

Power

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This survey of over 1100 projects is by far the largest sampling of industrial plant and central station design data ever published in **POWER**. The following 47 pages outline trends and spell out design features selected from newly completed or modernized plants — some still under construction, others not yet off the drawing boards. Also, you will find a special tabulation on page S-10 of computer installations covering a range of operating responsibilities in large central stations. Some elements of each survey are summarized graphically, either before or after the tabulations.

OCTOBER • 1966

PLAINTIFF'S EXHIBIT

WH-1062

1966 ENERGY SYSTEMS DESIGN SURVEY

Table 1: 1550 to 350 psig

Use of natural gas is increasing; drawbacks

PROJECT	COMPANY	LOCATION	CONSULTING ENGINEER	BOILERS										FUEL		FURNACE	
				Date of initial operation	New or existing plant	Principal steam use	No. new units, type	Manufacturer	Capacity each, 1000 lb. per hr.	Operating pressure, psi	Operating temp., F	Heating surface, 1000 sq. ft., incl. boiler, waterwall and superheater	Type	Max. sulfur content, %	Furnace type	Furnace refractory, type	
INDUSTRIAL STEAM SYSTEMS																	
1	Eastman Kodak Co.	Kingsport, Tenn.	Sargent & Lundy	1966	Ne	Ph, SH	2 F1	GE	430	1550	950	21	G	1.5	Pid	50	
2	Eastman Kodak Co.	Kaukauna, Wis.	Blair & Shultz Inc.	1966	Ne	Ph, SH	1 F1	BW	350	1500	905	38	G	2.5	Pid	50	
3	Eastman Kodak Co.	Oregon, Mich.	Herrick & Lutz	1966	Ne	Ph, SH	2 F1	RS	250	1500	900	...	G	...	...	...	
4	Eastman Kodak Co.	Freeport, Texas	Becton Corp.	1966	Ne	Ph, SH	2 F1	RS	1500	1450	1000	...	G	...	...	...	
5	Eastman Kodak Co.	Rochester, N.Y.	C.T. Main	1966	Ne	Ph, SH	2 F1	BW	400	1425	900	43	G	2.5	Pid	50	
6	Dow Chemical Co.	Plaquemine, La.	Sargent & Lundy	1966	Ne	Ph	1 F1	RS	1100	1300	950	17.4	G	N	Pid	50	
7	Magnite Corp.	Laurel, Miss.	Blair & Shultz Inc.	1966	Ne	Ph	1 F1	RS	200	1300	925	17	G	...	...	...	
8	First Metal Corp.	Dearborn, Mich.	Benjamin, Woodhouse & Guenther, Inc.	1966	Ne	Ph	1 F1	BW	600	1250	900	38	G	...	...	...	
9	Modi Oil Corp.	Torrance, Calif.	Procon, Inc.	1966	Ne	Ph	1 F1	FW	203	1250	900	38	G	...	...	...	
10	Eastman Kodak Co.	Detroit, Mich.	Sanderson & Porter, Inc.	1967	Ne	Ph, SH	2 F1	FW	275	925	875	...	G	...	...	...	
11	Eastman Kodak Co.	Helena, Ark.	Chemical Construction Corp.	1966	Ne	Ph	2 PK	CE	180	915	845	...	G	...	...	...	
12	Eastman Kodak Co.	Elizabeth, La.	Nelson Miner	1966	Ne	Ph	1 PK	CE	150	900	825	...	G	...	...	...	
13	Eastman Kodak Co.	Lahaina, Maui, Hawaii	...	1966	Ne	Ph, SH	2 F1	CE	100	975	750	...	G	...	...	...	
14	Eastman Kodak Co.	Lahaina, Maui, Hawaii	...	1966	Ne	Ph, SH	2 F1	BW	300	950	725	...	G	...	...	...	
15	Eastman Kodak Co.	Zacksburg, Miss.	...	1967	Ne	Ph	1 F1	BW	493	920	825	...	G	...	...	...	
16	Eastman Kodak Co.	Zacksburg, Miss.	...	1967	Ne	Ph	1 F1	BW	493	920	825	...	G	...	...	...	
17	Eastman Kodak Co.	Decatur, Ga.	J.E. Irvine Co.	1967	Ne	Ph	1 F1	BW	500	850	900	17	G	...	...	...	
18	Eastman Kodak Co.	Decatur, Ga.	J.E. Irvine Co.	1967	Ne	Ph	1 F1	BW	500	850	900	17	G	...	...	...	
19	Eastman Kodak Co.	Roanoke Rapids, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	250	850	950	15.3	G	...	...	...	
20	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
21	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
22	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
23	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
24	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
25	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
26	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
27	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
28	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
29	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
30	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
31	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
32	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
33	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
34	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
35	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
36	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
37	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
38	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
39	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
40	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
41	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
42	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
43	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
44	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
45	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
46	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
47	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
48	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
49	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
50	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
51	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
52	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
53	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
54	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
55	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
56	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
57	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
58	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
59	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
60	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
61	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
62	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
63	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
64	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
65	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
66	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
67	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
68	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
69	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
70	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
71	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
72	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
73	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
74	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
75	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
76	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
77	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
78	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
79	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
80	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
81	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
82	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
83	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
84	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
85	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
86	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
87	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
88	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
89	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
90	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
91	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
92	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
93	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
94	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
95	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
96	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
97	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1	CE	150	700	750	21	G	...	...	...	
98	Eastman Kodak Co.	Rockingham, N.C.	...	1966	Ne	Ph, SH	1 F1										

PROJECT

- UF - Union Iron Works, Sud of River Slower Corp
- VO - Henry Vogt Machine Co. Inc
- WE - Westinghouse Electric Corp
- WB - Wickes Boiler Co. Sud of Wickes Electric Co
- WNB - W N Best Combusition Equipment Co
- WO - Worthington Corp
- XP - Western Precipitation Div of Joy Mfg Co
- WPI - Warner Pumps, Inc
- WPM - The Weimer Pump Mfg Co
- WC - Allison Snyder Works, Allen Station Steel Corp

CONTINUED ON NEXT PAGE

Table 2: 330 to 135 psig

PROJECT	COMPANY	LOCATION	CONSULTING ENGINEER	Date of initial operation	New or existing plant	Principal steam use	BOILERS					FUEL		FURNACE		
							No. new units, type	Manufacturer	Capacity each, 1000 lb. steam/hr.	Operating pressure, psig	Operating temp., F	Heating surface, 1000 sq ft, incl. boiler, water-wall and superheaters	Type	Aux. sulfur content, %	Furnace type	Process side, type
16	US Steel Corp.	Fairless Hills, Pa.	Vanishing, Inc.	1956	Ve	2	1 PK	OE	126	330	550	6.3	0.0	4	Pd	1
17	Marine Sugar Industries, Inc.	Easton, Me.	Vanishing, Inc.	1956	Ve	2	1 PK	OE	126	330	550	6.3	0.0	4	Pd	1
18	Wycon Chemical Co.	Riverton, Wyo.	Chemical Construction Corp.	1956	Ve	2	1 PK	WIB	126	330	550	6.3	0.0	4	Pd	1
19	Pan American Petroleum Corp.	Los Angeles, Calif.	Gresser Engineering Co.	1956	Ve	2	1 PK	WIB	126	330	550	6.3	0.0	4	Pd	1
20	Central Plants, Inc.	Los Angeles, Calif.	Holladay & Westcott	1956	Ve	2	1 PK	WIB	126	330	550	6.3	0.0	4	Pd	1
21	The Johnson Co.	Loose, Texas	Fish Eng'g & Construction, Inc.	1956	Ve	2	1 PK	WIB	120	230	325	13	0	4	Pd	1
22	Law Plant Corp.	Huntington Beach, Calif.	M.A. Hiskman Co.	1956	Ve	2	1 PK	WIB	40	275	341	3.3	0	3	Pd	1
23	Cartier Plants, Inc.	San Jose, Calif.	M.A. Hiskman Co.	1956	Ve	2	1 PK	WIB	25	275	341	13	0	3	Pd	1
24	Polaroid Corp.	Waltham, Mass.	Jackson & Moreland	1956	Ve	2	1 PK	FW	30	350	341	...	0	3	Pd	1
25	General Services Administration	Georgetown, D.C.	Zier-Blossom & Assoc.	1957	Ex	2	1 PK	WIB	220	350	406	13.5	0	3.7	30	1
26	Crescent Steel Co. of America	Midland, Pa.		1956	Ex	2	1 PK	RS	150	250	475	11.9	0.0	148	30	1
27	Boston Edison Co.	Boston, Mass.		1956	Ex	2	1 PK	KEE	150	250	475	11	0	3	Pd	1
28	Arco Oil Co.	Houston, Texas		1957	Ex	2	1 PK	OE	130	350	500	...	0	3	...	...
29	Frontier Chemical Co.	Alachua, Fla.		1957	Ex	2	1 PK	BRD	50	250	341	...	0	...	...	...
30	Manitex Ltd. Works	Manitowish, Mich.		1956	Ex	2	1 PK	WIB	50	250	450	5.2	0	1.5	30	1
31	Boise Cascade Corp.	Vancouver, Wash.	Bumstead-Woodford, Inc.	1955	Ex	2	1 PK	RS	125	240	402	8.4	0.0	115	30	1
32	Law-Badische	Alachua, Fla.	Kirey and Wilson	1955	Ex	2	1 PK	KEE	120	225	341	...	0	...	...	...
33	Law-Badische	Alachua, Fla.	Kirey and Wilson	1955	Ex	2	1 PK	BRD	5	225	341	...	0	...	...	...
34	American Medical Center, Inc.	Chesler, Va.	Deans Roger	1955	Ex	2	1 PK	WIB	30	225	341	1.1	0	...	...	...
35	Hammer Div., American Tobacco Co.	Chesler, Va.		1956	Ex	2	1 PK	RS	100	225	341	8.7	0.0	...	...	...
36	Chevrolet Co.	Buffalo, N.Y.	Benjamin, Woodhouse & Guenther	1955	Ve	2	1 PK	EC	40	225	341	...	0	...	...	...
37	Monsanto Co.	Anniston, Ala.		1956	Ex	2	1 PK	RS	50	225	341	5.7	0	...	...	...
38	Chemical Saginaw Foundries	Saginaw, Mich.	Gilbert & Rossetti	1955	Ve	2	1 PK	WIB	120	212	330	10	0	...	...	...
39	Chemical Saginaw Foundries	Saginaw, Mich.	Gilbert & Rossetti	1955	Ve	2	1 PK	OE	30	212	330	3.3	0	...	...	...
40	Motor Super Corp.	Colorado Springs, Colo.		1956	Ex	2	1 PK	RS	100	212	330	...	0	...	...	...
41	Cornell University	Ithaca, N.Y.	Gilbert Assoc.	1956	Ex	2	1 PK	WIB	100	206	300	8.7	0	...	...	...
42	Kalamazoo State Coll.	Kalamazoo, Mich.	Summers & Barnard, Inc.	1956	Ex	2	1 PK	WIB	75	200	430	11	0	...	...	...
43	Oregon State University	Corvallis, Ore.		1956	Ex	2	1 PK	WIB	50	200	341	11	0	...	...	...
44	The Duquesne Co.	Dormontown, Pa.		1955	Ex	2	1 PK	WIB	45	200	341	1.0	0	...	...	...
45	Denver Federal Center	Denver, Colo.		1956	Ex	2	1 PK	WIB	45	190	341	8.5	0	...	...	...
46	General Electric Co.	Bethlehem, N.Y.	Blaw-Knox Co.	1955	Ve	2	1 PK	WIB	60	185	241	5	0	...	...	...
47	Western Electric Co.	Indianapolis, Ind.		1956	Ex	2	1 PK	EC	60	180	241	...	0	0.75	...	...
48	Chrysler Corp.	Highland Park, Mich.	Albert Kahn Assoc., Arch. & Eng'g, Inc.	1956	Ex	2	1 PK	WIB	125	175	241	10.1	0	...	...	...
49	Campanelli Food Co.	Camden, N.J.	Gilbert Assoc., Inc.	1956	Ex	2	1 PK	RS	40	175	275	5.3	0	...	...	...
50	Reckitt Chemical Co.	Liberty, Ill.		1955	Ve	2	1 PK	OE	30	175	241	1.1	0	...	...	...
51	Rock Island Corp., Resinwood Div.	Marquette, Wis.	Walter G. Kimmel	1955	Ve	2	1 PK	WIB	125	175	275	2.3	0	...	...	...
52	Atlantic Refining Co.	Philadelphia, Pa.	Rust Engineering Co.	1955	Ve	2	1 PK	RS	320	170	435	37	0	...	...	...
53	Alpha Processing Co.	Muscatine, Iowa		1955	Ve	2	1 PK	WIB	110	165	241	...	0	...	...	...
54	Lawrence & Engineering Corp.	Chicago, Ill.	Laramore, Donaghy & Phelan	1955	Ve	2	1 PK	WIB	145	165	241	6.3	0	...	...	...
55	Lawrence & Engineering Corp.	Chicago, Ill.		1955	Ve	2	1 PK	EC	40	165	241	1.1	0	...	...	...
56	McGraw-Hill	Moscow, Wis.	Hermick & Lutz Co.	1955	Ve	2	1 PK	WIB	100	165	240	1.1	0	2.5	30	1
57	Indiana University Medical Center	Indianapolis, Ind.	United Engineers & Constructors	1955	Ex	2	1 PK	OE	100	160	341	6.5	0	...	...	...
58	Port Chicago, Mich.	Port Chicago, Mich.	Watkins, Burrows and Assoc.	1955	Ex	2	1 PK	WIB	100	160	341	...	0	...	...	...
59	Port Chicago, Mich.	Port Chicago, Mich.		1955	Ex	2	1 PK	WIB	100	160	341	...	0	1.5	30	1
60	Chrysler Corp., Detroit Forge Plant	Detroit, Mich.	John G. Hoag & Assoc., Inc.	1956	Ex	2	1 PK	WIB	150	150	366	10	0	...	...	...
61	General Electric Co.	Trino, Cal.		1956	Ve	2	1 PK	WIB	150	150	366	...	0	...	...	...
62	University of Colorado	Boulder, Colo.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
63	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	112	150	366	...	0	2	...	...
64	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	OE	190	150	341	11.2	0	3.3	...	...
65	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
66	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
67	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
68	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
69	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
70	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
71	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
72	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
73	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
74	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
75	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
76	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
77	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
78	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
79	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
80	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
81	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
82	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
83	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
84	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
85	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
86	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
87	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
88	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
89	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
90	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
91	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
92	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
93	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
94	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
95	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
96	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
97	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
98	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
99	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...
100	General Electric Co.	East Syracuse, N.Y.		1956	Ex	2	1 PK	WIB	150	150	366	...	0	...	...	...

SYMBOLS

1. Exhaust gas
 2. Exhaust gas
 3. Exhaust gas
 4. Exhaust gas
 5. Exhaust gas
 6. Exhaust gas
 7. Exhaust gas
 8. Exhaust gas
 9. Exhaust gas
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 49. Exhaust gas
 50. Exhaust gas

forces in an increased effort to fight atmospheric pollution

[illegible]

Pharmaceuticals | **10**

- PC - Power
- Pr - Processing
- PrC - Pressurized
- RE - Rotary-cut burner
- RP - Regenerative
- RG - Reforming gas
- SE - Steam atomizing
- Sat - Saturated

- Sc - Sawdust
- SH - Space head
- SH - Shell and Tube
- St - Stirling
- SO - Spreader Stoker
- St - Steam
- T - Turbine
- Ta - Tangential

TG - Traveling-grate stoker
 TU - Tubular
 TV - Closed-circuit TV
 UV - Ultraviolet
 VG - Vibrating-grate stoker
 Z - Zeeite
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5 STEAM SYSTEMS

Table 3: 125 to 40 psig
Overseas: 1220 to 120 psig

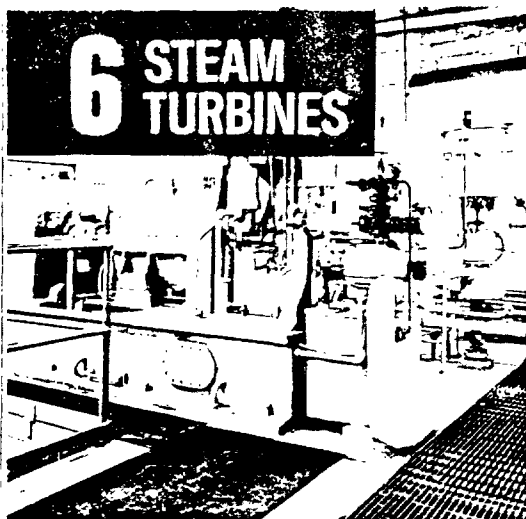
Steam turbines and dual drives for aux

PROJECT	COMPANY	LOCATION	CONSULTING ENGINEER	Date of initial operation	New or existing plant	Principal steam use	BOILERS					FUEL		FUEL	
							No. new units, type	Manufacturer	Capacity each, 1000 lb. per hr.	Operating pressure, psig	Operating temp., F	Heating surface, 1000 sq ft, incl. boiler water-wall and superheaters	Type		Max. sulfur content, %
132	Ford Motor Co.	Dierling, Mich.		1965	Ex	Pr	1 Fr	WIB	120	125	341	13.3	O	2	BD
133	R.R. Donnelly & Sons	Chicago, Ill.		1965	Ex	Pr, SH	2 Fr	BW	80	125	341	3.7	O, G	1	BD
134	Williams College	Williamstown, Mass.	Luskwood-Greene	1966	Ex	SH	1 Fr	KEE	25	125	350	7.1	O, G	1.5	BD
135	Wisconsin State College	Eau Claire, Wis.	Orr-Schelen-Maveron & Assoc.	1966	Ve	SH	2 Fr	BRO	80	125	341	...	O, G	3	BD
136	American Airlines	Tulsa, Okla.		1966	Ex	SH	1 Pk	EC	50	125	341	5	O, G	...	Prd
137	Lincoln General Hosp.	Lincoln, Neb.	Davis & Wilson Architects & Engineers	1965	Ve	SH	2 Pk	BW	45	125	345	4.1	O, G	...	Prd
138	Deere & Co.	Welland, Ont.	H.G. Acres & Co. Ltd.	1965	Ex	Pr, SH	2 Pk	FW	40	125	353	4.6	O, G	...	Prd
139	Adams State College	Alamosa, Colo.	Swanson-Rink	1966	Ex	SH	1 Pk	KEE	25	125	341	...	O, G	...	Prd
140	Associated Dye & Print Co.	Patterson, N.J.	Greenwald Assoc.	1965	Ex	Pr	2 Fr	KEE	25	125	341	...	O, G	...	Prd
141	Indiana State College	Indiana, Pa.	Erwood Tower	1965	Ex	Pr, SH	1 Fr	KEE	25	125	341	...	O, G	...	BD
142	Birchbush Corp.	Plymouth, Mich.	Dumms & Barnard, Inc.	1966	Ex	Pr	1 Pk	BW	30	125	352	3.2	O	4	Prd
143	Brick Land Co.	Chattanooga, Tenn.	Wheeler Engrg. Co.	1965	Ex	Pr	1 Pk	EC	30	125	341	...	O, G	...	Prd
144	U.S. Bureau of Reclamation	Peoria, Ill.		1966	Ex	Pr, SH	1 Pk	WIM	10	125	341	3.3	O	...	Prd
145	Parsons Administration Hosp.	Mann, Ind.		1965	Ex	Pr, SH	1 Fr	WIM	10	125	341	...	O	2	BD
146	Drake America Corp.	New York, N.Y.		1966	Ve	...	1 Pk	WIM	12	125	341	...	O	...	Prd
147	Bradley University	Peoria, Ill.	Beiring Engrg.	1966	Ex	SH	1 Pk	WIM	32	120	341	3.3	O	...	Prd
148	San Fernando Valley State College	Northridge, Calif.		1966	Ex	SH	1 Pk	BRO	30	120	350	3.5	O, G	...	BD
149	Pan Am Corp.	Greensboro, N.C.		1966	Ex	Pr, SH	1 Pk	KEE	25	120	350	...	O	1.2	BD
150	West Liberty Univ.	West Chester, Pa.		1965	Ex	Pr	1 Pk	KEE	25	120	341	...	O	...	Prd
151	Marine Colloids, Inc.	Rockland, Me.		1966	Ex	Pr	1 Pk	RS	10	118	341	5.7	O	...	BD
152	Terra-Oilene & Refining Co.	Clifton, N.J.	W.J. Beekhuisen & Assoc.	1965	Ve	Pr	1 Pk	KEE	40	113	341	3.8	O	...	Prd
153	Polymers Design Corp.	St. Louis, Mo.	Am Taps & Assoc.	1965	Ex	Pr	1 Pk	KEE	30	120	341	4.9	O, G	...	Prd
154	Wayne State College	Wayne, Neb.	Leo A. Dary Co.	1965	Ex	SH	1 Pk	WIM	45.5	100	341	4.3	O, G	...	Prd
155	Huber Brothers, Inc.	Barberton, Ohio		1965	Ex	Pr, SH	1 Fr	EC	40	120	341	5.6	O	133	BD
HIGH TEMPERATURE WATER SYSTEMS: Turb. capacity in million Btu per hr.															
156	University of California	Riverside, Calif.		1963	Ex	SH	1 Fr	BW	110	120	341	...	O, G	...	BD
157	Ford Motor Co.	Dierling, Mich.	Jurets & Russell, Inc.	1963	Ve	SH	4 Fr	CB	110	120	341	...	O, G	...	Prd
158	E.W. Barrick Corp.	Franklin, Ky.	U.S. Army Corps of Engineers	1966	Ve	SH	2 Pk	BW	110	120	341	...	O, G	...	BD
159	Greensboro Community College	Greensboro, N.C.	J.R. Loring & Assoc.	1965	Ve	SH	2 Pk	BW	110	120	341	...	O, G	...	Prd
160	Florida College	Fredonia, N.Y.	Segner & Dalton	1967	Ve	SH	1 Pk	BW	110	120	341	...	O, G	...	Prd
161	Texas Univ.	Beaverton, Ore.		1965	Ex	Pr, SH	1 Pk	WIB	110	120	341	...	O, G	...	Prd
162	Brigham Young University	Provo, Utah	Paul L. Geringer & Assoc.	1965	Ex	SH	1 Fr	BW	100	125	340	2.1	O	355	BD
163	College of William & Mary	Williamsburg, Va.	Paul L. Geringer & Assoc.	1966	Ex	SH	1 Pk	BW	60	125	341	4.3	O	23	Prd
164	University of California	San Diego, Calif.	Kennedy Engineers	1965	Ve	SH	2 Pk	BW	110	125	340	3.6	O, G	...	Prd
165	American Polytechnic College	Sacramento, Calif.	O'Meara-Ganford Assoc., Inc.	1965	Ex	SH	1 Pk	BW	110	125	340	...	O, G	...	Prd
166	Staten Island Community College	Staten Island, N.Y.	James Montgomery Assoc.	1965	Ve	SH	3 Pk	BW	110	125	340	...	O, G	...	Prd
167	Bechtel Corp.	Palmer, Mich.		1965	Ex	SH	1 Pk	WIB	30	125	340	3.4	O, G	...	Prd
168	Marion County Memorial Hosp.	Elizabethtown, Ky.	Procter-Henry & Assoc.	1966	Ve	SH	2 Pk	BW	110	125	340	...	O, G	...	Prd
169	Southern Ontario Gas Co.	Amherst, Ont.	M.A. Nicholson, Mack and Sunderland	1965	Ve	SH	1 Pk	BSL	12	40	250	...	O, EG	...	Prd
OVERSEAS STEAM SYSTEMS															
170	Commissariat General d'Electricite	Diano, Quebec, France	J.A. Heurley	1967	Ve	Pr	1 Fr	BWF	15	110	371	...	RC, No	4	BD
171	Electricite de France	Paris, France		1966	Ex	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
172	Electricite de France	Paris, France		1966	Ex	Pr, SH	2 Fr	BWF	40	100	355	...	O	25	BD
173	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	BD
174	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
175	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
176	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
177	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
178	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
179	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
180	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
181	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
182	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
183	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
184	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
185	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
186	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
187	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
188	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
189	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
190	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
191	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
192	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
193	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
194	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
195	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
196	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
197	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
198	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
199	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd
200	Electricite de France	Paris, France		1967	Ve	Pr	2 Fr	BWF	40	100	355	...	O	...	Prd

FOOTNOTED

1. Owned and operated by Detroit Edison Co.
2. Reproces existing boiler.
3. Turbine driven boiler.
4. Natural and process gas.
5. Three boilers serve five boilers.
6. Separate fired FW superheater.
7. Also gas-fired waste.
8. Reproces existing boiler.
9. Under-turbine boiler, nitrogen-pressurized.
10. Natural circulation boiler, nitrogen-pressurized.
11. Once-through boiler, steam-pressurized.
12. 4.5% natural circulation.
13. 4.5% natural circulation.
14. 4.5% natural circulation.
15. 4.5% natural circulation.

6 STEAM TURBINES

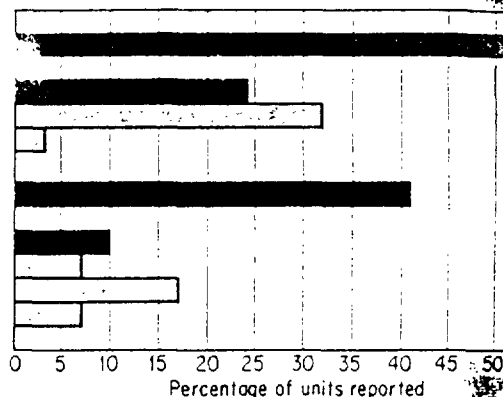


Noncondensing

No extraction
Single extraction
Double extraction

Condensing

No extraction
Single extraction
Double extraction
Triple extraction



PREPONDERANCE of noncondensing turbines shows greater use of process

Industrial turbines get bigger

R J BENDER, Consulting Editor

There is a continued increase in the size of turbines purchased by industries where both process steam and electricity are needed. This is due, in part, to present or contemplated expansion of plant capacity, and also to the fact that more and more electricity is being generated in plants of this type. The trend to more in-plant generation, which started only a few years ago, is now in full swing. At a relatively modest increase in capital cost, a larger boiler and a steam generator can be obtained that may, in the overall picture, produce a defi-

nite saving in energy cost for the owner.

This year, single-point and double-point extraction turbines are the most popular. A number of three extraction units were reported. However, U.S. manufacturers prefer to call them double-extraction turbines with an additional bleed point. Leading turbine manufacturers have told POWER that, in addition to the increased number of relatively small steam turbines installed to drive essential boiler auxiliaries, the growing use of steam turbines to drive large machinery

PROJECT	COMPANY	LOCATION	No. of new turbines	Manufacturer	Date of initial operation	Capacity, kw	Speed, rpm	Throttle temperature, F	Throttle pressure, psig	Type	No. of extraction points	Extraction pressure, psig	Back pressure, in Hg or psig	Extraction steam use	Type condenser	Condenser manufacturer	Generator manufacturer	Cooling	Cooling medium drive	Power factor	Steady type
STEAM TURBINES																					
1	James Lee Eastman Co. Div. Eastman Kodak Co.	Kingsport, Tenn.	1	GE	1966	10,200	3600	982	120	NC	N		515	3	N	GE	GE	H ₂	31	80	
2	Weyerhaeuser Inc.	Marquette, Mich.	1	GE	1966	9575	3600	900	1450	Can	2	250,175,20	12	3	N	GE	GE	H ₂	30	80	
3	Thimpany Pulp & Paper Co.	Kaukauna, Wis.	1	WE	1966	7500	3600	900	140	NC	2	500	12	3	N	WE	WE	A-4	30	80	
4	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
5	Detroit Edison Co.	Detroit, Mich.	1	WD	1967	12,500	3600	925	121	NC	1	243	14	3	N	WD	WD	A-4	30	80	
6	Essex Co.	Barnstable, Mass.	1	TD	1967	4500	3000	950	100	Can	1	100	10	3	N	TD	MAR	A-4	30	80	
7	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
8	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
9	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
10	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
11	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
12	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
13	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
14	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
15	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
16	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
17	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
18	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
19	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
20	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
21	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
22	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
23	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
24	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
25	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
26	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
27	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
28	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
29	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
30	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
31	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
32	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
33	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
34	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
35	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
36	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
37	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
38	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
39	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
40	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
41	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
42	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
43	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
44	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
45	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
46	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
47	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
48	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
49	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
50	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
51	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
52	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
53	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
54	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
55	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
56	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
57	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
58	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
59	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
60	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
61	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
62	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
63	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
64	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	
65	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	140	NC	1	325.25	12	3	N	GE	GE	A-2	30	80	

High boiler pressures call for main turbine-driven feed pumps

Capacity, kw	TURBINE					CONDENSER					FEEDWATER				GENERATOR			CONTROLS					PROJECT
	Type	Exhaust, in Hg	No. of bleed points	No. of exhausts	Manufacturer	Surface, 1000 sq ft	No. of water passes	Tube material	Air removal	Manufacturer	Makeup treatment	Condensate treatment	System manufacturer	Voltage, kv	Rating, mva	Cooling	Combustion, mb	Feedwater, mb	Closed circuit, in Hg	Data logger, mb	Computer, mb		
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	1	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	2	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	3	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	4	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	5	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	6	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	7	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	8	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	9	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	10	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	11	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	12	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	13	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	14	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	15	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	16	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	17	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	18	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	19	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	20	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	21	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	22	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	23	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	24	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	25	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	26	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	27	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	28	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	29	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	30	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	31	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	32	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	33	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	34	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	35	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	36	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	37	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	38	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	39	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	40	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	41	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	42	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	43	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	44	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	45	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	46	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	47	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	48	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	49	
16.5	TO	100	1	1	GE	100	1	SS	Rc	WC	De	De	WE IN	24	540	H ₂ , Li, HC	BM	BM	DP	N	N	50	

refers to each unit
 derived from 1963 Survey
 refers to lead one turbine;
 refers to one boiler
 City Electric Co
 Gas and Electric Co
 Power and Light Co
 Edison Co
 Power and Light Co
 Electric Co
 Service Electric and

- | | | | | | |
|----|---|----|--|----|---|
| 8 | - jointed with Davison Power and Light Co. and Southern Ohio Electric Co. | 19 | - Coal and gas respectively | 28 | - Closed heater manufacturer not yet selected |
| 9 | - Attendant in emergency | 20 | - Under emergency start-up system, with super-critical heat exchanger, no flash tank | 29 | - Heater and deaerator respectively |
| 10 | - Water supply in emergency | 21 | - Main control by feedwater-fuel balance | 30 | - Meevus and condensate treatment respectively |
| 11 | - Two-hour dead capacity: 150,000 lb per hr | 22 | - Main and standby pumps respectively | 31 | - Removable housing over turbine |
| 12 | - Turbine No. 6, boiler No. 7 | 23 | - Sub-turbomous | 32 | - Turbine has automatic extraction, supplies district heating steam to city |
| 13 | - Boiler No. 9 | 24 | - Gas auxiliary or emergency fuel | 33 | - Turbine on spinning reserve; data for peaking at 5% overpressure |
| 14 | - H.P. I's respectively | 25 | - Use of alternate motors | 34 | - Hydraulic cooling towers |
| 15 | - 1800 lb per hr | 26 | - Oil in emergency, provision for future coal firing | 35 | - Integrated boiler-turbine control |
| 16 | - Mine future coal burners installed | 27 | - One 225 ton per hr coal crusher | 36 | - Furnace and coal handling respectively |
| 17 | - Oil, coal and gas respectively | | | | |
| 18 | - Oil and gas respectively | | | | |

1 CENTRAL STATIONS

Steam pressures continue to climb; temperature

Each project listing covers 4 pages

PROJECT	COMPANY	LOCATION	PLANT NAME	CONSULTING ENGINEER	Unit No., new unit	Date first operation	Unit capacity, mw	BOILER			
								Capacity ea., 1000 lb. per hr.	Throttle pressure, psig	STEAM, F.	
										Throttle	Reheat
1. Conemaugh Group		West Wheatfield, Pa.	Conemaugh	Gilbert Assoc., Inc.	1, 2	1970	900	4350	1575	1000	1000
2. Southern California Edison Co.		Birmingham, Ala.	Four Corners	Bechtel Corp.	4, 5	1969	255	3448	2500	1000	1000
3. Pacific Gas and Electric Co.		Monterey, Calif.	Moss Landing		5, 6	1967	750	3100	1875	1000	1000
4. Virginia Electric and Power Co.		Chester, Va.	Chesterfield	Stone & Webster Engrg. Corp.	5	1969	510	1620	1521	1000	1000
5. Pennsylvania Electric Co.		Homer City, Pa.	Homer City	Gilbert Assoc., Inc.	1, 2	1970	563	4500	2500	1000	1000
6. Public Service Electric and Gas Co.		Jersey City, N.J.	Hudson		1	1968	520	1800	1575	1000	1000
7. Commonwealth Edison Co.		Kincaid, Ill.	Kincaid	Sargent & Lundy	1	1969	500	1200	2100	1000	1000
8. New England Electric Systems		Somerset, Mass.	Stratton Point	Stone & Webster Engrg. Corp.	1	1969	515	1750	1515	1000	1000
9. Texas Power & Light Co.		Savoy, Texas	33-44	Brown & Root, Inc.	1	1967	532	2250	1500	1000	1000
10. Hydro-Elec. Commission of Ontario		Salma, Ont., Can.	Lambton		1, 2	1970	500	1550	2250	1000	1000
11. Florida Power Corp.		Red Level, Fla.	Crystal River	Black & Veatch	1	1969	475	3350	1431	1000	1000
12. Southern California Edison Co.		Redondo Beach, Calif.	Redondo Beach	Bechtel Corp.	7, 8	1967	105	1215	2500	1000	1000
13. Cincinnati Gas & Electric Co.		New Richmond, Ohio	Walter C. Beckford	Sargent & Lundy	1	1966	424	1350	1400	1000	1000
14. Florida Power & Light Co.		Cocoa, Fla.	Cape Kennedy	Bechtel Corp.	1	1968	320	2840	2400	1000	1000
15. Florida Power & Light Co.		Tide, Fla.	Fort Myers	Bechtel Corp.	1	1969	432	2540	2400	1000	1000
16. Indianapolis Power & Light Co.		Petersburg, Ind.	Petersburg	Stone & Webster Engrg. Corp.	1	1969	430	1200	1521	1000	1000
17. Oklahoma Gas & Electric Co.		Harrison, Okla.	Horseshoe Lake		1	1967	404	1740	2100	1000	1000
18. Missouri Public Service Co.		Staley, Mo.	Staley	Gilbert Assoc., Inc.	1	1969	336	2534	2500	1000	1000
19. Hydro-Elec. Commission of Ontario		Toronto, Ont., Can.	Lakeview		1, 2	1966	200	2000	2500	1000	1000
20. Louisville Gas and Electric Co.		Louisville, Ky.	Cane Run	Pioneer Service & Engrg. Co.	1	1969	250	1850	2400	1000	1000
21. Central Power & Light Co.		Victoria, Texas	Victoria	Sargent & Lundy	1	1968	220	1750	2000	1000	1000
22. Oregon Edison Co.		Bay Shore, Ore.	Bay Shore	Gibbs & Hill, Inc.	1	1968	220	1750	2150	1000	1000
23. San Power & Light Co.		Kemper, Ark.	Naughton JE	Bechtel Corp.	1	1968	220	1500	1600	1000	1000
24. Basin Electric Power Co.		Stanton, North Dak.	Leiland Old	R.W. Beck & Assoc.	1	1965	216	1500	1400	1000	1000
25. Northwestern Public Service Co.		Amarillo, Texas	Nichols		1	1968	213	1732	1600	1000	1000
26. Louisville Gas and Electric Co.		Louisville, Ky.	Cane Run	Pioneer Service & Engrg. Co.	1	1966	180	1350	1400	1000	1000
27. Tucson Gas & Electric Co.		Tucson, Ariz.	Irvington	Sanborn & Porter, Inc.	1	1967	165	1110	1490	1000	1000
28. Delaware Power & Light Co.		Wilmington, Del.	Edge Moor	United Engineers & Constructors, Inc.	1	1966	150	1050	1300	1000	1000
29. British Columbia Hydro and Power Authority		Vancouver, B.C., Can.	Burrard	International Power Engrg. Consultants Ltd.	1	1965	150	1050	1200	1010	1000
30. Wisconsin Electric Power Co.		Milwaukee, Wis.	Milwaukee	Stone & Webster Engrg. Corp.	1	1966	140	940	1523	900	1000
31. Nevada Power Co.		Moapa, Nev.	Pied Garden	Stearns-Roger Corp.	1	1968	121	815	1391	1000	1000
32. Delta Pacific Power Co.		Reno, Nev.	Mason Valley	Stone & Webster Engrg. Corp.	1	1968	125	775	1390	1000	1000
33. Oberlin Peninsula Generating Co.		Marquette, Mich.	Rescue Isle	Stone & Webster Michigan Inc.	1	1965	121	775	1150	1000	1000
34. Community Public Service Co.		Lordsburg, N.M.	Lordsburg	Stone & Webster Engrg. Corp.	1	1967	121	750	950	900	1000
MUNICIPAL AND COOPERATIVE INSTALLATIONS											
35. City of Jacksonville		Jacksonville, Fla.	Yachtclub	Reynolds, Smith and Hills	1	1966	175	1200	1400	1000	1000
36. City of San Antonio		Bexar County, Texas	Victor Braunig	Brown & Root, Inc.	2	1968	165	800	1275	1000	1000
37. City of Springfield		Springfield, Ill.	A.Y. Daiman	Burns & McDonnell Engrg. Co.	1	1968	160	1110	1250	950	1000
38. City of Independence		Independence, Mo.	Blue Valley	Black & Veatch	1	1965	145	800	1250	950	1000
39. Eastern Iowa Light and Power Cooperative		Montpelier, Iowa	Montpelier	Stanley Engineering Co.	2	1967	135	885	950	900	1000
40. City of Columbia		Columbia, Mo.	Municipal	Lutz, Darr & Brain	1, 2	1965	121	740	950	900	1000
41. City of Dallas		Dallas, Texas	Carthage	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
42. Hastings Board of Public Works		Hastings, Neb.	Municipal	Sargent & Lundy	1	1967	121	740	950	900	1000
43. Northern Michigan Electric Co. Cooperative		Bay City, Mich.	Bayview	Stanley Engineering Co.	1	1967	121	740	950	900	1000
44. Wisconsin Electric Power Co.		Bay View, Wis.	Bay View	Stanley Engineering Co.	1	1967	121	740	950	900	1000
45. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
46. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
47. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
48. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
49. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
50. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
51. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
52. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
53. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
54. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
55. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
56. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
57. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
58. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
59. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
60. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
61. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
62. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
63. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
64. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
65. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
66. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
67. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
68. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
69. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
70. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
71. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
72. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
73. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
74. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
75. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
76. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
77. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
78. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
79. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
80. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
81. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
82. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
83. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
84. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
85. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
86. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
87. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
88. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
89. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
90. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
91. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
92. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
93. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
94. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
95. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
96. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
97. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
98. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
99. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000
100. City of St. Louis		St. Louis, Mo.	Municipal	Lutz, Darr & Brain	1	1965	121	740	950	900	1000

[illegible][illegible]

OCTOBER 1944

MC	- Morrison Shipbuilding & Drydock Co.
NCC	- Nacco Chemical Co.
NCH	- Nash Engineering
PE	- Packard Bell Inc.
PM	- Permutoil Co. Div.
	- Pfaltz & Pfaltz Inc.
PP	- Pacific Furber Inc. Div.
	- Presser Industries Inc.
	- Research Collective, Inc.
RE	- Reliance Electric and Engineering Co.
RF	- Republic Div. Rockwell Mfg. Co.
RD	- Riley Steam Corp.

STN	• Shurters-Wells Corp
SW	• Southwest Div.
	• Westinghouse Electric Corp
SWF	• Southwest Engineering Co
UFE	• Union Iron Works
WE	• Westinghouse Electric Corp
WE	• Westinghouse Corp. Sub of Westinghouse Corp.
WM	• Whittier Mfg Co
WC	• Worthington Corp
AC	• Western Precipitation Div of Joy Mfg Co
YJ	• Yaw Consolidated Industries, Inc

SYMBOLS

- Ad - Admiralty
- AdD - Admiralty, type D
- AdL - Admiralty, type L
- AlB - Aluminum brass
- A - Antimachne
- AsAc - Arsenical admiralty
- AsCu - Arsenical Copper
- At - Atomizer
- Bal - Balanced
- E - Brass
- Bv - Gas bypass

Turbines are predominantly indoors, or under a removable housing

PROJECT	BOILER FEED PUMPS					DRIVE		FUEL	FIRING	SOOT			DUST		HEATER								
	Capacity cu. ym	Discharge, ppy	Manufacturer	Flow control	Drive type	H.p. each motor or turbine	Manufacturer			Type	1000 Btu per lb	Pulverizers per boiler	Manufacturer	Blower type	Blowing medium	Manufacturer	Collector type	Manufacturer	Stack height, ft	Number	Feedwater exit, F	Max. discharging pressure, psi	Manufacturer
1	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
2	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
3	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
4	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
5	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
6	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
7	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
8	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
9	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
10	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
11	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
12	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
13	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
14	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
15	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
16	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
17	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
18	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
19	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
20	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
21	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
22	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
23	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
24	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
25	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
26	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
27	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
28	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
29	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
30	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
31	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
32	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
33	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
34	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
35	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
36	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
37	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
38	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
39	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
40	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
41	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
42	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
43	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
44	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
45	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
46	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
47	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
48	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
49	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
50	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
51	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
52	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
53	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
54	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
55	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
56	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
57	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
58	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
59	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
60	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
61	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
62	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
63	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
64	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
65	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
66	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
67	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
68	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
69	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
70	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
71	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
72	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
73	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
74	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
75	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
76	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
77	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
78	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000	14	150	125	...		
79	1000	1000	...	...	MTS	25,000	DE	...	12	3	DE	Ro Ret	Air	CV	...	...	1000						