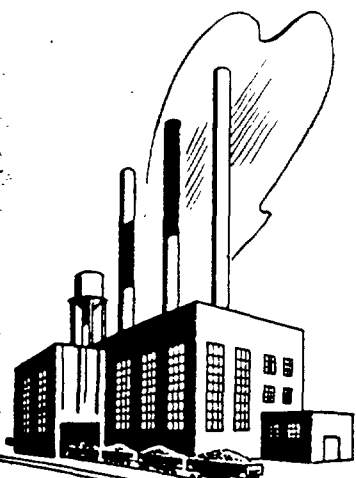


1949 MODERN PLANT SURV

PLAINTIFF'S EXHIBIT

WH-1045



Tables list engineering features of over 450 new utility and industrial steam plants, more than 175 hydroelectric units. Summaries spot design trends of recent recordbreaking years

THE GREATEST PERIOD of construction activity the power field has ever experienced continues unabated. The year 1948 saw almost 6 million kw added to our national power plant; 1949 and 1950 look to be about 10% higher. Figures now available show about 4.7 kw on order for 1951.

Such a period of activity presents an unparalleled opportunity to see where we are headed in power-plant practice. In this vast program virtually all types of construction are involved: new plants, extensions, and "tops"; indoor, semi-outdoor and outdoor designs; large plants and small; a wide variety of heat-balance arrangements, plant layouts and equipment selections.

From such a large body of data, relatively reliable conclusions can be drawn. We can see the wide adoption of practices that have proved successful, the gradual abandoning of those not so well received.

The only drawback lies in the fact that the very volume of activity means that most of us are too busy to take the "long look" needed

to spot trends and arrive at answers to guide our planning.

It is to meet this need that **POWER** makes its survey of new-plant construction. Here we do two things to serve the interests of power engineers: (1) We gather, and compile in convenient tabular form, technical details on units currently on order, under construction, or beginning operation. (2) We analyze the survey returns, and other data available to us, to show at a glance what design and equipment-selection patterns are emerging.

To broaden the basis for these trend-spotting summaries, this year we have included data on the past two years, each a record-breaker in its own right. This means that the comparisons and conclusions grow out of the largest volume of plant data ever available for analysis.

Here are facts and figures you can sink your teeth into, facts and figures on which to base the decisions you will have to make when you build a new plant, extend or modernize an older one.

1949 Listing of Typical Central-Station Boilers

For notes on uses and limitations
of this tabulation • See page 96

Compiled by B. G. A. Skrotzki, Associate Editor

For notes on uses and limitations of this tabulation • See page 96				BOILERS									
Compiled by B G A Skrotzki, Associate Editor				First Operation, New Units	Nominal Pressure, psi	Nominal Steam Temperature, F	Number	Capacity, each 1000 lb per hr	Manufacturer	Boiler, Waterwall Surface, 1000 sq ft	Superheater Surface, 1000 sq ft	Furnace Volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr
1500 PSIG AND ABOVE													
Indiana & Michigan Elec Co	Lawrenceburg, Ind.	Tanners Creek	Amer Gas & Elec Serv	12-30 2000	1050 ¹	1	930	BW	29.6	60.5 ²	79.8	18.4	18.4
Appalachian Electric Pwr Co	Granam Sta. W. Va.	Philip Sporn	Amer Gas & Elec Serv	7-31 2000	1050 ¹	1	930	BW	29.6	60.5 ²	79.8	18.4	18.4
Commonwealth Edison Co	Stickney, Ill.	Ridgeland	Sargent & Lundy	10-31 2000	1050 ¹	1	930	BW	29.6	60.5 ²	79.8	18.4	18.4
Central Hudson Gas & El Corp	Danckammer Pt., N. Y.		Burns & Roe, Inc.	9-30 1800	1050	2	730	BW	19.3	44.9	35.4	24.1	24.1
Consolidated Edison Co of N. Y.	Brooklyn, N. Y.	Hudson Ave.		9-31 1800	1050	2	730	BW	19.3	44.9	35.4	24.1	24.1
1000 TO 1199 PSIG													
Pennsylvania Power Co	West Pittsburgh, Pa.	New Castle	Commonw & Southern	10-31 1450	1000 ¹	1	690	BW	14.8	32.0	52.3	18.0	18.0
Boston Edison Co	Weymouth, Mass.	Edgar	Jackson & Moreland	8-49 1450	1000 ¹	1	585	CE	14.8	33.0	42.0	17.3	17.3
Rochester Gas & Electric Corp	Rochester, N. Y.	Russell	Gilbert Associates, Inc.	10-31 1450	1000 ¹	1	490	CE	20.7			19.4	19.4
Con Gas Elec Lt & Pwr Co, Balt	Turner, Md.	Riverside		10-31 1450	1050	1	625	BW	11.7	24.1	43.0	18.1	18.1
Dayton Power & Light Co	near Miamiburg, Ohio	O H Hutchings	Ebasco Services, Inc.	1950 1450	1000 ¹	1	430	CE	20.7		70.4	19.5	19.5
Central New York Power Corp	Dawego, N. Y.	Oswego		1951 1450	1000 ¹	1	656	BW	12.4	54.9	40.3	23.2	23.2
N. Y. State Elec & Gas Corp	Johnson City, N. Y.	Goudrey	Gilbert Associates	1951 1450	1000 ¹	1	560	CE	29.3	34.7	44.6	17.0	17.0
Virginia Electric Power Co	Washington, D. C.	Bennett		1450 1000	1000	1	675	CE	30.7		53.4	14.4	14.4
Wisconsin Electric Power Co	Port Washington, Wis.	Port Washington		1951 1450	950 ¹	1	640	CE		16.0	61.0	12.3	12.3
	Bakersfield, Calif.	Kern	Stone & Webster		1350	2	450	BW	9.2	15.2	18.4	30.3 ¹	30.3 ¹
	Moss Landing, Calif.	Moss Landing	Stone & Webster		1300	6	475	BW	9.9	20.4	32.0	18.3 ¹	18.3 ¹
Pacific Gas & Electric Co	Antioch, Calif.	Contra Costa	Bechtel Corp.	1951 1300	950	6	475	CE	25.8	26.2	34.7	16.9	16.9
Florida Power Corp	Booth Point, Fla.	Higgins	The Kuljian Corp.	2-51 1315	950	1	450	BW	5.8	16.1	26.0		
The Detroit Edison Co	St. Petersburg, Fla.	Bayboro	The Kuljian Corp.	12-49 860	910	1	380	BW					
Cambridge Electric Light Co	Detroit, Mich.	Connors Creek	Gilbert Associates, Inc.	4-51 1300	950	4	600	BW	12.0	26.7	40.0	18.3	18.3
Kansas City Power & Light Co	Cambridge, Mass.	Kendall Sq	Gilbert Associates, Inc.	12-50 1300	900	1							
	Kansas City, Mo.	Northeast		11-49 1275	825 ¹	1	375	FW	16.0	13.8	26.4	18.1	18.1
		Hawthorn	Ebasco Services, Inc.	1950 1250	950	2	625	CE	28.4	23.5	45.8	16.9	16.9
New Jersey Power & Light Co	Holland, N. J.	Gilbert	Gilbert Associates, Inc.	10-49 1250	950	1	650	CE	27.8	25.5	49.5	18.0	18.0
Illinois Power Co	near Alton, Ill.	Wood River	Sargent & Lundy	12-49 1250	1000	2	450	CE	22.1	28.4	30.6	17.8	17.8
				12-30 1250	1000	1	450	CE	22.1	28.4	30.6	17.8	17.8
Union Electric Co of Missouri	St. Louis County, Mo.	Meramec		1952 1250	950 ¹	1							
Duke Power Co	Palmer, S. C.	Lee		12-50 ¹ 1250	950 ¹	2	750	CF	38.5	32.5 ¹	63.0	15.6	15.6
Pennsylvania Power & Light Co	near Sunbury, Pa.	Sunbury	Ebasco Services, Inc.	5-51 1250	950	1	800	FW	26.1	50.4	82.4	12.1	12.1
Carolina Power & Light Co	Lumberton, N. C.	Lumberton	Ebasco Services, Inc.	9-49 ² 1250	950	2	425	BW	9.2	15.7	30.0	18.0	18.0
Louisiana Power & Light Co	near Westwego, La.	Ninemile Point	Ebasco Services, Inc.	4-51 1250	950	1	650	CE	22.1	16.8	33.3	17.1	17.1
Montauk Electric Co	Somerset, Mass.	Somerset	Stone & Webster	9-51 1250	950	1	625	CE	28.2	22.3	45.2	16.0	16.0
Virginia Electric & Power Co	Bremo Bluff, Va.	Bremo	Stone & Webster	1950 1250	950	1	625	BW	12.0	26.8	40.0	19.4	19.4
Delaware Power & Light Co	Wilmington, Del.	Edge Moor	United Eng & Const.	1951 1250	950	2	600	CE	37.9	21.7		16.8	16.8
Georgia Power Co	Yates, Ga.	Yates	Commonw & Southern	1950 1250	950	2	975	CE	40.9	36.2	74.0	15.4	15.4
Alabama Power Co	Gorgas, Ala.	Gorgas	Commonw & Southern	1951 1250	950	1	975	BW	17.0	32.7	58.9	19.4	19.4
Utah Power & Light Co	Salt Lake City, Utah	Salt Lake City	Bechtel Corp.	1951 1250	950	1	620	RS	38.5	35.5	69.0	15.1	15.1
Philadelphia Electric Co	Philadelphia, Pa.	Richmond		1950 1250	950	2	800	CE	36.5	32.4	60.0	15.3	15.3
Dallas Power & Light Co	Dallas, Texas	Parkdale	Ebasco Services, Inc.	9-52 1250	950	1	625						
Oman Public Power District	Oman, Neb.	Jones Street		7-49 1250	950	1	330	BW	11.2	14.0	24.0	17.3	17.3
Northern Indiana Public Serv Co	Michigan City, Ind.	Michigan City	Sargent & Lundy	10-50 ¹ 1250	950	3	375	BW	9.8	17.0	16.7	28.0	28.0
Cincinnati Gas & Electric Co	Cincinnati, Ohio	Miami Fort	Sargent & Lundy	11-49 1250	950	2	400	BW				29.6	29.6
	Jackson, Miss.	Rev Brown	Ebasco Services, Inc.	12-49 850	900	1	450	CE	23.7	7.3	21.0	26.6	26.6
Mississippi Power & Light Co	Natchez, Miss.	Natchez	Ebasco Services, Inc.	12-49 1250	950	1	650	BW	16.3		36.3	25.0	25.0
				2-51 1250	950	1	625	BW	16.3		36.3	24.1	24.1
800 PSIG TO 999 PSIG													
Illinois Power Co	near Havana, Ill.	Havana	Sargent & Lundy	12-48 850	900	1	285	CE	19.2	11.6	20.2	15.0	15.0
				4-50 850	900	2	285	CE	19.2	11.6	20.2	15.0	15.0
El Paso Electric Co	El Paso, Texas	Rio Grande	Stone & Webster	6-50 850	900	2	285	CE	19.2	11.6	20.2	15.0	15.0
The Cleveland Elec Illum Co	Cleveland, Ohio	Lake Shore-A		3-51 850	900	1	335	BW	23.5		14.4	32.3	32.3
Wisconsin Public Service Corp	Avon Lake, Ohio	Avon		11-50 850	950	2	680	BW	17.5	19.9	34.7	16.2	16.2
	Green Bay, Wis.	Pulliam	Pioneer Serv & Engng	8-49 850	950	2	850	CE	35.3	27.6	64.0	16.2	16.2
				9-49 850	900	1	460	BW	12.2	18.2	26.6	19.0	19.0
				1951 850	950	1	555	RS	13.6	28.4	39.5	11.8	11.8
Florida Power & Light Co	Sarasota, Fla.	Sarasota	Ebasco Services, Inc.	12-50 850	900	1	235	CE	23.0			32.3	32.3
Gulf Power Co	Pensacola, Fla.	Pensacola	Commonw & Southern	8-49 850	900	1	230	RS	19.6	6.6	13.4	17.2	17.2
Georgia Power Co	Avon, Ga.	Mitchell	Commonw & Southern	11-48 850	900	1	230	BW	21.7	6.6	16.3	17.2	17.2
	Atlanta, Ga.	Atkinson	Commonw & Southern	11-48 850	900	1	230	BW	21.7	6.6	16.3	17.2	17.2
Arkansas Electric & Power Co	Arkwright	Arkwright	Commonw & Southern	11-48 850	900	1	600	CE	28.4	13.7	25.0	22.5	22.5
Texas Electric Service Co	Fort Worth, Texas	Handley	Ebasco Services, Inc.	11-48 850	900	1	300	BW	9.8	10.4	22.3	16.0	16.0
	Corpus Christi, Texas	Morgan Creek	Ebasco Services, Inc.	10-50 850	900	1	825	CE	47.2	14.6	31.1	35.7	35.7
		Mountain Creek	Ebasco Services, Inc.	4-50 850	900	2	220	FW	21.0	7.1	8.6	31.1	31.1
Dallas Power & Light Co	Dallas, Texas			7-49 850	900	1	450	BW	26.9	8.5	19.9	29.0	29.0
				1-51 850	900	1	250	BW	17.8	7.2	11.7	29.0	29.0
							675	CE	41.6	12.6	37.3	33.1	33.1
Houston Lighting & Power Co	Houston, Texas	West Junction	Ebasco Services, Inc.	7-50 850	900	1	350	RS	18.8	11.0	14.6	31.0	31.0
				6-51 850	900	1	825	RS	28.8	19.4	36.6	31.0	31.0
				2-51 850	900	1	825	RS	18.8	19.4	36.6	31.0	31.0
				1948 850	900	1	125	BW	21.0	7.9	16.1	27.2	27.2
Central Arizona Light & Power Co	Phoenix, Arizona	Phoenix	Ebasco Services, Inc.	1949 800	825	1	150	CE	12.0	3.2	6.1	32.3	32.3
				1950 850	900	1	375	CE	41.5	12.7	37.3	25.2	25.2
Texas Power & Light Co	Trinidad, Texas	Trinidad	Ebasco Services, Inc.	11-49 850	900	2	350	BW	25.8	13.5	27.2	21.8	21.8
Kentucky Electric Co	El Paso, Texas	R L Park	Sargent & Lundy	7-51 850	900	1	325	BW	26.9	12.1	24.4	16.8	16.8
Southwestern Gas & Elec Co	Mooringtown, La.	Mooringtown	Sargent & Lundy	4-49 850	900	1	250	BW	18.9	6.3	13.2	31.2	31.2
	Easton, Texas	Knox Lee	Sargent & Lundy	12-50 850	900	1	300	BW	21.5	7.8	13.2	31.2	31.2
Chicago Gas & Light Co	Chicago, Ill.	Chicago	Sargent & Lundy	7-51 850	900	1	330	BW	21.5	7.8	13.2	31.2	31.2

A	— Air cooled	B	— Barometric	C	— Central gas	D	— Dry stack	E	— Electric	F	— Forced draft	G	— General Electric Co.	H	— General Electric Co.	I	— General Electric Co.	J	— General Electric Co.	K	— General Electric Co.	L	— General Electric Co.	M	— General Electric Co.	N	— General Electric Co.	O	— General Electric Co.	P	— General Electric Co.	Q	— General Electric Co.	R	— General Electric Co.	S	— General Electric Co.	T	— General Electric Co.	U	— General Electric Co.	V	— General Electric Co.	W	— General Electric Co.	X	— General Electric Co.	Y	— General Electric Co.	Z	— General Electric Co.	AA	— General Electric Co.	AB	— General Electric Co.	AC	— General Electric Co.	AD	— General Electric Co.	AE	— General Electric Co.	AF	— General Electric Co.	AG	— General Electric Co.	AH	— General Electric Co.	AI	— General Electric Co.	AJ	— General Electric Co.	AK	— General Electric Co.	AL	— General Electric Co.	AM	— General Electric Co.	AN	— General Electric Co.	AO	— General Electric Co.	AP	— General Electric Co.	AQ	— General Electric Co.	AR	— General Electric Co.	AS	— General Electric Co.	AT	— General Electric Co.	AU	— General Electric Co.	AV	— General Electric Co.	AW	— General Electric Co.	AX	— General Electric Co.	AY	— General Electric Co.	AZ	— General Electric Co.	BA	— General Electric Co.	BB	— General Electric Co.	BC	— General Electric Co.	BD	— General Electric Co.	BE	— General Electric Co.	BF	— General Electric Co.	BG	— General Electric Co.	BH	— General Electric Co.	BI	— General Electric Co.	BJ	— General Electric Co.	BK	— General Electric Co.	BL	— General Electric Co.	BM	— General Electric Co.	BN	— General Electric Co.	BO	— General Electric Co.	BP	— General Electric Co.	BQ	— General Electric Co.	BR	— General Electric Co.	BS	— General Electric Co.	BT	— General Electric Co.	BU	— General Electric Co.	BV	— General Electric Co.	BW	— General Electric Co.	BX	— General Electric Co.	BY	— General Electric Co.	BZ	— General Electric Co.	CA	— General Electric Co.	CB	— General Electric Co.	CC	— General Electric Co.	CD	— General Electric Co.	CE	— General Electric Co.	CF	— General Electric Co.	CG	— General Electric Co.	CH	— General Electric Co.	CI	— General Electric Co.	CJ	— General Electric Co.	CK	— General Electric Co.	CL	— General Electric Co.	CM	— General Electric Co.	CN	— General Electric Co.	CO	— General Electric Co.	CP	— General Electric Co.	CQ	— General Electric Co.	CR	— General Electric Co.	CS	— General Electric Co.	CT	— General Electric Co.	CU	— General Electric Co.	CV	— General Electric Co.	CW	— General Electric Co.	CX	— General Electric Co.	CY	— General Electric Co.	CZ	— General Electric Co.	DA	— General Electric Co.	DB	— General Electric Co.	DC	— General Electric Co.	DD	— General Electric Co.	DE	— General Electric Co.	DF	— General Electric Co.	DG	— General Electric Co.	DH	— General Electric Co.	DI	— General Electric Co.	DJ	— General Electric Co.	DK	— General Electric Co.	DL	— General Electric Co.	DM	— General Electric Co.	DN	— General Electric Co.	DO	— General Electric Co.	DP	— General Electric Co.	DQ	— General Electric Co.	DR	— General Electric Co.	DS	— General Electric Co.	DT	— General Electric Co.	DU	— General Electric Co.	DV	— General Electric Co.	DW	— General Electric Co.	DX	— General Electric Co.	DY	— General Electric Co.	DZ	— General Electric Co.	EA	— General Electric Co.	EB	— General Electric Co.	EC	— General Electric Co.	ED	— General Electric Co.	EE	— General Electric Co.	EF	— General Electric Co.	EG
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Land Municipal Power-Plant Installations

Plant Name	Location	F-D FANS		F-D FANS		FUEL		FEED PUMPS		TURBINES		CONDENSERS		Total Boiler Capacity Incl New Units, 1000 lb	Total Generator Capacity Incl New Units, 1000 kw						
		Drive	Control	Drive	Control	Type	Heating Value, 1000 Btu per lb	Asst. Softening 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		
281.4	Re	M	V	M	V	P	C	11.4	2300	3M	12.5	3600	GE	0.5	6	H	65	1	AsCu	930	125
281.4	Re	M	V	M	V	P	C	11.4	2300	3M	12.5	3600	GE	0.5	6	H	65	1	AsCu	2790	375
281.4	Re	M	V	M	V	P	C	11.4	2300	3M	12.5	3600	GE	0.5	6	H	65	1	AsCu	3720	500
155.5	Tu	M	V	M	V	Cu	C	10.0	2000	2M, 1T	150	3600	WT	0.5	5	H	100	1	Ad	1460	180
155.5	Tu	M	V	M	V	Cu	C	10.0	2000	3M	150	3600	GE	0.5	6	H	100	1	Ad	2920	300
351.4	Re	M	V	M	V	P, G	C, G	14.4	2050	2M, 1T	65	3600	WE	400	1	H	.....	.....	Ad	500	60
237.0	Tu	M	D, Hy	M	D, Hy	P, G	C	11.0	2100	2M	85	3600	WE	0.75	5	H	47.5	2	AnAd	1590	171
157.8	Re	M	V	M	V	P	C	13.9	2600	2M	81.3	3600	WT	0.5	5	H	45.0	1	AlBr	2378	245
128.0	Re	M	V	M	V	P	C	12.8	2100	3M	60	3600	GL	0.5	6	H	32.5	1	Ad	900	90
109.6	Re	M	V	M	V	P	C	12.5	2400	2M	60	3600	GL	0.5	5	H	55	2	AAVH	2275	255
46.6	Re	M	V	M	V	P	C	13.0	2300	3M	60	3600	GL	0.75	6	H	45	2	Ad	1500	180
246.8	Re	M	V	M	V	P	C	13.1	2050	3M	60	3600	GL	0.5	7	H	50	1	Ad	3300	320
230.0	Re	M	V	M	V	P	C	13.0	2600	2M	60	3600	WT	0.5	5	H	42.5	2	Ad	1684	159
123.5	Tu	M	V	M	V	P	C, G	12.0	2000	2M	25	3600	GL	400	.....	H	.....	.....	Ad	200	200
259.2	Re	M	V	M	V	P	C	12.6	2156	2M, 1T	80	1800	AL	0.25	5	H	83.7	1	AAAd	3365	460
67.6	Tu	M	D, V	M	D	O, G	O, G	18.5	2M	R	100	1800	GL	1.4	4	H	35	1	PAd	1800	175
76.4	Re	M	D, V	M	D	O, G	O, G	.....	8M	R	100	3600	GL	2.0	1	A	.....	.....	.....	.....	.....
69.8	Re	M	D, V	M	D	O, G	O, G	18.5	8M	R	100	3600	GL	2.0	1	A	50	1	.....	2850	300
72.2	Tu	M	V	M	D	O	O	18.4	M	R	44	3600	GL	1	5	A	32.5	1	AlBr	450	44
142.2	Re	M	V	M	D	O	O	18.4	M	R	12.5	3600	WE	1	3	A	10	1	AlBr	898	56
114.9	Re	M	V	M	Hy	P	C	11.6	2100	3M	100	1800	WE	0.5	5	H	60	1	Ad	6030	515
228	Re	M	V	M	Hy	P	C, G	10.5	1900	1T	60	3600	GL	1.0	5	H	60	2	AsCu	2275	166
146.4	Re	M	V	M	Hy	P, G	C, G	10.5	1550	2M	60	3600	GL	1.0	5	H	60	2	AsCu	1250	132
95.1	Tu	M	Hy	M	Hy	P, G	C, G	10.7	2000	3	60	3600	GL	0.5	5	H	50	2	Ad	1150	121
95.1	Tu	M	Hy	M	Hy	P, G	C, G	10.7	1950	3M, 1T	40	3600	GL	0.5	5	H	30	1	AsCu	900	80
181.6	Re	M	V	M	Ma	P	C	12.5	2300	4M	110	3600	WE	0.5	5	H	30	1	AsCu	1350	120
165.6	Re	M	V	M	Ma	P	C	12.5	2300	4M	110	3600	WE	0.5	5	H	30	1	AsCu	1350	120
112.6	Re	M	Hy	M	Ma	P	C	13.7	2100	3M	100	3600	WE	0.75	5	H	60	2	Ad	2400	250
76.0	Tu	M	D, V	M	D, V	O, G	O, G	1000	2100	3M	40	3600	GL	1.12	5	H	37.5	2	AsCu	550	80
88.4	Re	M	V	M	Hy	P	C	11.7	2300	3M	60	3600	GL	0.75	4	H	55	2	Ad	650	60
119.6	Re	M	V	M	Hy	P	C	11.7	2300	3M	60	3600	GL	0.75	5	H	47.5	2	CuNi	2195	205
140.0	Re	M	V	M	Hy	P	C	13.6	2300	3M	60	3600	WE	0.75	5	H	47.5	2	Ad	1025	90
297.0	Re	M	Hy	M	Hy	P, G	C, G	12.0	2500	3M	100	3600	GL	1.75	5	H	81.5	2	AAAd	1950	220
299.2	Re	M	Hy	M	Hy	P	C	11.7	2550	3M	100	3600	WE	1.5	5	H	81.5	2	AAAd	2375	220
138.6	Re	M	V	M	D	P, O	C, G, O	12.7	1950	2M, 1MT	165	1800	GL	1.0	4	H	37.5	1	Ad	620	60
196.4	Re	M	V	M	D	P, O	C, G	12.7	2000	2T	60	3600	GL	1.0	4	H	75.0	1	Ad	4840	450
67.5	Re	M	V	M	Hy	P	C, G	1080	2M	R	60	3600	GL	0.5	4	H	60	2	AsCu	625	60
85.0	Tu	M	D	M	D, Hy	Cy	C	11.4	1900	1M, 1T	30	3600	GL	0.5	4	H	30	2	AsCu	1700	137
66.6	Re	M	V	M	D, Hy	P	C	10.8	2100	3M, 1T	60	3600	WE	0.5	5	H	42.5	1	AdCu	1950	208
66.6	Tu	M	V	M	D	G	G	12.5	.....	3M	80	3600	WE	1.25	4	H	55	2	Cu	800	77
66.6	Tu	M	V	M	D	G	G	1050	.....	1M, 1T	60	3600	WE	1.25	4	H	40	2	Cu	1450	143
66.6	Re	M	D, V	M	D, V	G	G	1050	3M	R	60	3600	WE	1.25	5	H	55	2	AsCu	625	60
51.4	Tu	M	Hy	M	Hy	P	C	10.3	.....	1M, 1T	40	3600	GL	0.5	4	H	30	1	.....	1140	126
51.4	Tu	M	Hy	M	Hy	P	C	10.3	2M	R	40	3600	GL	0.5	4	H	30	1	.....	1710	160
51.4	Tu	M	Hy	M	Hy	P	C	10.3	2M	R	40	3600	GL	0.5	4	H	30	1	.....	2280	200
61.2	Re	M	D, V	M	D, V	G, O	G, O	1100	2M	R	30	3600	WE	0.75	4	H	25	2	Ad	1074	94
263.8	Re	M	V	M	V	P	C	11.4	2050	6M	60	1800	GL	0.5	5	H	47.5	1	RB	2450	240
281.6	Re	M	V	M	V	P	C	11.4	2100	6M, 1T	75	1800	GL	0.5	5	H	60	1	RB	4412	340
47.3	Re	M	Hy	M	Hy	P	C	12.2	2320	3M	50	3600	WE	0.75	4	H	32.5	1	AnAd	1355	130
23.0	Re	M	V	M	D	O	C	18.6	2320	3M	62.5	3600	WE	0.75	5	H	15	1	AlBr	1940	193
33.3	Tu	M	V	M	D	O, G	G, G	950	2M	R	22.5	3600	GL	1.0	3	H	20.4	2	AlBr	435	35
61.0	Re	M	Hy	M	Hy	P	C	12.6	2200	2M	22.5	3600	GL	1.0	3	H	20.4	2	Ad	230	22.5
61.0	Re	M	Hy	M	Hy	P	C	12.0	2200	2M	22.5	3600	GL	1.0	3	H	20.4	2	Ad	460	4.5
63.0	Re	M	Hy	M	Hy	P, G	C, G	12.0	2200	2M	60	3600	GL	1.0	4	H	47.0	2	Ad	2300	240
36.5	Re	M	Hy	M	Hy	P	C, G	12.0	2200	1M	40	3600	GL	1.0	4	H	31.3	2	Ad	1600	160
121.6	Tu	M	D	M	D	G, O	G, O	1062	3M	R	60	3600	GL	1.75	4	H	65.0	2	AsCu	1040	106
44.1	Re	M	D	M	D	G, O	G, O	1050	1M	R	18.75	3600	GL	1.75	4	H	15.0	2	AsCu	440	48
81.3	Re	M	V	M	V	G, O	G, O	1080	.....	1M, 1T	60	3600	GL	0.75	4	H	50.0	1	AsCu	1400	116
30.0	Re	M	V	M	V	G, O	G, O	1080	.....	1M, 1T	60	3600	GL	0.75	4	H	50.0	1	AsCu	1400	116
104.7	Tu	M	D, V	M	D, V	G, O	G, O	1080	2M	R	60	3600	WE	1.25	4	H	55.0	2	AsCu	1880	143
57.5	Tu	M	D, V	M	D	G, O	G, O	1018	1M, 1T	R	30	3600	WE	1.25	4	H	30.0	2	AsCu	1350	93
83.5	Tu	M	D, V	M	D	G, O	G, O	1018	1M, 1T	R	60	3600	GL	1.75	4	H	65.0	2	AsCu	1625	174
83.5	Tu	M	D, V	M	D	G, O	G, O	1018	2M	R	60	3600	GL	1.75	4	H	65.5	2	AsCu	2450	234
56.1	Tu	M	V	M	D, V	G, O	G, O	1103	1M, 1T	R	30	3600	GL	0.75	4	H	25.0	2	AsCu	940	76
20.2	Re	M	V	M	V	G, O	G, O	1100	1M, 1T	R	12.7	3600	GL	0.75	3	A	11.0	2	AsCu	1090	88
104.7	Tu	M	D, V	M	D, V	G, O	G, O	1100	3M	R	60	3600	WE	0.75	5	H	55.0	2	AsCu	1765	148
55.6	Re	M	D	M	D	G, O	G, O	1072	3M	R	60	3600	GL	1.25	4	H	50	2	Ad	2340	161
61.6	Tu	M	V	M	Ma	P	C	12.9	2400	2M	30	3600	WE	0.75	4	H	27.5	2	PAd	775	65
38.6	Tu	M	V	M	V	G	C	.....	.....	1M, 1T	20	3600	GL	1.0	4	H	18.5	1	AsCu	500	40
53.3	Tu	M	V	M	V	G, O	G, O	.....	.....	1M	30	3600	WE	0.75	4	H	25.0	1	AsCu	600	60
53.3	Tu	M	CP	M	CP	G	C	1060	1M, 1T	R	30	3600	GL	0.75	4	H	30.0	2	AAAd	330	30

- Turbine drive
- Traveling-grate stoker
- Tubular
- Underfeed stoker
- Union Iron Works
- Vane control
- Henry Vogt Machine Co.
- Wood
- Win Bros Boiler & Mfg Co.
- Westinghouse Electric Corp.
- Worthington Pump & Machn Corp.
- Sq ft stoker area
- Reheat to 1000 F
- 11-p shaft 3600, 1-p 1800 rpm
- Reheater 30,200 sq ft
- Condenser is turbine foundation
- 400 to 275 psig
- Ranging up to 13,900 Btu per lb
- 75,000-kw capability
- AILE-ASME preferred standard
- Reheater 900 sq ft
- Reheat to 950 F
- 30,350 on oil, 32,300 on gas
- Gas, 1009 Btu per cu ft
- 18,300 on oil, 19,400 on gas
- 2 units being installed
- 3 house units being installed
- 3 units being installed
- Reheat to 750 F
- 2nd unit starts 6-51
- Reheater 10,500 sq ft
- 2 fans per unit
- 70% bituminous, 30% anthracite
- Anthracite 12,500 Btu per lb
- 2nd unit starts 6-50
- 2 motor-driven fans
- Btu per cu ft
- 2-speed motor
- Also pitch
- Second unit in 10-51
- F-d fan only, furnace designed for pressure operation
- Drives controllable-pitch blower for pressurized furnace
- Revised, originally listed in 1945 survey
- Second-hand unit</

1949 Listing of Typical Central-Station Inc

For notes on uses and limitations
of this tabulation • See page 96

Compiled by B. G. A. Skrotzki, Associate Editor

Company	Location	Plant Name	Consulting Engineers	BOILERS										Heat release, 1000 Btu per cu ft per hr	Furnace Volume, 1000 cu ft	Superheater Surface, 1000 sq ft	Boiler, Waterwall Surface, 1000 sq ft	Capacity, each 1000 lb per hr	Number	Nominal Steam Temperature, F	Nominal Pressure, psi	First Operation, New Units
Public Service Co of Indiana	Edwardsport, Ind.	Edwardsport	Sargent & Lundy	1-49	850	900	2	400	RS	34.4	14.1	29.0	17.6	DB								
Savannah Electric & Power Co	Savannah, Ga.	Riverside	Stone & Webster	1-50	850	900	1	200	CE	7.1	7.6	9.3	28.2	DB								
Tampa Electric Co	Tampa, Fla.	Hookers Point	Stone & Webster	7-48	850	900	2	200	BW	14.5	5.0	8.7	32.0	DB								
Central Illinois Electric & Gas Co	Rockford, Ill.	Sabrooke	Stone & Webster	11-49	850	900	1	205	FW	22.3	4.4	10.5	26.2	DB								
Western Massachusetts Elec Co	West Springfield, Mass.	West Springfield	Stone & Webster	9-49	850	900	1	400	CE	15.6	1.9	29.2	17.3	DB								
Virginia Electric Power Co	West Dumfries, Va.	Possum Point	Stone & Webster	1951	850	900	1	650	CE	43.0		45.5	16.9	DB								
West Virginia Electric & Power Co	Martinsburg, W. Va.	English	Sanderson & Porter	7-50	850	900	2	210	RS	22.6		15.5	17.9	DB								
The United Illuminating Co	New Haven, Conn.	White River	Gibbs & Hill	11-49	850	900	1	320	BW		15.2	22.7	16.9	DB								
Indianapolis Power & Light Co	Martinsville, Ind.	White River	Gibbs & Hill	12-51	850	900	1	400	CE	25.5	13.8	23.2	22.5	DB								
South Carolina Power Co	Charleston, S. C.	Harbor	Gilbert Associates	3-50	850	900	1	230	RS	19.6	7.4	13.4	21.6	DB								
				9-51	850	900	1	310	RS	24.9	10.0		21.6	DB								
Philadelphia Electric Co	W. Norriton Town, Pa.	Barbadoes		2-49	850	900	2	800	FW	30.5	20.8	47.1	15.4	DB								
Duquesne Light Co	South Heights, Pa.	Frank R Phillips		1949	850	900	1	600	FW	23.9	17.1	35.0	20.9	DB								
				1950	850	900	2	600	FW	23.9	17.1	35.0	20.9	DB								
West Texas Utilities Co	Amarillo, Texas	Lake Pauline Plant "X"	Sargent & Lundy	3-51	850	900	1	250	BW	13.8	6.3	10.6	30.8	DB								
Southwestern Public Service Co	Amarillo, Texas	East		2-52	850	900	1	500	CE	34.5		22.2	29.0	DB								
	Amarillo, Texas	East		3-51	850	900	1	400	BW	32.2	9.8	17.8	29.7	DB								
	Amarillo, Texas	Roswell	Stearns-Roger Mfg Co	7-50	850	900	1	210	BW	15.8	3.6	9.0	29.7	DB								
	Amarillo, Texas	Tucuman	Stearns-Roger Mfg Co	7-49	850	900	1	275	BW	18.3	5.3	11.2	32.0	DB								
	Springfield, Ohio	Mac River	Commonw & Southern	1-49	850	900	1	250	RS	18.0	6.2	13.0	23.0	DB								
Ohio Edison Co	Toronto, Ohio	Toronto	Commonw & Southern	9-49	800	875	1	600	BW	11.4	16.5	44.1	18.4	DB								
				1-50	800	875	1	900	BW	11.4	16.5	44.1	18.4	DB								
	Akron, Ohio	Gorge	Commonw & Southern	12-48	800	875	1	450	BW	11.4	17.9	30.9	19.1	DB								
Oklahoma Gas & Electric Co	W. or Okla. City, Okla.	Mustang	Pioneer Serv & Engrg.	3-50	850	900	1	475	BW	11.2	18.3	30.1	20.6	DB								
				3-51	850	900	1	475	BW	11.2	18.3	30.1	20.6	DB								
	Minneapolis, Minn.	Riverside	Pioneer Serv & Engrg.	7-49	850	900	1	570	BW	13.5	22.9	37.5	20.0	DB								
Northern States Power Co	St. Cloud, Minn.	G. H. Wilmarth	Pioneer Serv & Engrg.	9-48	850	900	1	125	BW	15.5	5.3	7.9	22.0	DB								
	St. Cloud, Minn.	Whitney	Pioneer Serv & Engrg.	10-48	850	900	1	125	BW	15.5	5.3	7.9	22.0	DB								
	La Crosse, Wis.	French Island	Pioneer Serv & Engrg.	6-48	450	750	1	125	Vo	10.8	2.4	5.5	33.0	DB								
	Grand Forks, N. D.	Grand Forks	Pioneer Serv & Engrg.	4-48	450	750	1	125	EM	14.9	5.1	7.5	29.7	DB								
Madison Gas & Electric Co	Madison, Wis.	Blount	Mead & Hunt	9-48	400	750	1	65	WB	9.3	2.0	4.2	23.0	DB								
				11-48	825	825	1	200	BW	19.3			15.2	DB								
600 PSIG TO 799 PSIG																						
Pennsylvania Electric Co	Indiana County, Pa.	Seward	Gilbert Associates	1950	650	825	2	300	BW	28.5		19.3	19.3	DB								
Holyoke Water Power Co	Holyoke, Mass.	No. 1	Jackson & Moreland	10-48	650	750	1	120	RS	14.3	0.9	9.9	17.5	DB								
Central Louisiana Electric Co	St. Landry, La.	Couglum	Sargent & Lundy	9-49	600	825	1	120	CE				29.2	DB								
Itasca Electric & Light Co	Fitchburg, Mass.	Sawyer Passway	Chas T Main, Inc.	12-49	600	825	1	150	CE	18.7		8.7	20.5	DB								
Texas Electric Service Co	Wichita Falls, Texas	Wichita Falls	Ebasco Services, Inc.	3-49	600	825	1	150	CE	12.0	3.2	6.1	33.1	DB								
Dallas Power & Light Co	Dallas, Texas	Mountain Creek	Ebasco Services, Inc.	3-50	600	825	2	150	CE				33.1	DB								
Imperial Irrigation District	El Centro, Calif.	El Centro	Gibbs & Hill, Inc.	4-49	600	825	1	260	CE	17.0	4.0	9.3	32.8	DB								
Minnesota Power Cooperative, Inc.	Grand Forks, N. D.	Grand Forks	Ellerbe & Co	11-49	600	825	2	72	RS	9.5	2.5	4.0	28.0	DB								
Public Service Co of New Mexico	Albuquerque, N. M.	Prager	Stearns-Roger Mfg Co	12-48	615	825	1	125	BW	11.6	1.4	5.0	34.1	DB								
The Tucson Gas, Elec & Power Co	Tucson, Arizona	No. 3	Sanderson & Porter	1949	615	825	1	150	BW	13.3	3.2	5.6		DB								
					615	825	1	150	BW	13.3	3.3	5.6		DB								
Grand River Dam Authority	Pryor, Oklahoma	Chouteau	W. R. Holway & Assoc	11-49	600	750	1	100	CE	12.1		6.0	23.7	DB								
New Hampshire Gas & Electric Co	Portsmouth, N. H.	Portsmouth	Gilbert Associates, Inc.	6-50	600	825	1	100	CE	12.1		6.0	23.7	DB								
UNDER 600 PSIG																						
Omaha Public Power District	Omaha, Neb.	South Omaha		6-48	450	750	1	200	CE	14.5		7.9		DB								
Central Ohio Gas & Electric Co	Columbus, Ohio	Wentworth	Sargent & Lundy	12-47	425	825	1	120	RS	14.0	3.1	8.0	20.0	DB								
				9-50	425	825	1	120	RS	14.0	3.1	8.0	20.0	DB								
Iowa-Illinois Gas & Electric Co	Coralville, Iowa	Coralville	United Lt & Rwy Serv	8-49	425	740	1	60	RS	8.9	0.7	3.2	26.8	DB								
Public Service Co of New Mexico	Santa Fe, N. M.	Santa Fe	Stearns-Roger Mfg Co	11-49	415	750	2	50	CE	2.4	0.3	0.3		DB								
Georgia Power & Light Co	Waycross, Ga.	Waycross	Gibbs & Hill	11-48	410	725	3	44.5	CE	2.4	0.3	0.3		DB								
Missouri Public Service Corp	St. Louis, Mo.	Seneca	Burns & McDonnell	11-49	400	750	1	90	BW	12.0		5.0	29.0	DB								
Public Service Co of Colorado	Grand Junction, Colo.	Grand Junction		4-48	400	750	1	60	BW	9.8	1.5	6.2	13.6	DB								
Wellsboro Electric Co	Wellsboro, Pa.	Wellsboro	Stone & Webster	1-50	400	750	1	85	RS	10.3	0.8	4.6	25.0	DB								
	Bethel, N. D.	Bethel	Zack C Hinds	7-47	400	650	2	36	K	4.0		1.3	39.6	DB								
Minnesota-Dakota Utilities Co	Bismarck, N. D.	Bismarck	Stearns-Roger Mfg Co	11-49	400	750	2	50	BW	6.1		2.7	28.2	DB								
	Bismarck, N. D.	Bismarck	C. M. Garland & Co	6-48	375	450	1	60	RS	8.1	1.3	2.6	37.0	DB								
	Kimball, N. D.	Kimball	Stearns-Roger Mfg Co	11-48	200	320	1	60	BW	8.2		3.3	27.0	DB								
W. Va. Service Corp	Lawton, Okla.	Lawton		7-48	300	600	1	200	BW	18.4		9.0	30.5	DB								
New York State Electric & Gas Co	New York, N. Y.	10th Street	Baker & Spencer Inc.	1-48	300	800	1	300	BW	35.7	0	17.1	21.9	DB								
Chicago Natural Gas Co	Stamford, Conn.	Stamford	Stone & Webster	1-49	190	700	2	125	BW	11.9	0.5	5.8	28.9	DB								
	Hastings, W. Va.	Hastings	Dravo Corp	1948	175	500								DB								
MUNICIPAL PLANTS																						
Board of Public Utilities	Kansas City, Kan.		Burns & McDonnell	1951	850	900	1	200	BW	18.3		20.0	21.4	DB								
Electric Department	Austin, Texas		Burns & McDonnell	6-50	850	900	1	200	CE	21.2	6.3	11.3	24.3	DB								
				6-51	850	900	1	200	CE	21.2	6.3	11.3	24.3	DB								
City of Springfield	Springfield, Ill.	Lakeside	Burns & McDonnell	7-49	700	875	1	250	SP	12.1	7.7	14.0	24.2	DB								
City of Cleveland	Cleveland, Ohio	Lakeside	Burns & McDonnell	1951	650	825	2	300	FW	21.0		11.5	31.0	DB								
City of Bloomington	Bloomington, Minn.	Wabasha Lake	Sargent & Lundy	6-49	600	825	1	90	RS	13.2	2.2			DB								
City of Eugene	Eugene, Oregon	Stream		10-49	600	825	1	175	RS	28.7	3.6	13.0	17.0	DB								
City of Ames	Ames, Iowa		Burns & McDonnell	7-50	600	825	1	95	RS	13.9		5.8	24.3	DB								
City of Henderson	Henderson, Ky.		Burns & McDonnell	7-51	600	825	2	60	BW	12.7		3.4	24.4	DB								
Indiana Electric Light Plant	Hagerstown, Md.		Albert C. Wood	9-49	460	730	2	70	EC	8.3		2.6	35.0	DB								
Columbia City	Columbia, Ind.	Light			450	750	1	60	EM					DB								
Minnesota Power & Light	Princeton, Colo.		Rocky Mountain Co	1-5																		

Municipal Power Plant

F-D FANS		I-D FANS		FUEL		FEED PUMPS		TURBINES		CONDENSERS		Total Boiler Capacity Incl New Units, 1000 lb		Total Generator Capacity Incl New Units, 1000 kw	
Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft	Model	Capacity, 1000 cu ft
Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re
Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re
Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re
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