

11. POWER PLANTS

A. BUILDINGS

CENTRAL STATION CONSTRUCTION

J. A. Powers

Vol. iv—1887, pp. 189-197

General remarks on the choice of location and building construction of a central station, followed by a detailed description of a 500 h.p. plant at Troy, N. Y., which gives an excellent idea of the best central station practice of the time.

B. ECONOMICS

THE COST OF STEAM POWER

Horatio A. Foster

Vol. xiv—1897, pp. 385-415

Analysis of the cost of energy production from steam engines in a number of plants including central stations, isolated plants and factories.

Discussion, pp. 416-421, by Messrs. F. B. Crocker, F. A. C. Perrine, R. W. Pope, R. B. Owens, Douglass Burnett and W. H. Ripley.

Relative calorific value of different kinds of coal.

AN ECONOMY TEST OF A CENTRAL STATION

W. E. Goldsborough

Vol. xv—1898, pp. 163-227

Description of the West Pratt Street Station of the Edison Electric Illuminating Company of Baltimore, followed by a complete description of comprehensive economy tests, giving results in the form of tables and charts.

No discussion.

THE COST OF ELECTRICITY IN SOME TYPICAL BUILDINGS IN NEW YORK CITY

Percival R. Moses

Vol. xvi—1899, pp. 305-327

Discussion of results of an investigation of the relative merits of central stations and isolated plant service in a large number of buildings in New York City.

Discussion, pp. 327-344, by Messrs. H. Ward Leonard, Arthur Williams, P. R. Moses, C. P. Steinmetz, C. W. Rice and Charles Blizard.

Central station versus isolated plant service. Relative costs and other economic features.

C. HYDROELECTRIC PLANTS

LONG-DISTANCE TRANSMISSION AT 10,000 VOLTS

George Herbert Winslow

Vol. xii—1895, pp. 405-432

Description of the Pomona Plant of the San Antonio Light & Power Company, covering hydraulic equipment for very high head, power plant, transmission line and substation.

No discussion.

D. STEAM ELECTRIC PLANTS

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NOTES ON THE RECONSTRUCTION OF A SMALL CENTRAL STATION PLANT

Franklin L. Pope

Vol. xii—1895, pp. 454-468

Description of plant of Great Barrington Electric Light Company, and account of steps taken in remodeling it so as to make it pay. Interesting information on water wheel tests, line construction and street lighting systems.

Discussion, pp. 468-469, by Dr. Chas. E. Emery.

D. STEAM-ELECTRIC PLANTS

THE COST OF STEAM POWER

Charles E. Emery

Vol. xii—1895, pp. 358-370

Factors which enter into the cost of electric energy produced from steam. Estimated cost of energy production at various load factors under the most favorable conditions. Analysis of cost of fuel, labor and repairs, showing the effect of various conditions thereon.

Discussion, pp. 371-387, by Messrs. W. A. Anthony, F. B. Crocker, R. W. Pope, Oberlin Smith, C. E. Emery, Joseph Wetzler, Peter Wright, L. B. Stillwell, B. J. Arnold, Harry Alexander, Nelson W. Perry and Allan V. Garratt.

General remarks on cost of producing electric energy and on competition of Niagara Falls electric energy with steam.

A MODERN ELECTRIC CENTRAL STATION

George A. Damon

Vol. xv—1898, pp. 347-362

Description of the power plant of the Imperial Electric Light, Heat & Power Company, St. Louis, which was equipped with engines and generators coupled according to the Arnold system.

Discussion, p. 362, by Messrs. F. B. Crocker, B. J. Arnold and C. P. Steinmetz.

CONNECTED RAILWAY UNIT AT DIFFERENT LOADS. TEST OF A
300-KILOWATT DIRECT

Edward J. Willis

Vol. xvi—1899, pp. 599-603

Tabulated data from a steam electric power plant consisting of water tube boiler, tandem compound condensing engine railway generator.

Discussion, pp. 604-606, by Messrs. A. E. Kennelly, George F. Sever, E. J. Willis, George Hill and C. O. Mailloux.

E. ELECTRIC APPARATUS AND WIRING

LONG DISTANCE TRANSMISSION FOR LIGHTING AND POWER

Charles F. Scott

Vol. ix—1892, pp. 425-442

Description of alternating current lighting plants installed by Westinghouse Company at Portland, Ore., and Telluride, Colo.

Discussion, pp. 442-444, by Messrs. H. Ward Leonard, Carl Hering, C. S. Bradley and E. A. Sperry.

STORAGE BATTERY APPLICATIONS

Vol. xii—1895, pp. 585-561

A topical discussion by Messrs. Arthur E. Childs, C. L. Edgar, Nelson W. Perry, Francis B. Crocker, Carl Hering, Frederick Reckenzaun, Townsend Wolcott, H. Ward Leonard, J. B. Entz, J. R. Williams, J. Appleton, Chas. Blizard, E. T. Birdsall, J. W. Lieb, Jr., Arthur V. Abbott and Franz J. Dommerque, Ludwig Gutmann, Mr. Sheehy, M. H. Gerry, Jr., B. J. Arnold, Mr. McFadden, Prof. Carhart, W. M. Stine and Mr. Feldman.

Storage batteries in central stations, covering performance characteristics, economics and experience in various classes of service. Factors which affect the design of batteries for different kinds of service. General discussion of the storage battery situation. Storage battery vs. gas engine for standby service.

THE RECONSTRUCTION OF THE PLANT OF THE CHICAGO BOARD OF TRADE

Bion J. Arnold

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Description of the design and operation of the plant.

Discussion, pp. 286-290, by Messrs. Townsend Wolcott, B. J. Arnold, J. W. Lieb, Jr., E. E. Ries and Douglass Burnett.