

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

1966 ENERGY SYSTEMS DESIGN SURVEY

5 STEAM SYSTEMS

Table 1: 1550 to 350 psig

Use of natural gas is increasing; drawba

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 per hr	Operating pressure, psig	Operating temp., F	Heating surface, 1000 sq ft, incl. boiler, water-wall and superheater	Type	Max. sulfur content, %	Furnace type	Process relegated, type
INDUSTRIAL STEAM SYSTEMS																
	Tennessee Eastman Co., 2 W. Eastman Kodak Co.	Kingsport, Tenn.	Sargent & Lundy	1966	Ve	Po, Pr, SH	2 FV	CE	430	1550	950	21	G	1.5	Pid	
	Thiokol Pulp & Paper Co.	Akron, Ohio	Plaster & Shultz Inc.	1966	Ex	Po, Pr, SH	1 FV	GW	350	1500	900	18	G	2.5	Pid	
	Hoerner Bares, Inc.	Orion, Mich.	Heimick & Lutz	1966	Ex	Po, Pr	1 FV	GS	250	1500	900	...	G	2.5	Pid	
	Dow Chemical Co.	Freeport, Texas	Becker Corp.	1966	Ex	Po, Pr	1 FV	GS	450	1500	1000	20	G	2.5	Pid	
	Eastman Kodak Co.	Rochester, N.Y.	C.T. Main	1966	Ex	Po, Pr	1 FV	SW	400	1425	900	43	G	2.5	Pid	
	Dow Chemical Co.	Plaquemine, La.	Sargent & Lundy	1966	Ex	Pr	1 FV	RS	1100	2000	350	17.4	G	1.5	Pid	
	Masonite Corp.	Lumberton, Miss.		1967	Ex	Pr	1 FV	GS	350	1300	325	17	G	2.5	Pid	
	Pine Motor Co.	Dearborn, Mich.	Benjamin, Woodhouse & Guenther, Inc.	1966	Ex	Po	1 FV	SW	600	1250	900	38	G	2.5	Pid	
	Modi Oil Corp.	Torrance, Calif.	Procon, Inc.	1966	Ex	Po	1 FV	FW	303	1250	350	39	G	2.5	Pid	
10	Kvantrite Chemical Co.	Detroit, Mich.	Sanderson & Porter, Inc.	1967	Ex	Po, Pr	2 FV	FW	275	325	375	...	G	2.5	Pid	
11	Avia Chemical Corp.	Helena, Ark.	Chemical Construction Corp.	1966	Ve	Pr	2 PK	CE	180	915	845	5.2	G	1.5	Pid	
	Eastman Kodak Co.	Eastman, La.	Nelson Miner	1965	Ex	Po	1 PK	CE	150	900	325	...	G	1.5	Pid	
	Pine Hill Co.	Lanana, Maui, Hawaii		1966	Ve	Po, Pr	2 FV	CE	145	375	750	...	G	1.5	Pid	
	Pine Hill Co.	Lanana, Maui, Hawaii		1966	Ve	Po, Pr	2 FV	CE	100	275	750	...	G	1.5	Pid	
	International Paper Co.	Akron, Miss.		1967	Ve	Po	1 FV	SW	600	1500	325	...	G	1.5	Pid	
		Alexandria, Miss.		1967	Ve	Po	1 FV	SW	493	250	325	...	G	1.5	Pid	
5	Great Northern Paper Co.	Cedar Rapids, Ia.	J.E. Gilman Co.	1967	Ex	Po	1 FV	SW	500	450	900	72	G	1.5	Pid	
				1967	Ex	Pr	1 FV	SW	350	350	300	86	G	1.5	Pid	
	Albermarle Paper Co.	Roanoke Rapids, N.C.		1966	Ex	Po, Pr	1 FV	CE	150	700	750	15.3	G	1.5	Pid	
14	American Can Co.	Reidsville, Wis.		1966	Ex	Po, Pr	1 FV	CE	150	700	750	21	G	1.5	Pid	
13	Hammermill Paper Co.	Seima, Ala.	The Rust Engineering Co.	1966	Ve	Po	1 FV	CE	120	650	760	...	G	1.5	Pid	
				1966	Ve	Pr	1 FV	SW	220	650	760	...	G	1.5	Pid	
20	Pace University	West Lafayette, Ind.	A.M. Kinney, Inc.	1967	Ex	Po, SH	1 FV	WB	215	650	325	23.6	G	1.5	Pid	
	Montano Co-Chemstrand Div.	Dacula, Ala.	Lockwood-Greene	1965	Ex	Pr	1 FV	SW	200	350	750	13	G	1.5	Pid	
	Ohio Oil Co.	Yorco, La.	Ford, Bacon & Davis, Inc.	1966	Ex	Pr	1 FV	SW	175	350	740	13	G	1.5	Pid	
13	Pine Chem Housing	Brooklyn, N.Y.	Div. & Zimmermann	1966-67	Ve	Po, SH	3 PK	UR	100	650	650	...	G	1.5	Pid	
24	Continental Can Co.	Haverhill, Mass.	Reiger Engineering Co.	1966	Ex	Pr	1 PK	CE	120	350	550	...	G	1.5	Pid	
25	Pacesetter Paper Div., The Hearst Corp.	Brunswick, Me.		1966	Ex	Pr	1 PK	CE	30	350	750	...	G	1.5	Pid	
26	Lorton Carbide Corp.	Tulsa, La.	Sanderson & Porter, Inc.	1966	Ve	Pr	2 FV	CE	100	445	750	...	G	1.5	Pid	
27	PMC Corp.	Green River, Wyo.		1966	Ex	Pr	1 FV	SW	250	325	750	...	G	1.5	Pid	
28	National Lead Co.	New York, N.Y.	J.G. White Engineering Corp.	1965	Ex	Pr	1 FV	SW	250	915	725	18	G	1.5	Pid	
29	Eastex, Inc.	Greenville, Texas	E.A. Simons & H.A. Simons	1966	Ex	Po, Pr	1 FV	CE	500	600	750	...	G	1.5	Pid	
30	Crown Simpson Pulp Co.	Eureka, Calif.	Crown-Zellerbach & H.A. Simons	1966	Ve	Pr	1 FV	SW	370	600	750	58.5	G	1.5	Pid	
	Crown Simpson Pulp Co.	Eureka, Calif.		1966	Ve	Pr	1 FV	SW	300	600	750	35	G	1.5	Pid	
32	Texas Eastman Co.	Lubbock, Texas		1966	Ex	Pr	1 FV	VO	500	600	750	33.6	G	1.5	Pid	
33	Delaware Fibers Co.	Norfolk, Va.	Jackson & Moreland	1966	Ex	Po, Pr	1 FV	FW	256	500	750	32	G	1.5	Pid	
34	Kidder Paper Products Co.	St. Paul, Minn.		1966	Ex	Po, Pr	1 PK	FW	200	600	625	18.2	G	1.5	Pid	
35	Lockwood Sugar Co.	Charlottesville, Va.	H.K. Ferguson	1967	Ve	Po, Pr	2 PK	UR	120	600	720	8.3	G	1.5	Pid	
	Lockwood Chemical Corp.	Pensacola, Fla.	Velocit & Assoc.	1966	Ex	Pr	1 PK	UR	120	600	720	...	G	1.5	Pid	
	Campbell Soup Co.	Paris, Texas	Lockwood-Greene	1967	Ex	Pr	1 PK	RS	100	600	589	9	G	1.5	Pid	
	Lockwood Chemical Corp.	St. Louis, Mo.	The M.W. Kellogg Co.	1966	Ex	Pr	1 PK	SW	60	600	500	5.1	G	1.5	Pid	
	Peters & Dandele	Kansas City, Kan.		1966	Ex	Pr	1 PK	CE	60	600	500	...	G	1.5	Pid	
40	Continental Oil Co.	Lake Charles, La.	Westinghouse Engineering Co.	1965	Ex	Po	1 PK	SW	40	600	750	1.5	G	1.5	Pid	
41	First National Bank	Donaldsonville, La.	The M.W. Kellogg Co.	1966	Ve	Pr	1 PK	SW	35	570	540	2.3	G	1.5	Pid	
42	Chemical Corp.	Camden, N.J.	Gilbert Assoc. Inc.	1966	Ex	Po, Pr, SH	1 PK	SW	100	600	600	7.5	G	1.5	Pid	
43	Chemical Corp.	Oneida, N.C.	Lockwood-Greene	1966	Ex	Pr	1 PK	CE	45	550	540	...	G	1.5	Pid	
44	Hoppers Co., Inc.	Port Arthur, Texas		1966	Ex	Pr	1 PK	CE	120	600	570	...	G	1.5	Pid	
45	Hoppers Co., Inc.	Port Arthur, Texas		1965	Ex	Pr	1 PK	CE	60	600	555	1.7	G	1.5	Pid	
46	Hoppers Co., Inc.	St. Louis, Mo.	Roberts Schmidt Engineering Co.	1967	Ex	Po, Pr, SH	1 PK	SW	200	465	600	...	G	1.5	Pid	
47	Hoppers Co., Inc.	St. Louis, Mo.	Stanley Engineering Co.	1966	Ex	Pr	1 PK	SW	150	415	750	3.3	G	1.5	Pid	
48	Hoppers Co., Inc.	Trenton, N.J.		1966	Ex	Pr	1 PK	SW	120	400	575	...	G	1.5	Pid	
49	Hoppers Co., Inc.	Port Arthur, Texas	Sargent & Lundy	1967	Ex	Pr	1 PK	SW	200	500	575	12.5	G	1.5	Pid	
53	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	40	550	550	...	G	1.5	Pid	
54	Pine River Chemical Co.	East Grafton, Ill.	Lummus Co.	1965	Ex	Po, Pr	1 PK	FW	15	550	500	...	G	1.5	Pid	
55	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
56	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
57	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
58	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
59	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
60	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
61	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
62	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
63	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
64	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
65	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
66	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
67	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
68	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
69	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
70	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
71	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
72	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
73	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
74	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
75	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
76	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
77	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
78	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
79	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
80	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
81	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
82	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW	150	440	525	14	G	1.5	Pid	
83	Evring Paper Mills	Evring, Mass.		1965	Ex	Po, Pr	1 PK	SW								

and oil is the large amount of sulphur they usually contain

[illegible]

UF	- Union Iron Works, Sub of Rives Shaker Corp
VO	- Henry Vogt Machine Co. Inc
WE	- Westmhouse Electric Co
WJ	- Wickes Bower Co. Sub of Wickes Corp
WNE	- W N Best Construction Equipment Co
WO	- Worthington Corp
WP	- Western Precipitation Div of Joy Mfg Co
WPI	- Warner Pumps, Inc
WPM	- The Wehrman Pump Mfg Co
WC	- Wilson-Snyder Works United States Steel Corp

CONTINUED ON NEXT PAGE

5 STEAM SYSTEMS

Table 2: 330 to 135 psig

More small boilers have particulate-remo

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 per hr	Operating pressure, psig	Operating temp., F	Heating surface, 1000 sq ft, incl. boiler, water-wall and superheater	Type	Max. sulfur content, %	Furnace type
56	US Steel Corp.	Fairless Hills, Pa.		1966	Ye	Ph	1 Ph	CE	136	330	550	5.3	O	4	Pd
57	Maine Sugar Industries, Inc.	Easton, Me.	Zahising, Inc.	1966	Ye	Ph, Ph	2 Ph	CS	30	330	430	10	O	2	Pd
58	Alexon Chemical Co.	Wacon, Mo.	Chemical Construction Corp.	1966	Ye	Ph	1 Ph	MW	13	330	Sat	2.3	O	4	Pd
59	Petroleum Refining Co.	Riverport, Mo.	Dresser Engineering Co.	1965	Ye	Ph, Ph	2 Ph	W	30	300	425	1	O	4	Pd
60	Central Plants, Inc.	Los Angeles, Calif.	Holladay & Westcott	1965	Ye	Ph	2 Ph	W	160	285	417	7.3	O	4	Pd
61	The Johnson Co.	Lubbock, Texas	Fish Energy & Construction, Inc.	1966	Ye	Ph	1 Ph	W	100	280	325	13	O	4	Pd
62	Chlor-Pharm Corp.	Huntington Beach, Calif.	M.A. Fishman Co.	1966	Ye	Ph	1 Ph	W	40	275	324	1.3	O	4	Pd
63	Central Plants, Inc.	San Francisco, Calif.	M.A. Fishman Co.	1966	Ye	Ph	1 Ph	W	25	275	324	1.3	O	4	Pd
64	Paraloid Corp.	Waltham, Mass.	Jackson & Moreland	1965	Ye	Ph, SH	1 Ph	FW	50	260	Sat	1.3	O	4	Pd
65	General Services Administration	Georgetown, D.C.	DeBlossom & Assoc.	1967	Ex	SH	2 Ph	W	120	250	406	13.3	O	3.7	BD
66	Crucible Steel Co. of America	Midland, Pa.		1966	Ex	Ph, Ph	1 Ph	RS	150	250	475	14.9	O, BF	2.18	BD
67	Boston Edison Co.	Boston, Mass.	Wiley and Wilson	1966	Ex	SH	1 Ph	KEE	150	250	Sat	13	O	3	Pd
68	Richfield Oil Corp.	Houston, Texas		1967	Ex	Ph	1 Ph	CE	130	250	510	10	BF	4	Pd
69	Pentac Chemical Co.	Archita, Kan.		1965	Ex	Ph	1 Ph	BRD	60	250	Sat	10	O	4	Pd
70	Manitowoc Corp.	Manitowish, Mich.		1966	Ex	Ph, Ph	1 Ph	W	50	250	460	5.3	O	2.5	BD
91	Bessemer Castings Corp.	Yonkers, N.Y.	Bumstead-Woolford, Inc.	1966	Ex	Ph	1 Ph	RS	125	240	402	3.4	O, G	2.5	Pd
92	Dow-Balsone	Winchester, Va.	Wiley and Wilson	1966	Ex	Ph, SH	1 Ph	IE	120	235	Sat	10	O	4	Pd
93	The P. & H. Co.	Danville, Va.		1965	Ex	Ph, SH	1 Ph	BRD	75	235	Sat	10	O, G	4	Pd
94	American Metals Corp. Inc.	Chattanooga, Tenn.	Stearns-Roger	1965	Ex	Ph	1 Ph	W	50	235	Sat	4.4	O, G	4	Pd
95	Hammer Div., American Tobacco Co.	Chester, Va.		1966	Ex	Ph	1 Ph	RS	100	225	Sat	3.7	O, G	3.6	BD
96	Chevrolet Co.	Buffalo, N.Y.	Benjamin, Woodhouse & Guenther	1965	Ye	Ph, SH	3 Ph	EC	40	225	Sat	10	O, G	4	Pd
97	Monsanto Co.	Anniston, Ala.		1966	Ex	Ph	1 Ph	RS	60	225	Sat	5.7	O, G	4	Pd
98	Chevrolet Saginaw Foundries	Saginaw, Mich.	Giffels & Rossetti	1965	Ye	SH	4 Ph	W	120	212	380	10	O	4	Pd
99	Chevrolet Saginaw Foundries	Saginaw, Mich.	Giffels & Rossetti	1965	Ye	SH	1 Ph	CE	30	212	380	3.3	O, G	4	Pd
100	Holly Sugar Corp.	Colorado Springs, Colo.		1966	Ex	Ph	1 Ph	RS	100	212	Sat	10	O	4	Pd
101	Cornell University	Ithaca, N.Y.	Gilbert Assoc.	1966	Ex	Ph, Ph, SH	1 Ph	W	130	205	500	5.7	O	4	Pd
102	Kalamazoo State Univ.	Kalamazoo, Mich.	Cummins & Barnard, Inc.	1966	Ex	Ph, SH	1 Ph	W	125	200	480	21	O	2	BD
103	The DuPont Co.	Wilmington, Del.		1966	Ex	Ph	1 Ph	RS	50	200	Sat	4.4	O, G	4	Pd
104	Denver Federal Center	Denver, Colo.		1965	Ex	Ph	1 Ph	KEE	15	200	Sat	1.3	O	4	Pd
105	Denver Federal Center	Denver, Colo.		1966	Ex	SH	1 Ph	KEE	75	190	Sat	3.6	O, G	4	Pd
106	General Electric Co.	Bethlehem, N.Y.	Blaw-Knox Co.	1966	Ye	Ph	2 Ph	MW	50	185	Sat	5	O	4	Pd
107	Western Electric Co.	Indianapolis, Ind.		1966	Ex	Ph, SH	1 Ph	EC	30	180	Sat	3.5	O	1.75	BD
108	Crutcher Corp.	Highland Park, Mich.	Albert Kahn Assoc., Archt. & Eng'g, Inc.	1966	Ex	Ph, SH	3 Ph	W	125	175	Sat	10.4	O, G	1	BD
109	Campanelli Corp.	Camden, N.J.	Gilbert Assoc., Inc.	1966	Ex	Ph, Ph, SH	1 Ph	RS	60	175	375	5.3	O, G	4	Pd
110	Reich Chemical Co.	Joint, Ill.		1966	Ye	Ph, SH	1 Ph	EC	30	175	Sat	2.3	O	4	Pd
111	Rock Island Corp., Resinwood Div.	Marquette, Wis.	Walter G. Kummel	1965	Ye	Ph, SH	1 Ph	W	17.25	175	375	2.9	O, G	4	Pd
112	Atlantic Refining Co.	Philadelphia, Pa.	Rust Engineering Co.	1967	Ye	Ph	1 Ph	RS	200	170	435	37	O, G	4	Pd
113	Quinn Processing Co.	Muscatine, Iowa		1965	Ex	Ph	1 Ph	W	120	165	Sat	10	O	4	Pd
114	Lasker Boiler & Engineering Corp.	Chicago, Ill.	Luxmore, Douglass & Popnam	1966	Ye	Ph, SH	2 Ph	LAS	70	165	Sat	6.3	O	2	BD
115	Hauser Chemical	Courtsville, Ky.		1965	Ex	Ph	1 Ph	EC	40	165	375	5	O	3	BD
116	McGraw-Hill	Mosinee, Wis.	Helmick & Lutz	1966	Ye	Ph	1 Ph	W	100	160	440	17	O	2.5	BD
117	General Electric Co.	Watertown, N.Y.	United Engineers & Constructors	1965	Ex	Ph	1 Ph	CE	100	160	Sat	3.5	O	4	Pd
118	Indiana University Medical Center	Indianapolis, Ind.		1966	Ex	SH	1 Ph	RS	150	160	Sat	1.3	O	2.5	BD
119	Baker Industries	Berea, Ky.	Watkins, Burrows and Assoc.	1966	Ex	Ph, SH	1 Ph	W	90	160	Sat	10	O	4	Pd
120	John A. Hammel Co.	Fort Dodge, Iowa		1966	Ex	Ph	1 Ph	KEE	70	155	Sat	6.1	O, G	4	Pd
121	Chrysler Corp., Detroit Forge Plant	Detroit, Mich.	John H. Hoag & Assoc., Inc.	1966	Ex	Ph, SH	1 Ph	RS	150	150	366	20	O	1	BD
122	Raychem Corp.	Princeton, N.J.		1966	Ye	Ph	1 Ph	W	150	150	Sat	10	O, G	4	Pd
123	Boydell Corp.	Boulder, Colo.		1966	Ex	Ph	1 Ph	EC	130	150	Sat	11.2	O	2	Pd
124	East Syracuse, N.Y.	East Syracuse, N.Y.		1966	Ex	Ph	1 Ph	W	112	150	356	10	O	4	Pd
125	Fluor Corp., Fluor Corp. Exchange, Inc.	Clarks, Mo.	Industrial Service and Engrg. Co.	1966	Ex	Ph, Ph	1 Ph	CE	100	150	Sat	11.2	O, G, EG	3.8	BD
126	Michigan State University	East Lansing, Mich.	Brown, Marrett, Davis & Mullins	1966	Ex	Ph	1 Ph	KEE	100	150	Sat	3	O	4	Pd
127	General Electric Co.	Denver, Colo.		1966	Ex	Ph	1 Ph	RS	18	150	345	3	O	4	Pd
128	Hilltop Chemical Co.	Cincinnati, Ohio		1966	Ex	Ph, SH	1 Ph	RS	10.5	150	Sat	1.1	O	1	BD
129	M. J. M. Co.	Marquette, Mich.	Griffin & Mott	1965	Ex	Ph	1 Ph	BRD	40	150	Sat	10	O	4	Pd
130	W. J. M. Co.	Marquette, Mich.	Griffin & Mott	1966	Ye	Ph	2 Ph	BRD	40	150	Sat	10	O	4	Pd
131	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	KEE	10	150	Sat	1.1	O	4	Pd
132	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	BRD	10	150	Sat	1.1	O	4	Pd
133	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
134	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
135	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
136	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
137	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
138	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
139	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
140	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
141	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
142	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
143	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
144	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
145	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
146	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
147	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
148	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
149	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd
150	Marquette Chemical Co.	Marquette, Mich.	Griffin & Mott	1966	Ex	Ph	1 Ph	W	10	150	Sat	1.1	O	4	Pd

SYMBOLS:
 1. Exhaust gas
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forces in an increased effort to fight atmospheric pollution

[illegible]

TC - Traveling-grate stoker
 Tu - Tubular
 TV - Closed-circuit TV
 Uv - Ultraviolet
 VG - Vibrating-grate stoker
 Z - Zeolite

CONTINUED ON NEXT PAGE

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/hr	Operating pressure, psig	Operating temp., F	Heating surface, 1000 sq ft, incl. boiler, waterwall and superheaters	Type		Max. sulfur content, %
132	Ford Motor Co.	Detroit, Mich.		1965	Ex	PH	1 FI	WIB	120	125	Sat	13.3	O	2	BD
133	R.R. Donnelley & Sons	Chicago, Ill.		1965	Ex	PH, SH	2 FI	BW	80	125	Sat	3.7	O.G.	1	BD
134	Williams College	Williamstown, Mass.	Lackwood-Greene	1956	Ex	PH	1 FI	KEE	60	125	Sat	7.4	O	1.5	BD
135	Wisconsin State College	Stu. Claire, Wis.	Dr. Schelen-Waveron & Assoc.	1966	Ne	SH	1 FI	BRO	50	125	Sat	...	O.G.	3	BD
136	American Airlines	Tulsa, Okla.		1956	Ex	SH	1 FI	EC	50	125	Sat	5	O	...	PD
137	Lincoln General Hosp.	Lincoln, Neb.	Davis & Wilson Architects & Engineers	1965	Ne	SH	1 FI	BW	45	125	345	4.1	O.G.	...	PD
138	Deere & Co.	Melland, Ont.	H.G. Acres & Co. Ltd.	1965	Ex	PH, SH	1 FI	FW	40	125	353	4.5	O	...	PD
139	Antares State College	Alamosa, Colo.	Swanson-Rink	1956	Ex	SH	1 FI	KEE	25	125	Sat	3.7	O.G.	1	PD
140	Associated Dry & Print Co.	Patterson, N.J.	Stuenkel Assoc.	1959	Ex	SH	1 FI	KEE	25	125	Sat	7.4	O	...	PD
141	Indiana State College	Indiana, Pa.	Wood Tower	1956	Ex	PH, SH	1 FI	KEE	25	125	Sat	...	O	...	BD
142	Broadway Corp.	Plymouth, Mich.	Cummins & Barnard, Inc.	1966	Ex	PH	1 FI	CE	30	125	352	3.3	O	4	PD
143	Brick, Land, Co.	Chattanooga, Tenn.	Wiegler Eng'g Co.	1965	Ex	PH	1 FI	MMW	30	125	Sat	3.3	O	...	PD
144	LeTourneau-Westinghouse Co.	Georgia, Ill.		1956	Ex	PH, SH	1 FI	VO	20	125	Sat	4	O	2	BD
145	Marion Administration Hosp.	Marion, Ind.		1956	Ne	PH	1 FI	MMW	22	125	Sat	2	O	...	PD
146	Drake America Corp.	New York, N.Y.		1966	Ex	PH	1 FI	RS	20	118	Sat	5.7	O	...	BD
147	Bradley University	Peoria, Ill.	Beijing Eng'g	1956	Ex	SH	1 FI	MMW	32	120	Sat	3.3	O	...	PD
148	San Fernando Valley State College	Northridge, Calif.		1956	Ex	SH	1 FI	BRO	30	120	340	3.5	O.G.	...	PD
149	Pet Milk Co.	Greensboro, N.C.	Kennedy Engineers	1956	Ex	PH, PH	1 FI	KEE	25	120	350	...	O	1.2	BD
150	West Libroad Bros.	West Chester, Pa.		1956	Ex	SH	1 FI	KEE	25	120	Sat	2.5	O	...	PD
151	Marine Colloids, Inc.	Rockland, Me.		1966	Ex	PH	1 FI	RS	20	118	Sat	5.7	O	...	BD
152	Thivo Crene & Finishing Co.	Clifton, N.J.	W.J. Beekunissen & Assoc.	1955	Ne	PH	1 FI	KEE	40	113	Sat	3.8	O	...	PD
153	Finlin Design Hosp.	St. Louis, Mo.	Wm. Taos & Assoc.	1955	Ex	PH	1 FI	MMW	45.5	100	Sat	4.3	O	...	PD
154	Wythe State College	Warne, Neb.	Leo H. Dair Co.	1956	Ex	SH	1 FI	ED	40	100	Sat	5.5	O	1.33	BD
155	Kaiser Brothers, Inc.	Barberton, Ohio		1965	Ex	PH, SH	1 FI	ED	40	100	Sat	5.5	O	...	BD
HIGH TEMPERATURE WATER SYSTEMS Total capacity in million Btu per hr															
156	University of California	Riverside, Calif.		1963	Ex	SH	1 FI	BW	12	120	Sat	...	O	...	BD
157	Ford Motor Co.	Detroit, Mich.	Jenkins & Russell, Inc.	1955	Ne	SH	4 FB	BW	12	120	Sat	...	O	...	PD
158	E.M. Barlicks Corp.	Fort Knox, Ky.	U.S. Army Corps of Engineers	1955	Ne	SH	1 FI	BW	15	120	Sat	...	O	...	BD
159	Greenborough Community College	Bayside, N.Y.	J.R. Loring & Assoc.	1955	Ne	SH	1 FI	BW	15	120	Sat	...	O	...	PD
160	Florida College	Frederia, N.Y.	Begner & Dalton	1957	Ne	SH	1 FI	BW	15	120	Sat	...	O	...	PD
161	Texas Inc.	Beaverton, Ore.		1955	Ex	PH, SH	1 FI	BW	25.5	120	350	3.1	O	...	PD
162	Brigham Young University	Provo, Utah	Paul L. Geringer & Assoc.	1965	Ex	SH	1 FI	BW	20	115	Sat	12.1	O	3.5	BD
163	University of Maryland	Williamsburg, Va.	Paul L. Geringer & Assoc.	1956	Ex	SH	1 FI	BW	20	115	Sat	4.3	O	2.3	PD
164	University of California	San Diego, Calif.	Kennedy Engineers	1956	Ne	SH	1 FI	BW	15	115	Sat	3.5	O	...	PD
165	American River College	Sacramento, Calif.	O'Meara-Sanford & Assoc. Inc.	1965	Ex	SH	1 FI	BW	15	115	Sat	...	O	...	PD
166	State Island Community College	State Island, N.Y.	James Mongitore Assoc.	1965	Ne	SH	1 FI	BW	14.1	110	329	5	O	...	PD
167	Bentley Corp.	Pittsford, Mich.		1955	Ex	SH	1 FI	WIB	10	110	Sat	3.1	O	...	PD
168	Harbin County Memorial Hosp.	Elizabethtown, Ky.	Procter Ingers & Assoc.	1955	Ne	SH	1 FI	BW	12	110	Sat	...	O	...	PD
169	Southern Counties Gas Co.	Anaheim, Calif.	M.A. Niskien, Mack and Sunderland	1955	Ne	SH	1 FI	BSL	4.2	40	250	...	O.E.G.	...	PD
OVERSEAS STEAM SYSTEMS															
170	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
171	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
172	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
173	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
174	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
175	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
176	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
177	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
178	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
179	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
180	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
181	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
182	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
183	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
184	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
185	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
186	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
187	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
188	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
189	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
190	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
191	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
192	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
193	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
194	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
195	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
196	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
197	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
198	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
199	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD
200	Atomized Steel Products	Grand Quevilly, France	J.A. Heurley	1967	Ne	PH	1 FI	BWF	125	1220	570	...	PG Nap	4	BD

FOOTNOTES

1. See Table 1.
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ment, such as fans, pumps and blowers, increase reliability

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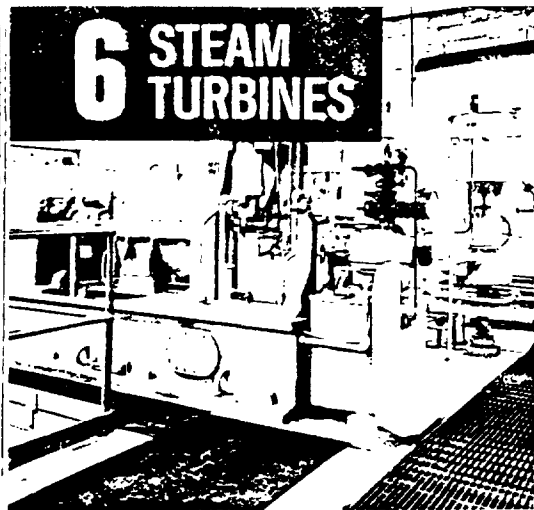
FACTUREURS
Applications
Wilkon France
Constructions Mécaniques Fines

- F7 - Fowls Turbine
- GEN - établissements Geneve
- DOT - Dolavetter
- HAL - Halberg AG
- HM - Harnwörth
- KSE - Kier, Schanzlin & Becker
- LAG - Societe Francaise Lancia et Cie

- LP - Louis Pral
- LV - Leckners Verkeitsads AB
- PIL - Etablissement P. Had Freres et Cie
- REG - Regulator St. Minan
- SA - Societe des Pombes Salmon
- SAM - Societe Francaise des Bruleurs MAT (SAFMAT)
- SEU - Societe d'Exploitation d'Usines Metallurgiques (Riley)

SFF - Svenska Flaktfabriken
SC - Spirö-Gillis
SUL - Sulzer Bros Ltd
TO - Francel Tosi SpA
VEC - Ventineca
VEN - Venter

6 STEAM TURBINES

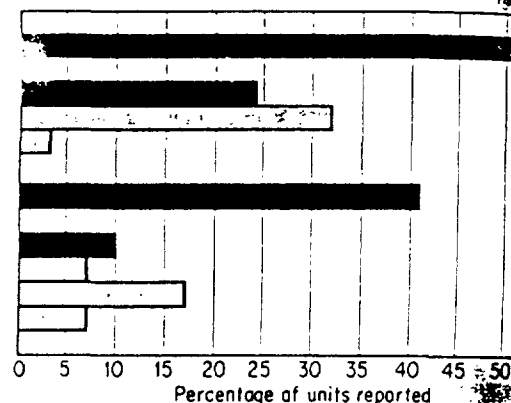


Noncondensing

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 with an additional bleed point. Leading turbine manufacturers have told POWER that, in addition to increased number of relatively small steam turbines installed to drive essential boiler auxiliaries, the growing use of steam turbines to drive large machines

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	Backpressure, in Hg or psia	Extraction steam use	Type condenser	Condenser manufacturer	Generator manufacturer	Cooling	Cooling medium drive	Power factor	Standby type
STEAM TURBINES																					
1	Tennessee Eastman Co. Div. Eastman Kodak Co.	Kingsport, Tenn.	1	GE	1966	10,300	3600	950	1500	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
2	Herner Boxes, Inc.	Trinidad, Mich.	1	GE	1966	8175	3600	900	1450	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
3	Thiokol Pulp & Paper Co.	Kaukauna, Wis.	1	WE	1966	7500	3600	900	1470	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
4	Eastman Kodak Co.	Rochester, N.Y.	1	GE	1967	25,500	3600	900	1470	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
5	Detroit Edison Co.	Detroit, Mich.	1	GE	1967	10,500	3600	975	321	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
6	Consolidated	Rural, La.	1	TO	1967	4500	2000	351	135	Yes	Y	150	175, 70	1	DL	TO	MAR	H ₂ O	DL	80	1
7	United Chemical Products	Port Arthur, Tex.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
8	Midco	Chicago, Ill.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
9	Chemical Process	Rockledge, Miss.	1	GE	1967	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
10	Fluor Corp.	Chattanooga, Tenn.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
11	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
12	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
13	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
14	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
15	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
16	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
17	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
18	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
19	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
20	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
21	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
22	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
23	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
24	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
25	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
26	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
27	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
28	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
29	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
30	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
31	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
32	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
33	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
34	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
35	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
36	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
37	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
38	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
39	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
40	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
41	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
42	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
43	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
44	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
45	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
46	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
47	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
48	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
49	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
50	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
51	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
52	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
53	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
54	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
55	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
56	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
57	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
58	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
59	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
60	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
61	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
62	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
63	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
64	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
65	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
66	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
67	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
68	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
69	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
70	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y	250	175, 70	1	DL	GE	GE	H ₂ O	DL	80	1
71	Chemical Process	Rockledge, Miss.	1	GE	1966	10,000	3600	970	150	Yes	Y</										

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Capacity, kw	TURBINE					CONDENSER					FEEDWATER					GENERATOR			CONTROLS					PROJECT
	Type	Exhaust, in Hg	No. of blades/piece	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, mh	Feedwater, mh	Closed circuit, in. mh	Date logger, mh	Computer, mh			
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	1		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	2		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	3		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	4		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	5		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	6		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	7		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	8		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	9		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	10		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	11		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	12		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	13		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	14		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	15		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	16		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	17		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	18		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	19		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	20		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	21		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	22		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	23		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	24		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	25		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	26		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	27		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	28		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	29		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	30		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	31		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	32		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	33		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	34		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	35		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	36		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	37		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	38		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	39		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	40		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	41		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	42		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	43		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	44		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	45		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	46		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	47		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	48		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	49		
1000	GE	10	10	10	GE	1000	10	SS	RO	GE	De	De	GE	24	500	H ₂ , Li, HC	BM	BM	DP	N	N	50		

- 28 - Closed heater manufacturer not yet selected
- 29 - Heater and deaerator respectively
- 30 - Makeup and condensate treatment
respective ly
- 31 - Removable housing over turbine
- 32 - Turbine has automatic extraction, supplies
district heating steam to city
- 33 - Turbine on spinning reserve, data is for
peaking at 5% overpressure
- 34 - Hypercyclic cooling towers
- 35 - Integrated boiler-turbine control
- 36 - Furnace and coal handling 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 last operation	Unit capacity, mw	BOILER			
								Capacity, 1000 lb. per hr.	Throttle pressure, psig	STEAM, F.	
										Throttle	Reheat
1	Coneaugh Group	West Wheatfield, Pa.	Coneaugh	Gilbert Assoc., Inc.	1,24	1970	300	5350	1675	1000	1000
2	Southern California Edison Co.	Farmington, NM	Four Corners	Bechtel Corp.	4,34	1967	755	3446	1500	1000	1000
3	Pacific Gas and Electric Co.	Monterey, Calif.	Moss Landing	Stone & Webster Engrg. Corp.	5,14	1967	110	5120	1675	1000	1000
4	Kentucky Electric and Power Co.	Chester, Va.	Chesterfield	Stone & Webster Engrg. Corp.	5	1969	510	1629	1521	1000	1000
5	Pennsylvania Electric Co.	Homer City, Pa.	Homer City	Gilbert Assoc., Inc.	1,24	1970	563	4500	1500	1000	1000
6	Public Service Electric and Gas Co.	Jersey City, N.J.	Hudson	...	2	10-68	620	1300	1575	1200	1025
7	Commonwealth Edison Co.	Kincaid, Ill.	Kincaid	Sargent & Lundy	2	1-73	610	1210	1570	1000	1000
8	New England Electric Systems	Wareham, Mass.	Brayton Point	Stone & Webster Engrg. Corp.	3	1-69	513	1250	1675	1000	1025
9	Texas Power & Light Co.	Davut, Texas	Villev	Brown & Root, Inc.	2	11-67	532	2310	1500	1305	1005
10	Hydro-Elec. Commission of Ontario	Samia, Ont., Can.	Lytton	...	1,14	1970	500	1500	2250	1305	1000
11	Florida Power Corp.	Red Level, Fla.	Crystal River	Black & Veatch	2	1-69	475	1357	1431	1000	1000
12	Southern California Edison Co.	Redondo Beach, Calif.	Redondo Beach	Bechtel Corp.	7,34	1967	450	1315	1520	1000	1000
13	Cincinnati Gas & Electric Co.	New Richmond, Ohio	Walter C. Beckford	Sargent & Lundy	5	9-66	424	1250	1410	1000	1000
14	Florida Power & Light Co.	Cocoa, Fla.	Cape Kennedy	Bechtel Corp.	2	11-68	432	1240	1400	1000	1000
15	Florida Power & Light Co.	Tice, Fla.	Fort Myers	Bechtel Corp.	2	1-69	432	1240	1400	1005	1000
16	Indianapolis Power & Light Co.	Petersburg, Ind.	Petersburg	Stone & Webster Engrg. Corp.	2	1-69	430	1200	1521	1000	1000
17	Oklahoma Gas & Electric Co.	Horseshoe Lake, Okla.	Horseshoe Lake	Brown & Root, Inc.	3	5-69	404	1340	1530	1000	1000
18	Missouri Public Service Co.	Snider, Mo.	Snider	Gilbert Assoc., Inc.	3	1-69	356	1524	1500	1000	1000
19	Hydro-Elec. Commission of Ontario	Toronto, Ont., Can.	Chesley	...	1,34	1-68	130	1200	2250	1300	1000
20	Louisville Gas and Electric Co.	Louisville, Ky.	Cane Run	Pioneer Service & Engrg. Co.	6	5-69	250	1253	1400	1000	1000
21	Central Power & Light Co.	Victoria, Texas	Victoria	Sargent & Lundy	5	1-68	120	1162	2000	1000	1000
22	Ontario Edison Co.	Oregon, Ohio	Bay Shore	Gilbert & Hill, Inc.	4	9-68	220	1205	1550	1050	1005
23	San Power & Light Co.	Kemmerer, Wyo.	Naughton SE	Bechtel Corp.	2	10-68	119	1300	1600	1005	1005
24	Gas & Electric Power Co.	Stanton, North Dak.	Leard Oaks	R.W. Beck & Assoc.	1	11-65	216	1310	1400	1000	1000
25	Southwestern Public Service Co.	Amesbury, Texas	Victoria	...	3	7-68	213	1193	1300	1200	1000
26	Louisville Gas and Electric Co.	Louisville, Ky.	Cane Run	Pioneer Service & Engrg. Co.	5	5-68	130	1263	1300	1005	1000
27	Tucson Gas & Electric Co.	Livingston, Ariz.	Livingston	Sanborn & Porter, Inc.	4	9-67	165	1140	1390	1000	1000
28	Delaware Power & Light Co.	Wilmington, Del.	State Moor.	United Engineers & Constructors, Inc.	4	1-66	150	1084	1300	1200	1000
29	British Columbia Hydro and Power Authority	Island, B.C., Can.	Island	International Power Engrg. Consultants Ltd.	3	1-65	150	1250	2300	1010	1000
30	Wisconsin Electric Power Co.	Milwaukee, Wis.	Milwaukee	Stone & Webster Engrg. Corp.	1	5-68	140	1240	1523	900	1000
31	Nevada Power Co.	Moapa, Nev.	Reid Gardner	Stearns-Roxer Corp.	2	1-68	121	1145	1391	1000	1000
32	Delta Pacific Power Co.	Reed, Nev.	Mason Valley	Stone & Webster Engrg. Corp.	2	5-68	125	1170	1390	1000	1000
33	Upper Peninsula Generating Co.	Marquette, Mich.	Presque Isle	Stone & Webster Michigan, Inc.	4	12-65	113	1175	1450	1005	1000
34	Community Public Service Co.	Lordsburg, N.M.	Lordsburg	Stone & Webster Engrg. Corp.	4	3-67	12	230	350	900	1000

MUNICIPAL AND COOPERATIVE INSTALLATIONS

35	City of Jacksonville	Jacksonville, Fla.	Yachtside	Reynolds, Smith and Hills	2	5-66	175	1120	1100	1000	1000
36	City of San Antonio	Bexar County, Texas	Victor	Brown & Root, Inc.	2	1-68	155	1100	1275	1005	1005
37	City of Springfield	Springfield, Ill.	A.Y. Daiman	Burns & McDonnell Engrg. Co.	2	1-67	135	1171	1250	950	1000
38	City of Independence	Independence, Mo.	Blue Valley	Black & Veatch	1	1-65	125	1100	1250	950	1000
39	Eastern Iowa Light and Power Cooperative	Montpelier, Iowa	Montpelier	Stanley Engineering Co.	2	4-67	10	185	350	900	1000
40	City of Columbia	Columbia, Mo.	Municipal	Lutz, Davis & Brain	5,12	5-65	204	1140	950	900	1000
41	South Texas Electric Cooperative	Muskegon, Texas	Sam Rayburn	Lutz, Davis & Brain	2	1-65	114	1100	950	900	1000
42	Hastings Island Municipal Electric	Hastings, Neb.	Municipal	Sargent & Lundy	5	1-67	111	1150	950	900	1000
43	Western Michigan Electric Cooperative	Bayne City, Mich.	Bayne City	Stanley Engineering Co.	2	1-67	111	1150	950	900	1000
44	Western Iowa Power Cooperative	Postville, Iowa	Postville	Stanley Engineering Co.	2	1-65	111	1150	950	900	1000
45	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
46	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
47	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
48	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
49	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
50	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000

MANUFACTURING

51	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
52	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
53	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
54	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
55	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
56	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
57	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
58	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
59	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000
60	City of Everett	Everett, Wash.	Municipal	Tipton & Lee	1	1-66	111	1150	950	900	1000

Is remain at the 1000 F mark. Trend is to more outdoor boilers

Boiler & accessories	BOILER					FURNACE					F D FANS					I D FANS					PROJECT			
	SURFACE 1000 SQ FT					Pressure, in. water	Volume, 1000 cu ft	Heat release, 1000 Btu per cu ft per hr	No. oil burners	Type	Per boiler	Capacity, 1000 cu ft per hr	Manufacturer	Flow control	DRIVE		Per boiler	Capacity, 1000 cu ft per hr	Manufacturer	Flow control		DRIVE		
	Superheater	Reheater	Economizer	Air heater	Superheat control										Reheat control	Hp						Manufacturer	Hp	Manufacturer
1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
3	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
6	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
7	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
8	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
9	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
10	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
11	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
12	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
13	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
14	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
20	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
21	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
22	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
23	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
24	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
25	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
26	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
27	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
28	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
29	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
30	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
31	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
32	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
33	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
34	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
35	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
36	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
37	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
38	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
39	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
41	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
42	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
43	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
44	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
45	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
46	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
47	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
48	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
49	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
50	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
51	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
52	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
53	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
54	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
56	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
57	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
58	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
59	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
60	100	100	100	100	100	100																		

100-Rand Co
 Water Treatment Co
 Actuating Co
 Co., Inc.
 & Co
 Co. Water Conditioning, Inc.
 Cable Dynamic and Civil Co
 Co. and Northrup, Inc.
 Co. Locomotive Works
 Co. Co.
 Co. and Plant Ltd.
 Co. Co.
 Co. Co.

MC - Marvin and Shindler & Erickson Co
 NCC - Nacco Chemical Co
 NCH - Nash Engineering
 PE - Packard Bell Inc.
 PM - Permutit Co. Div.
 PP - Plauder Permutit, Inc.
 PR - Pacific Furber Inc., Div. of
 Dresser Industries, Inc.
 R - Research-Cable, Inc.
 RE - Research Electric and Engineering Co.
 RPL - Pacific Div., Rockwell Mfg Co.
 RC - River Steel Corp.

SH - Shumers-Wells Corp.
 SN - Sturtevant Div.
 SW - Westinghouse Electric Corp.
 SWE - Southwest Engineering Co.
 UF - Union Iron Works
 WE - Westinghouse Electric Corp.
 WKB - Winkles Boiler Co., Sub. of Nickles Corp.
 WM - Whitbeck Mfg. Co.
 WO - Westinghouse Ltd.
 WP - Western Refrigeration Div. of
 Westinghouse
 YU - Yuba Consolidated Industries, Inc.

SYMBOLS
 Ad - Admiralty
 AdD - Admiralty, type D
 Agv - Admiralty, inhibited
 AlB - Aluminum brass
 An - Anthracite
 AsAd - Arsenical admiralty
 AsCu - Arsenical copper
 At - Attemperators
 Bal - Balanced
 Cr - Cast
 By - Gas bypass

Turbines are predominantly indoors, or under a removable housing

PROJECT	BOILER FEED PUMPS						FUEL		FIRING		SOOT		DUST		HEATER						
	Capacity, cc, gpm	Discharge, psi	Manufacturer	Flow control	Drive type	DRIVE		Type	1000 Btu per lb	Pounds per boiler	Manufacturer	Blower type	Blowing medium	Manufacturer	Collector type	Manufacturer	Stack height, ft	Number	Feedwater exit, F	Max decelerating pressure, psi	Manufacturer
						Hydraulic motor	Electric motor														
1	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
2	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
3	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
4	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
5	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
6	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
7	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
8	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
9	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
10	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
11	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
12	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
13	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
14	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
15	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
16	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
17	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
18	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
19	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
20	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
21	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
22	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
23	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
24	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
25	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
26	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
27	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
28	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
29	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
30	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
31	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
32	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
33	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
34	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
35	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
36	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
37	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
38	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
39	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
40	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
41	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
42	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
43	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
44	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
45	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
46	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
47	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
48	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
49	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
50	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
51	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
52	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
53	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
54	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
55	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
56	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
57	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
58	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
59	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
60	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
61	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
62	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
63	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
64	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
65	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
66	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
67	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
68	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
69	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
70	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
71	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
72	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
73	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
74	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
75	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
76	100	100	DL	4VC	2M	MTS	15,000	GE	10	2	CE	Ro Ret	Air	CV	El	RC	1000	1	550	175	GE
77	100	100	DL	4VC	2M	MTS	15,000														

- SI - Slogan
T - Tilt
TB - Tilt
TC - Tilt
MS - Water spray
- FOOTNOTES
1 - Outdoor
2 - Btu per sq ft
3 - Cyclone filter

FOOTNOTES
1 - Quadoc
2 - Btu per cu ft
3 - Cyclone filter