

Dear Building a more powerful America

Power

DECEMBER 1957
ONE DOLLAR
A MCGRAW-HILL PUBLICATION

... a 4500-psi standard
valves? 103

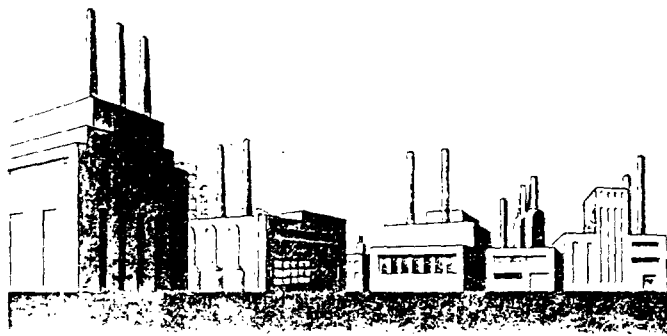
... uid rheostats: An old-
er struts to tackle the
gger jobs 124

... ent sound proves cure for
any plant-maintenance
adaches 131

... ow to field test your cen-
fugal pumps 136

... x tips on care of power-
ctor capacitors 150

The new . . . MODERN PLANT SURVEY



THIS IN THE UNITED STATES AND CANADA

[illegible][illegible]

1957 Design Survey: Typical Hydroelectric

^a Values are means $\pm$ 1 standard deviation. *Confidence interval* is given.

[illegible]

[illegible]

1957 Design Survey: Typical Hydroelectric

Compiled by F. A. Zinn, Consulting Editor

[illegible]

Steam Central-Station Installations

[illegible][illegible]

Steam Central-Station Installations

Table 2 Risk factors for being at low risk of VJ

[illegible]

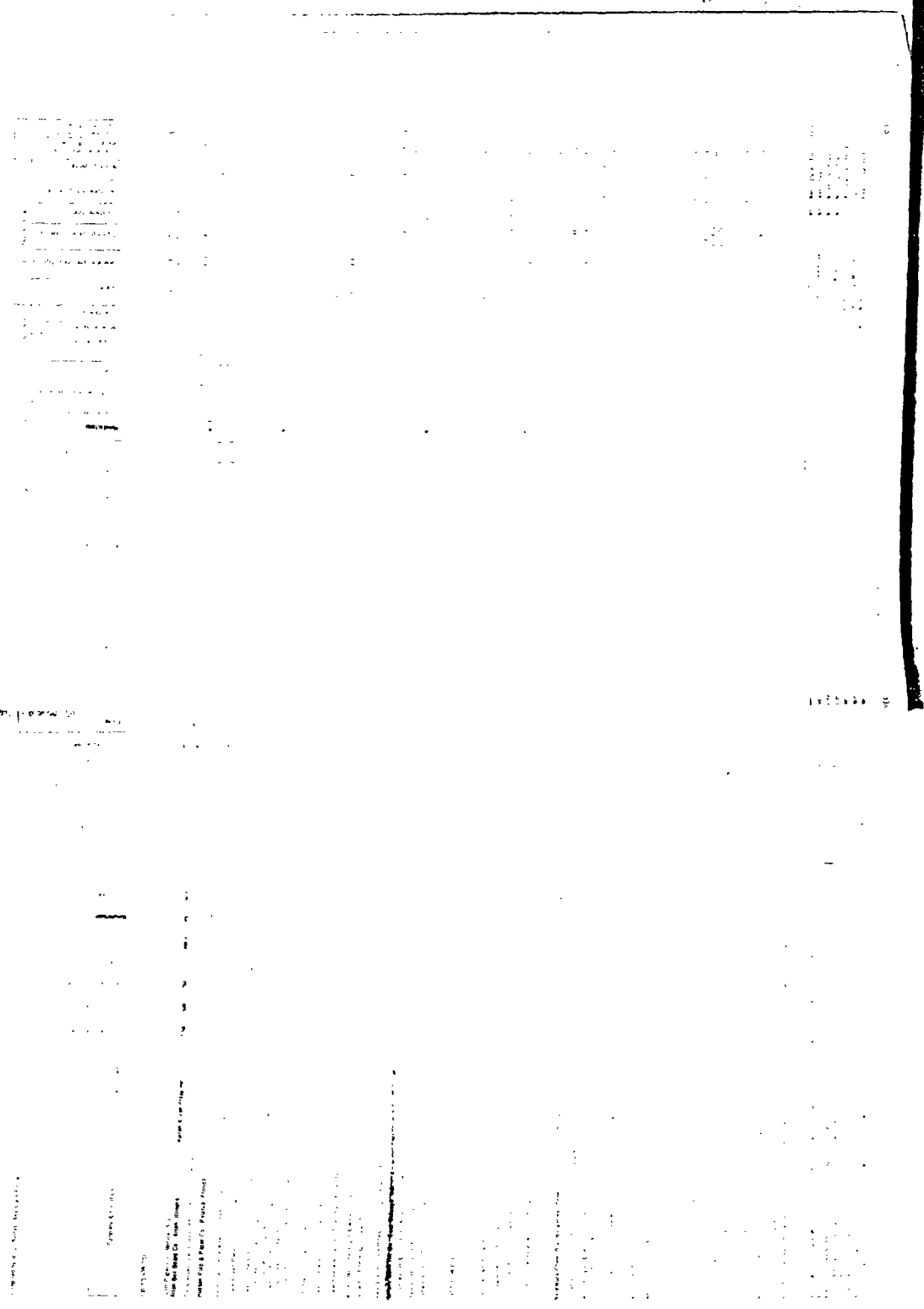
Year	Rate per 100,000
1970	1.0
1971	1.0
1972	1.0
1973	1.0
1974	1.0
1975	1.0
1976	1.0
1977	1.0
1978	1.0
1979	1.0
1980	1.0
1981	1.0
1982	1.0
1983	1.0
1984	1.0
1985	1.0
1986	1.0
1987	1.0
1988	1.0
1989	1.0
1990	1.0
1991	1.0
1992	1.0
1993	1.0
1994	1.0
1995	1.0
1996	1.0
1997	1.0
1998	1.0
1999	1.0
2000	1.0
2001	1.0
2002	1.0
2003	1.0
2004	1.0
2005	1.0
2006	1.0
2007	1.0
2008	1.0
2009	1.0
2010	1.0
2011	1.0
2012	1.0
2013	1.0
2014	1.0
2015	1.0
2016	1.0
2017	1.0
2018	1.0
2019	1.0
2020	1.0

1975/ Design Survey: Typical Industrial, Situational Plants, Above 200 psi

[illegible]

1957 Design Survey: Typical Industrial

stitutional Plants, Above 200 psi



1957 Design Survey of Typical New acm Central-Station Institutions

Company	City	State	Year	Assets	Liabilities	Equity	Revenue	Expenses	Profit	Notes
1. American Hospital	1. New York	1. New York	1. 1957	1. 1000000	1. 500000	1. 500000	1. 1000000	1. 800000	1. 200000	1. General Hospital
2. General Hospital	2. Los Angeles	2. California	2. 1957	2. 800000	2. 400000	2. 400000	2. 800000	2. 600000	2. 200000	2. General Hospital
3. St. Mary's Hospital	3. Chicago	3. Illinois	3. 1957	3. 600000	3. 300000	3. 300000	3. 600000	3. 400000	3. 200000	3. General Hospital
4. St. Vincent's Hospital	4. New York	4. New York	4. 1957	4. 500000	4. 250000	4. 250000	4. 500000	4. 300000	4. 200000	4. General Hospital
5. St. Joseph's Hospital	5. New York	5. New York	5. 1957	5. 400000	5. 200000	5. 200000	5. 400000	5. 250000	5. 150000	5. General Hospital
6. St. Luke's Hospital	6. New York	6. New York	6. 1957	6. 300000	6. 150000	6. 150000	6. 300000	6. 200000	6. 100000	6. General Hospital
7. St. Peter's Hospital	7. New York	7. New York	7. 1957	7. 200000	7. 100000	7. 100000	7. 200000	7. 150000	7. 50000	7. General Hospital
8. St. Paul's Hospital	8. New York	8. New York	8. 1957	8. 150000	8. 75000	8. 75000	8. 150000	8. 100000	8. 50000	8. General Hospital
9. St. Francis Hospital	9. New York	9. New York	9. 1957	9. 100000	9. 50000	9. 50000	9. 100000	9. 75000	9. 25000	9. General Hospital
10. St. John's Hospital	10. New York	10. New York	10. 1957	10. 80000	10. 40000	10. 40000	10. 80000	10. 60000	10. 20000	10. General Hospital
11. St. Michael's Hospital	11. New York	11. New York	11. 1957	11. 60000	11. 30000	11. 30000	11. 60000	11. 45000	11. 15000	11. General Hospital
12. St. Ann's Hospital	12. New York	12. New York	12. 1957	12. 40000	12. 20000	12. 20000	12. 40000	12. 30000	12. 10000	12. General Hospital
13. St. Elizabeth's Hospital	13. New York	13. New York	13. 1957	13. 30000	13. 15000	13. 15000	13. 30000	13. 22500	13. 7500	13. General Hospital
14. St. Rose's Hospital	14. New York	14. New York	14. 1957	14. 20000	14. 10000	14. 10000	14. 20000	14. 15000	14. 5000	14. General Hospital
15. St. Vincent's Hospital	15. New York	15. New York	15. 1957	15. 15000	15. 7500	15. 7500	15. 15000	15. 11250	15. 3750	15. General Hospital
16. St. Joseph's Hospital	16. New York	16. New York	16. 1957	16. 10000	16. 5000	16. 5000	16. 10000	16. 7500	16. 2500	16. General Hospital
17. St. Luke's Hospital	17. New York	17. New York	17. 1957	17. 8000	17. 4000	17. 4000	17. 8000	17. 6000	17. 2000	17. General Hospital
18. St. Peter's Hospital	18. New York	18. New York	18. 1957	18. 6000	18. 3000	18. 3000	18. 6000	18. 4500	18. 1500	18. General Hospital
19. St. Paul's Hospital	19. New York	19. New York	19. 1957	19. 4000	19. 2000	19. 2000	19. 4000	19. 3000	19. 1000	19. General Hospital
20. St. Francis Hospital	20. New York	20. New York	20. 1957	20. 3000	20. 1500	20. 1500	20. 3000	20. 2250	20. 750	20. General Hospital
21. St. John's Hospital	21. New York	21. New York	21. 1957	21. 2000	21. 1000	21. 1000	21. 2000	21. 1500	21. 500	21. General Hospital
22. St. Michael's Hospital	22. New York	22. New York	22. 1957	22. 1000	22. 500	22. 500	22. 1000	22. 750	22. 250	22. General Hospital
23. St. Ann's Hospital	23. New York	23. New York	23. 1957	23. 1000	23. 500	23. 500	23. 1000	23. 750	23. 250	23. General Hospital
24. St. Elizabeth's Hospital	24. New York	24. New York	24. 1957	24. 1000	24. 500	24. 500	24. 1000	24. 750	24. 250	24. General Hospital
25. St. Rose's Hospital	25. New York	25. New York	25. 1957	25. 1000	25. 500	25. 500	25. 1000	25. 750	25. 250	25. General Hospital
26. St. Vincent's Hospital	26. New York	26. New York	26. 1957	26. 1000	26. 500	26. 500	26. 1000	26. 750	26. 250	26. General Hospital
27. St. Joseph's Hospital	27. New York	27. New York	27. 1957	27. 1000	27. 500	27. 500	27. 1000	27. 750	27. 250	27. General Hospital
28. St. Luke's Hospital	28. New York	28. New York	28. 1957	28. 1000	28. 500	28. 500	28. 1000	28. 750	28. 250	28. General Hospital
29. St. Peter's Hospital	29. New York	29. New York	29. 1957	29. 1000	29. 500	29. 500	29. 1000	29. 750	29. 250	29. General Hospital
30. St. Paul's Hospital	30. New York	30. New York	30. 1957	30. 1000	30. 500	30. 500	30. 1000	30. 750	30. 250	30. General Hospital
31. St. Francis Hospital	31. New York	31. New York	31. 1957	31. 1000	31. 500	31. 500	31. 1000	31. 750	31. 250	31. General Hospital
32. St. John's Hospital	32. New York	32. New York	32. 1957	32. 1000	32. 500	32. 500	32. 1000	32. 750	32. 250	32. General Hospital
33. St. Michael's Hospital	33. New York	33. New York	33. 1957	33. 1000	33. 500	33. 500	33. 1000	33. 750	33. 250	33. General Hospital

1957 Design Survey: Typical Industrial,

Compiled by R. C. Seilas, Assistant Editor

Company & Location		Consulting engineers	First installation, new units	Rated steam pressure, psi	Rated steam temperature, F	Number	Capacity each (1000 lb per hr)	Manufacturer	Firing	Ash handling	Turbines	Electrical power					Total boiler capacity including new units, 1957 (1000 kw)	Total generating capacity including new units, 1957 (1000 kw)	
											Type	Manufacturer	Source	Plant distribution voltage	Transformers	Switchgear relay protection	Neutral grounding		
175 TO 200 PSIG																			
✓	Great Breweries Ltd., Litchfield, Ont.		5-36	200	385	2	15	FAL	D.G.	—	—	—	DP	3.11	0	—	—	—	—
✓	Ray & Co., Searchmont, Ont.		5-37	200	375	2	15	FW	—	—	—	—	—	—	—	—	—	—	—
✓	Can. Div. of Canada Ltd., Shelburne, Vancouver	Chas. Wright & Co. Eng. Ltd.,	1-58	200	485	1	40	BWG	0	—	—	—	—	3.11	0	—	—	—	—
✓	Jones & Laughlin Steel Corp., Pittsburgh, Pa.	Kutson Corp.	2-57	200	510	1	68	BW	0	—	—	—	—	—	—	—	—	—	—
✓	Cananda Canada Ltd., Cornwall, Ont.		1-57	200	380	1	115	FA	0	—	—	—	—	—	—	—	—	—	—
✓	Canair, Div. of Genl. Dynamics, Plattsburgh, N.Y.		11-56	200	540	1	15	—	0	—	—	—	DP	3.18	0.45	—	—	—	—
✓	For Motor Co., St. Catharines, Ont.	Austin Co.	1-58	185	340	2	25	—	0	—	—	—	DP	3.18	—	—	—	—	—
✓	Chevrolet Co., St. Catharines, Ont.	Boyer, Benjamin & Woodhouse	10-58	180	340	1	150	—	0	—	—	—	—	—	—	—	—	—	—
✓	Electro Div., G.M.C., Hudson, O.		2-58	175	340	1	40	CE	0	—	—	—	DP	3.18	0	—	—	—	—
✓	N.Y. State Prison Farm, Leesburg, N.Y.	Philip M. Copenheimer	—	175	378	1	14	—	0	—	—	—	DP	—	—	—	—	—	—
✓	Rochester Products Div., G.M.C., Rochester, N.Y.		8-55	175	380	1	60	—	0	—	—	—	DP	3.14	0.20	—	—	—	—
✓	Newberry State Hospital, Newberry, N.Y.	E. R. Little Associates Inc.	3-57	175	368	1	15	FW	—	—	—	—	—	—	—	—	—	—	—
✓	Newberry State Hospital, Newberry, N.Y.		4-56	175	—	1	12.5	—	—	—	—	—	—	—	—	—	—	—	—
✓	Fisher Rock Div., G.M.C., Mansfield, O.		11-56	175	377	1	50	—	0	—	—	—	DP	3.15	0	—	—	—	—
151 TO 174 PSIG																			
✓	New Jersey Zinc Corp., Pat. Gloucester, N.J.	Corbett Associates Inc.	4-58	170	575	1	100	CE	0	—	—	—	DP	—	—	—	—	—	—
✓	New Jersey Zinc Corp., Pat. Gloucester, N.J.		—	170	—	1	70	—	—	—	—	—	—	—	—	—	—	—	—
✓	New Jersey Zinc Corp., Pat. Gloucester, N.J.		—	170	—	1	42	FW	—	—	—	—	—	—	—	—	—	—	—
✓	New Jersey Zinc Corp., Pat. Gloucester, N.J.		—	170	—	1	40	—	—	—	—	—	—	—	—	—	—	—	—
✓	New Jersey Zinc Corp., Pat. Gloucester, N.J.		—	170	—	1	30	—	—	—	—	—	—	—	—	—	—	—	—
✓	Aluminum Co. of America, Calaveras, Ind.	David Cox	2-58	165	—	1	60	—	0	—	—	—	DP	—	—	—	—	—	—
✓	Ford Motor Co., Highland Park, Mich.		1-55	165	340	1	12	—	0	—	—	—	DP	3.13	—	—	—	—	—
✓	Anderson Electric Co., Corp., Akron, Ohio		1-57	165	375	1	10	—	0	—	—	—	—	—	—	—	—	—	—
✓	Dodge Tire & Rubber Co., Tullahoma, Tenn.	Clark & Woods	1-57	165	340	1	14.5	—	0	—	—	—	DP	—	—	—	—	—	—
✓	Maytag Paper Mills Inc., Canonsville, Pa.		—	160	375	1	15	—	0	—	—	—	DP	3.10	—	—	—	—	—
✓	Maytag Paper Mills Inc., Canonsville, Pa.		—	160	345	1	15	—	0	—	—	—	DP	3.10	—	—	—	—	—
✓	Central Ind. Education, Inc., Elkhart, Ind.	Shriver & McLean	10-57	160	340	2	10	—	0	—	—	—	DP	3.12	—	—	—	—	—
✓	Washington State Corp., Campton, O.D.		—	160	340	1	65	CE	0	—	—	—	DP	3.10	—	—	—	—	—
125 TO 150 PSIG																			
✓	The Lutz Co., Akron, Ohio	Clark & Woods	5-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	Westinghouse Electric, Division of G.E., Erie, Pa.		1-57	140	375	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57	140	340	1	15	—	0	—	—	—	DP	—	—	—	—	—	—
✓	The Lutz Co., Akron, Ohio		1-57																

DECEMBER 1957 • MODERN PLANT SUPPLY