk Co-op.	Rochester, N.Y.		1949	200		1	4	CS					
Westinghouse Elec Corp	Hyde Park, Mass.		1950	200	371	2	30	BW	3.7	1.0			

Institutional Power Plants: 200 Psi and Above

[illegible]

1950 Design Survey of Typical Industrial and

Compiled by J C McCabe, Associate Editor

Company	Location	Consulting Engineers	First operation new unit	Nominal pressure, psi	Nominal steam temperature, °F	Number	BOILERS		Firing	TURBINES					Total better capacity, incl new units, 1950 kw	Total generator capacity, incl new units, 1950 kw
							Capacity, each 1000 lb per hr	Manufacturing		Capacity 1000 kw	Speed, rpm	Manufacturer	Backpressure, psi	No. of bleed gas		
161 TO 199 PSI																
Westmoreland Hospital Assn.	Greensburg, Pa.	E. O. Tucker	1950	196	338	1	11	UI	UF(56)						24	
Canadian National Rwy.	No. Battleford, Sask.		1949	192	327	1	6									
Canadian National Rwy.	Hudson Bay Junction, Sask.		1949	192	327	1	6									
Canadian National Rwy.	Drumheller, Alta.		1949	192	327	1	6									
York Knitting Mills	Woodstock, Ont.		1950	192	353	2	6	CV	UF							
U.S. Penitentiary	McNeil Island, Wash.		1949	185	480	1	13.8	Ke	An	1.0	4500	W	1.3	1	44.9	2.1
Crane Co.	Chicago, Ill.	Sargent & Lundy	1949	180	373	1	75	BW	SS(166)							
Flintkote Co.	East Rutherford, N. J.	R. R. Insand	1950	180	440	1	30	RS							50	
Roanoke Mills Co.	Roanoke Rapids, N. C.		180	Set	2	40	AW	SS							80	
U.S. Veterans Administration	Sawelle, Calif.		2-50	180	375	2	50	UI	O.G.						117	
Zion's Co-op Mercantile Inst.	Salt Lake City, Utah			180	460	1	18.5	UI	O.G.	1.0	200	SE	6.3		50	1.0
Delaware, Lackawanna & Western RR	Hoboken, N. J.		1950	175	378	1	60	FW	O						240	
Native Lace Co.	Dallas, Pa.		1948	175	Set	1	18	IB	TG							
Noranda Mines	Noranda, Que.		190-51	175	525	1	22.5	JI	WH							
U.S. Plywood Corp.	Orangeburg, S. C.	Lockwood Greene		175	Set	1	17	BW	WW							
W. J. Jette Co.	Montreal, Que.		1950	171		2	18	CV	O							
Episcopalian Corp.	Ottawa, Ont.		1950	170		2	24	CV	O							
Sharpe & Dahme Inc.	North Wales, Pa.		1950	170	Set	2	40	CE	O							
National Institutes of Health	Bethesda, Md.		1952	165		3	150	EM	O						450	
151 TO 160 PSI																
Acton Rubber Co.	Actonville, Que.			160	Set	1	15	CV	UF							
Adelphi Academy	Holly, Mich.	R. Cole	1949	160	363	1	12.5	WB	C						25	
Allied Kid Co.	Wilmington, Del.		1949	160	331	1	17	BW	C							
Allis Chalmers Mfg. Co.	West Allis, Wis.	F. G. Schmid		160	470	2	175	RS	P	7.4	3600	AC			672	12
Arkport Dairies	Arkport, N. Y.		1950	160	Set	1	20	EC	O							
Aron Canning Co.	Stockton, Calif.		1949	160	Set	1	30	EC	O							
Babcock & Wilcox Co.	Alliance, Ohio		1949	160	353	2	25	BW	UF						50	
Bailey Meter Co.	Cleveland, Ohio		1948	160		1	10	BW	UF							
Baillentine Brewing Co.	Newark, N. J.		1949	160	350	2	35	BW	O						90	
Beecher Falls Mfg. Corp.	Beecher Falls, N. Y.		1951	160	Set	2	23	W	O	0.2	200	SE	12		23	0.9
San Secours Hospital	Grosse Pointe, Mich.		1950	160	Set	1	11	EC	O							
Brigham Young Univ.	Provo, Utah	Earl Griston	2-50	160		1	21	UI	P							
Brown & Williamson Tobacco Corp.	Petersburg, Va.		2-50	160		1	20	RS	TG							
Butler City Memorial Hospital	Butler, Pa.	Fosdick-Melmer	1950	160	338	2	20	BW	UF						40	
Butler & Ullman, Inc.	Hadley, Mass.		1948	160	324	1	16.5	BW	UF							
H. F. Byrd, Inc.	Berryville, Va.		1949	160	Set	1	16	EC	O							
Carlisle Tire & Rubber Co.	Carlisle, Pa.		1950	160	Set	1	16	EC	SS						26	
Chicago Natural History Museum	Chicago, Ill.		1950	160	338	2	20	BW	TG						50	
Chicago Pneumatic Tool Co.	Franklin, N. Y.		1949	160	338	3	20	BW	SS						50	
Chicago Screw Co.	Bellwood, Ill.		1949	160	338	3	16.5	BW	O						49.5	
City of Baltimore Airport	Baltimore, Md.		1949	160	Set	2	25	EC	O						50	
City of Chicago	Chicago, Ill.		7-50	160	347	3	29	WB	O							
Coca Cola Co.	Baltimore, Md.		1949	160	338	1	16	BW	O							
Concord Steam Corp.	Concord, N. H.		1-50	160	Set	1	25	RS	O						60	
Coras of Engineers	Albuquerque, N. M.	Black & Veatch	1949	160	338	2	33	BW	O.G.							
Cuyahoga State Co.	Cleveland, Ohio		160	338	1	9	BW	UF								
Davidson College	Davidson, N. C.	Wm. Wallace II	1950	160	Set	1	20.8	CE	UF							
Denver Sewer Pipe & Clay Co.	Denver, Colo.			160	358	1	27	BW	SS							
M. H. Detrick Co.	Aurora, Ill.		1949	160	353	1	15	BW	O.G.							
Diamond Pwr. Specialty Co.	Lancaster, Ohio	Austin Co.	1950	160	338	2	6	BW	UF						12	0
Doctors' Hospital	New York, N. Y.		1949	160	338	2	17	BW	O						66	
Durham High School	Durham, N. C.		1950	160	353	1	16	BW	UF							
Euclid Road Machinery Co.	Euclid, Ohio	Mayer & Valentine	1950	160	Set	2	20	EC	UF						40	
Export Leaf Tobacco Co.	Richmond, Va.		1948	160	Set	1	36	EC	O						90	
Export Leaf Tobacco Co.	Wilson, N. C.		1950	160	Set	2	14	EC	O							
Warren Featherbone Co.	Three Oaks, Mich.		1949	160	353	1	13	BW	UF							
Forest Products Treating Co.	Dallas, Ore.		1949	160	Set	2	16	EC	SS						32	
Gallo Winery	Modesto, Calif.	G. E. Rohm	9-50	160	Set	1	26	BI	O.G.						20	
General Electric Co.	Bridgeville, Pa.		1949	160	338	1	12	BW	UF						20	
General Electric Co.	Circleville, Ohio		1949	160	Set	2	25	EC	UF						50	
Glen Raven Cotton Mills	Glen Raven, N. C.		1949	160	Set	1	20	EC	O							
Goodjohn Sash & Door Co.	Leavenworth, Kan.		1949	160	353	1	10	BW	WW						10	
Greenwood Mills	Greenwood, S. C.	McPherson & Co.	1950	160	344	2	10	BW	UF							
Grinnell Corp.	Providence, R. I.		1949	160	312	1	20	BW	O							
A. Gross & Co.	Newark, N. J.		1949	160	Set	1	35	RS	SS						75	
Hamilton Mfg. Co.	Columbus, Ind.		1950	160		1	24	Vo	TG						30	
Harding Carpers, Ltd.	Brantford, Ont.		10-50	160	125	1	15	FW	UF						30	
Houdaille-Hershey Corp.	Decatur, Ill.		1949	160	338	2	15	BW	O.G.						56	
Inaquis Beverage Corp.	Buffalo, N. Y.		3-50	160	Set	2	21	UI	SS						42	
Ithaca Gun Co., Inc.	Ithaca, N. Y.		1950	160	320	1	10	RW	TG							
Kraft Foods, Inc.	Kendallville, Ind.		1949	160	Set	2	16	EC	O						32	
Lancaster General Hospital	Lancaster, Pa.		1949	160	Set	2	16	EC	UF						40	
Land O'Lakes Creamery	Marshfield, Wis.		1949	160	Set	2	20	EC	SS						40	
Land O'Lakes Creamery	Whitehall, Wis.		1949	160	Set	3	60	EC	SS						22	
Lehigh Valley Farmers Co-op	Allentown, Pa.		1948	160	350	2	11	UI	TG							
Libby-McNeill-Libby	Gridley, Calif.		1949	160	Set	1	32	EC	O							

AC - Allis-Chalmers Mfg Co
 Aa - Anthracite
 B1 - Bigelow
 BL - Black liquor
 BF - Babcock & Wilcox Co

C - Coal, bituminous
 CB - Cleaver-Brooks Co
 CE - Combustion Engineering
 Superheater Inc
 CV - Canadian Vickers Ltd

D - Damper
 DL - DeLaval Steam Turbine Co
 EC - Erie City Iron Works
 EL - Elliott Co
 EM - Edge Moor Iron Works Inc

FW - Foster Wheeler Corp
 G - Gas
 GE - General Electric Co
 HF - Haggard Fuel
 IB - International Boiler Works

II - John Inglis Co Ltd
 IL - James Leffel & Co
 Ke - E Keeler
 KB - Kewanee Boiler Corp
 MI - Murray Iron Works Co

Institutional Power Plants: Below 200 Psi

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					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	Back pressure, psi	Mo of bleed pps		
Libbey-McNeil-Libbey	Sunnyvale, Calif.		1948	160	Sat	1	8	EC							59.7	
Liberty Hosiery Mills, Inc.	Gibsonville, N.C.		1949	160	Sat	1	19	EC							120	
Liebmans Breweries, Inc.	Brooklyn, N.Y.		1949	160	Sat	1	10	EC	UF						120	
Lincoln Electric Co.	Eucled, Ohio		1950	160	Sat	2	50	EC							45	
Locke Insulator Corp.	Baltimore, Md.		1949	160	Sat	2	36	EC	SS						26	
Loyola Univ.	Chicago, Ill.		1949	160	Sat	1	25	EC	SS						36	
Lucky Lager Brewing Co.	Sanford, Conn.		1950	160	Sat	2	26	EC	SS						28	
Manning, Maxwell & Moore	Sanford, Conn.		1950	160	Sat	2	18	EC	SS						27	
Marymount Hospital	Garfield Heights, Ohio		1949	160	Sat	1	16	EC	SS						62	
McLouth Steel Co.	Trenton, Mich.		1949	160	Sat	2	13.5	EC	SS						34.6	
Memorial Hospital	Houston, Texas		1949	160	Sat	2	31	EC	SS						20	
Mills College	Oakland, Calif.	Hudson & Grady	1950	160	Sat	2	17.3	EC	SS						38	
Mohawk Paper Mills	Cohoes, N.Y.		1949	160	Sat	1	25	EC	SS						55	
Monarch Laundry	Chicago, Ill.	E. Casson	1949	160	Sat	1	30	EC	SS						50	
Mr. St. Mary's Hospital	Niagara Falls, N.Y.	J. Fruchtbaum	1949	160	Sat	2	20	EC	SS						36	
Mr. Sinai Hospital	Minneapolis, Minn.		1950	160	Sat	2	20	EC	SS						25	
Victor Monaghan Co.	Greenville, S.C.	J. P. Stevens & Co.	1949	160	Sat	2	18	EC	SS						36	
Moore Bath Hotel	Waukesha, Wis.		1950	160	Sat	1	13	EC	SS						25	
Niles Glass Works	Niles, Ohio		1949	160	Sat	1	36	EC	SS						30	
North Carolina College	Durham, N.C.		1950	160	Sat	2	30	EC	SS						30	
North Texas State College	Denton, Texas	Yandell, Cowan, Love Eng. Co.	1949	160	Sat	2	9	EC	SS						67	
Norwalk State Hospital	Norwalk, Calif.		1949	160	Sat	1	33	EC	SS						27	
Oakland County Service Ctr.	Pontiac, Mich.	Hyde & Bobbio	1950	160	Sat	1	22	EC	SS						78.5	
Ohio Rubber Co.	Long Beach, Calif.		1950	160	Sat	1	20	EC	SS						40	
Oregon State Hospital	Salem, Ore.	Thos. Taylor	1950	160	Sat	1	26	EC	SS						11	
Pacific Colony State Hospital	Spokane, Calif.		1949	160	Sat	1	20	EC	SS						40	
Pacific Lumber Agency	Sumner, Wash.		1949	160	Sat	1	8	EC	SS						40	
Pacific States Cast Iron Pipe Co.	Provo, Utah		1949	160	Sat	2	10	EC	SS						40	
Peralta Hospital	Oakland, Calif.	Garthorne, Buannaccorsi, Murry	1950	160	Sat	2	14	EC	SS						40	
Pesca Products Co.	Bedford, Ohio		1950	160	Sat	2	40	EC	SS						40	
Peter Paul Inc.	Haugeruck, Conn.		1949	160	Sat	2	9	EC	SS						420	
Pilgrim State Hospital	Brentwood, N.Y.		1949	160	Sat	2	70	EC	SS						30	
Polyclinic Hospital	Cleveland, Ohio		1949	160	Sat	2	10	EC	SS						30	
Providence Memorial Hospital	El Paso, Texas		1950	160	Sat	2	10	EC	SS						30	
Quaker Maid Co.	Bloomdale, Ohio		1949	160	Sat	1	27	EC	SS						30	
Revere Copper & Brass	Baltimore, Md.		1949	160	Sat	2	15	EC	SS						30	
Revere Copper & Brass	Rome, N.Y.		1950	160	Sat	1	38	EC	SS						30	
Rich Ladder Mfg. Co.	Cincinnati, Ohio		1949	160	Sat	2	10	EC	SS						30	
Rockwell Mfg. Co.	Freeport, Ill.		1949	160	Sat	1	34	EC	SS						30	
Rosedale Knitting Co.	Reading, Pa.	Wertz Engng.	1948	160	Sat	2	18	EC	SS						30	
St. Francis Convent	Mishawaka, Ind.		1950	160	Sat	2	17.5	EC	SS						48	
St. John's Hospital	Brooklyn, N.Y.	Eade, Freund & Campbell	1949	160	Sat	1	14	EC	SS						48	
St. Joseph Hospital	Memphis, Tenn.	T. J. O'Brien	1949	160	Sat	2	15	EC	SS						48	
St. Vincent's Hospital	Birmingham, Ala.	J. A. Evans	1950	160	Sat	2	8	EC	SS						48	
San Bernardino County Hospital	San Bernardino, Calif.	Stockley & Bamford	1949	160	Sat	1	15	EC	SS						48	
San Jacinto Ordnance	Houston, Texas		1949	160	Sat	2	20	EC	SS						48	
San Lorenzo Nurseries	Los Angeles, Calif.		1949	160	Sat	1	30	EC	SS						48	
Seelbach Hotel	Louisville, Ky.		1950	160	Sat	1	30	EC	SS						48	
Self Memorial Hospital	Greenwood, S.C.		1950	160	Sat	2	10	EC	SS						48	
Show Univ.	Raleigh, N.C.		1949	160	Sat	2	12	EC	SS						48	
T. S. Simms & Co., Ltd.	St. John, New Brunswick		1950	160	Sat	1	11.5	EC	SS						48	
Southern Baptist Theological Seminary	Louisville, Ky.		1950	160	Sat	1	15	EC	SS						48	
Spaulding Laundry Dry Cleaning	Louisville, Ky.		1948	160	Sat	1	28.5	EC	SS						48	
Spartan Mills	Spartanburg, S.C.		1949	160	Sat	2	13.8	EC	SS						48	
Stanford Univ.	Stanford, Calif.	G. E. Rohm	1949	160	Sat	1	36	EC	SS						48	
Texas Prison System	Huntsville, Texas		1950	160	Sat	2	20	EC	SS						48	
Tunney Hotel	Birmingham, Ala.		1948	160	Sat	1	5.2	EC	SS						48	
U. S. Atomic Energy Comm.	Albuquerque, N.M.	Black & Veatch	1950	160	Sat	4	60	EC	SS						48	
U. S. Veterans Admin.	Altoona, Pa.		1949	160	Sat	3	13.6	EC	SS						48	
U. S. Veterans Admin.	Fort Wayne, Ind.		1949	160	Sat	3	27	EC	SS						48	
U. S. Veterans Admin.	Hot Springs, S.D.		1950	160	Sat	1	25	EC	SS						48	
U. S. Veterans Admin.	Iowa City, Ia.		1950	160	Sat	3	16	EC	SS						48	
U. S. Veterans Admin.	Lexington, Ky.		1950	160	Sat	3	26.4	EC	SS						48	
U. S. Veterans Admin.	Little Rock, Ark.		1950	160	Sat	3	6.9	EC	SS						48	
U. S. Veterans Admin.	Manchester, N.H.		1949	160	Sat	3	12	EC	SS						48	
U. S. Veterans Admin.	Omaha, Neb.		1950	160	Sat	3	6.9	EC	SS						48	
U. S. Veterans Admin.	Phoenix, Ariz.		1950	160	Sat	3	10	EC	SS						48	
U. S. Veterans Admin.	Portland, Me.		1950	160	Sat	1	8	EC	SS						48	
U. S. Veterans Admin.	Portland, Me.		1950	160	Sat	1	8	EC	SS						48	
U. S. Veterans Admin.	St. Cloud, Minn.		1950	160	Sat	2	16	EC	SS						48	
U. S. Veterans Admin.	Spokane, Wash.		1949	160	Sat	3	11	EC	SS						48	
U. S. Veterans Admin.	Walla Walla, Wash.		1950	160	Sat	3	12	EC	SS						48	
Univ. of Alabama	University, Alabama		1949	160	Sat	1	27.5	EC	SS						48	
Univ. of Idaho	Pocatello, Idaho	Earl Grifton	1948	160	Sat	2	33	EC	SS						48	
Univ. of Maryland	Princess Anne, Md.	James Posey	1950	160	Sat	2	13.5	EC	SS						48	
Utah Canning Co.	Ogden, Utah		1950	160	Sat	2	12	EC	SS						48	
Washington State Pen.	Walla Walla, Wash.	C. C. Moore	1949	160	Sat	1	18	EC	SS						48	
Wilberforce College	Wilberforce, Ohio	R. S. Curt & Assoc.	10-50	160	Sat	1	30	EC	SS						48	

150 TO 159 PSI

Evenson Estate	Boston, Mass.		11-49	155	Sat	1	15	EC								
Abbott Dairies	Philadelphia, Pa.		8-50	150	Sat	2	8.5	EC								
Allied Mills, Inc.	Portsmouth, Va.		1948	150	Sat	1	5.0	EC								

O - Oil	SE - Skinner Engine Co	UF - Underfeed stoker	F - Wood	Fo - Worthington Pump & Machy
P - Pulverized-fuel firing	SS - Spreaders	UI - Union Iron Works	EH - Waste Heat	Corp, Moore Steam
R - Regulator	T - Turbine drive	V - Vane control	EB - Wm Bros Boiler & Mfg Co	Turbine Division
RS - Riley Stoker Corp	TC - Traveling-grate stoker	VK - Vickers Keeler Co	EE - Westinghouse Electric Corp	ET - Wood waste
S - Speed control	Ti - Titusville Iron Works Div	Vo - Henry Vogt Machine Co	Ei - Wickes Boiler Co	(150) - Stoker grate area, sq ft
				(1) - Gas-engine driven

Industrials and Institutionals: Below 200-Psi

Compiled by J. C. McCabe, Associate Editor

Company	Location	Consulting Engineers	First operation new units	Rated pressure, psi	Rated steam temperature, F	BOILERS			Piping	TURBINES					Total boiler capacity fact new units, 1000 lb. per hr.	Total generator capacity, fact new units, 1000 kw.
						Number	Capacity, each, 1000 lb. per hr.	Manufacturing		Capacity 1000 lb.	Speed, rpm	Manufacturer	Backpressure, psi	Head, head psi		
Balentine Packing Co.	Greenville, S. C.		1950	150	2	5.8	CS	O								
Ballard Oil Co.	Wethersfield, Conn.		2-50	150	Sar	1	5.0	Bi	O							
W. B. Beach	Petersburg, Va.		9-50	150	Sar	1	9.5	Bi	O							
Breyer Ice Cream Co.	Long Island City, N. Y.		1949	150		1	8.5	CS	O							
Bridgeport Industrial Serv.	Shelton, Conn.		10-50	150	Sar	1	5.0	Bi	O							
Brown & Williamson Tobacco	Lexington, Ky.		12-48	150	36	1	9.0	CS	O, G							
Bensus Match	Warebury, Conn.		7-49	150	Sar	2	7	Bi	O							
Burney Bros. Bakery	Chicago, Ill.		1950	150		3	5.8	CS	O, G							
Canadian Car & Foundry Co.	Montreal, Canada		1949	150	Sar	1	40	FW	SS						94	
Canadian Car & Foundry Co.	Montreal, Canada		1950	150	Sar	1	40	FW	SS							100
Canadian Pacific Rwy.	Winnipeg, Manitoba		1950	150	A66	3	25	JI	SS							
Capital Record, Inc.	Los Angeles, Calif.		1950	150	350	1	6.9		O							
Canamco Co.	Sherbrooke, Que.		1950	150		1	36	CV	C							
Chrysler Corp.	Detroit, Mich.		1950	150		1	5	CS	O							
Commercial Solvents Corp.	Terre Haute, Ind.		1950	150	Sar	2	25	Wi	O							
Congoleum-Nairn Co.	Cedarhurst, Md.		1950	150	366	3	35	RS	SS						135	
Crawley's Milk Co.	Paterson, N. J.		1948	150		1	5.2	CS	O							
Dept. of Justice	Kingston, Ontario		1950	150	A65	1	21	JI	UF							
Dickinson County Hosp.	Iron Mountain, Mich.		1950	150		2	5.8	CS	O							
Doornbecker Mfg. Co.	Portland, Ore.		1950	150	358	1	45	RS	O, HF						100	0.5
Dolly Madison Dairies	Eau Claire, Wis.		1948	150		1	5.2	CS	O							
Elliott Hospital	Manchester, N. H.	R. D. Kimball	11-49	150	Sar	1	3.0	Bi	O							
Elmira Reformatory	Elmira, N. Y.		1949	150	366	4	16	BW	UF(96)	1.0	4500	Wm	4	0	64	1.6
Falstaff Brewing Corp.	St. Louis, Mo.		1949	150	Sar	1	48	BW	TC(110)							
Falls City Creamery Co.	Falls City, Neb.		1948	150		1	5.2	CS	O							
Filkin Hospital	Neptune, N. J.		11-49	150	Sar	1	7.5	Bi	O							
Florida Tar & Creosote Corp.	Tampa, Fla.		1948	150	366	1	4.3	CS	O							
Ford Motor Co.	Cleveland, Ohio	Fairbrother, Michls.	1951	150	Sar	1	60	Wi	TC						360	0
Ford Motor Co.	Cincinnati, Ohio	Fairbrother, Michls.	1950	150	Sar	3	100	Wi	TC						75	0
Gladding, McBean & Co.	Glendale, Calif.		1948	150	Sar	1	17	CS	O, G							
Institute Tissue Mills Co.	Merritt, Ont.		1950	150	416	1	33	CS	O							
Jalisco Arsenal	Albany, N. Y.	A. E. Offner	1-51	150	Sar	2	5.8	CS	O							
Keeler State Street Restaurant	San Antonio, Tex.		1949	150	Sar	1	16	EC	O, G							
Lone Star Brewing Co.	Plantville, Conn.		8-50	150	Sar	1	14	Bi	O							
Martin Rockwell Corp.	Danbury, Conn.		11-49	150	Sar	1	7.5	Bi	O							
H. McLaughlin & Co.	Imley City, Mich.		5-50	150	Sar	2	12	Bi	C							
Michigan Milk Producers	New London, Conn.		8-49	150	Sar	1	4	Bi	O							
Mohican Hotel	Westport, N. J.		1950	150		3	8.7	CS	O							
Neo-Gravure Printing Co.	La Crosse, Wis.		1950	150		4	5.8	CS	O							
Northern Engraving & Mfg.	Brooklyn, N. Y.		9-50	150	Sar	1	8.5	Bi	O							
Notage Laundry	Watertown, Mass.	Hollis French	8-50	150	Sar	4	8.5	Bi	O							
Parkinson Institution	Baltimore, Md.		6-50	150	Sar	1	4	Bi	O							
Power & Combustion Inc.	Farmington, W. Va.	H. R. Homer	1949	150	Sar	1	17	CS	G							
Ridgeway Farms Dairy	Chicago, Ill.		1949	150	Sar	1	6.9	CS	O, G						9	
St. Joseph's Hospital	St. Joseph, Mich.		1950	150		3	7	CS	O							
St. Lawrence State Hosp.	Ogdensburg, N. Y.		9-51	150	365	4	40	Ti	SS	1.0	1200	Wm			160	1.0
Schoitz Memorial Hospital	Waterloo, Iowa		1950	150		2	7	CS	O							
Stokely Foods, Inc.	Indianapolis, Ind.		1949	150	Sar	1	50	RS	SS(126)							
Swedish American Hospital	Rockford, Ill.		1950	150		2	8.7	CS	O							
Truett Hospital, Baylor Univ.	Dallas, Texas		1950	150	Sar	1	5	EC	G							
United Shoe Machy. Corp.	South Middletown, Mass.		9-50	150	Sar	1	11	Bi	O							
United States Rubber Co.	Manchester, N. H.		1949	150	365	2	2	CS	O							
Van Rente Co., Inc.	Brynson City, N. C.		1950	150	Sar	1	8	EC	C							
Verano Chemical Co.	Newark, N. J.		1950	150	Sar	2	5.8	CS	O							
Winnipeg State Hospital	Winnipeg, Wis.	Gates, Mae & Weiss	11-50	150	Sar	3	12	UI	UF							
R. L. Ziegler, Inc.	Tuscaloosa, Ala.		9-50	150	Sar	1	7.5	Bi	O							
(149 PSI AND BELOW)																
Beatty Bros. Ltd.	Fergus, Ont.	Taylor Engrg.	12-49	145	355	1	40	FW	SS(129)							
Van Rente, Inc.	Athens, Tenn.		1949	140	Sar	1	5	CE	SS(30)							
All Steel Equipment, Inc.	Aurora, Ill.		1949	125		2	12	CS	O, G							
Alloy Metal Sales, Ltd.	Toronto, Ont.		1949	125		1	4	JI	UF							
American Can Co.	Charlton, Ont.		11-50	125	Sar	2	20	JI	O							
Canadian National Rwy.	Marquette, Ontario		1950	125	Sar	2	9		SS							
Carol-May Finishing Co.	Concord, N. C.		1948	125	Sar	1	4.3	CS	O							
Dayton State Hospital	Dayton, Ohio	Carl Lorrimer	1950	125	Sar	1	17.5	UI	UF							
Dept. of Public Wks.	Smith Falls, Ont.		1950	125	Sar	3	25	JI	SS							
Honeywell Falls Cream Prod.	Honeywell Falls, N. Y.		1948	125	Sar	1	6	CS	O							
Johnson Steel & Wire Co.	Worcester, Mass.		1948	125		1	5.2	CS	O						15	
H. E. Koonts Creamery, Inc.	Baltimore, Md.	Lester Gardner	1948	125		1	5	IB	O							
Reliance Electric & Engrg. Co.	Ashtrubula, Ohio		1948	125	Sar	1	10.5	CS	O							
Southern Cotton Oil Co.	Memphis, Tenn.		1948	125	Sar	3	33	CE	G							
U. S. Veterans Admin.	Rutland Heights, Mass.		1948	125		1	4.3	CS	O						26	
Thomas Young Greenhouses	Bound Brook, N. J.	P. M. Copenheimer	1949	125	Sar	3	15		UF							
Slippery Rock State Tchrs. Coll.	Slippery Rock, Pa.	Rust Engrg.	1951	120	Sar	2	20		UF							
Bridgeport Pipe & Engrg. Co.	Bridgeport, Conn.	Fletcher Thompson	11-50	100	Sar	4	6.5	Bi	O							
Canadian Car & Foundry	Montreal, Canada		1-50	100	Sar	1	15	JI	O						18	
Cravenette Co. of U.S.A.	Hoboken, N. J.		100	250		1	16	CS	O							
Cycleward Cement Prod.	Trenton, Mich.	Giffels & Vollet	100	292	2	10.5	CS	O								
Douglas & Lamson Co.	Detroit, Mich.	C. S. Harrison	1949	100	Sar	1	20	FW	HF							
Hollinger Gold Mines	Timmins, Ont.		1948	100	388	1	7	CS	O							
Reliance Electric & Engrg. Co.	Ashtrubula, Ohio		1948	100	Sar	1	7	CS	O							
Warren Petroleum Co.	Wayssville, Ohio	Dresser Engrg.	10-49							2.0	327	EI				