

1938

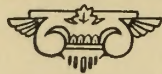
Economic aspects of the federal government's power program



<https://hdl.handle.net/2144/19256>

"Downloaded from OpenBU. Boston University's institutional repository."

L I B R A R Y

B O S T O N
U N I V E R S I T Y



 COLLEGE 
BUSINESS
ADMINISTRATION

Class No. * 380.162

Book No. J43

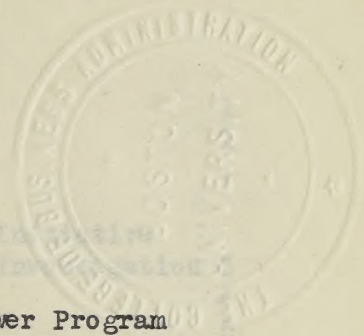
Acc. No. 26618

Date 6-10-38

TABLE OF CONTENTS

INTRODUCTION

Purpose of Thesis	
Available Material	
Commissions	
THE HISTORY AND DEVELOPMENT OF ELECTRIC UTILITIES UNDER PRIVATE ENTERPRISE AS DISCLOSED BY THE FEDERAL TRADE COMMISSION INVESTIGATION	
College of Business Administration	
THESES	
Economic Aspects of the Federal Government's Power Program	
by	
Virginia Jenness	
(B. A. Ohio State University 1928)	
submitted in partial fulfillment of the requirements for the degree of	
Master of Business Administration	
1938	
Creation of the Tennessee Valley Authority	10
Purpose of the Authority	13
Original Act and Amendments	14
Government Propaganda	17
Attitude of the Public	20
The Tennessee Valley Authority	23
Analysis of Rate Structure	25
Effect of the Tennessee Valley Authority on Private Utilities	28
Accomplishments of the Authority	31
Suggested Power Pool	34
Legal Status	37
controversies	40
Columbia River Projects	43
history and Progress to Date	45
Ultimate Cost - Bonneville	48
Ultimate Cost - Grand Coulee	51
Markets for Power	54
Effect on Private Companies	57
Local Political Aspects	60
a. Poorly Planned Development	63
Pennsylvania	66
Mississippi Valley	69
Miscellaneous Projects	72
Cooper-Alcoa and Seviner Projects	75
Port Peck Dam	78
Carlee Cooper	81
Central Valley	84



6-10-38
 26618
 * 380.162
 J43

TABLE OF CONTENTS

INTRODUCTION

 Purpose of Thesis 1

 Available Material 1

 Conclusions 1

THE HISTORY BEHIND THE NEW DEAL POWER PROGRAM

 Development of Electric Utilities under Private Initiative
 as Disclosed by the Federal Trade Commission Investigation 3

 Growth of Industry 4

 Holding Company Development 5

 Breakdown of Regulation 10

 Propaganda 13

 Recommendations of the Federal Trade Commission 14

PRINCIPLES AND PURPOSES OF THE POWER PROGRAM

 President Roosevelt's Attitude 17

 Utility Industry's Attitude 20

A FAR-FLUNG DAM BUILDING PROGRAM

 The St. Lawrence Waterway and Power Project 23

 Boulder Dam 25

 Tennessee Valley

 Origins 30

 Creation of the Tennessee Valley Authority 31

 Purposes of the Authority 32

 Original Act and Amendments 33

 Government Propaganda 36

 Attitude of the Utilities 37

 The Tennessee Valley Yardstick 39

 Analysis of Rate Structure 48

 Effect of the Tennessee Valley Authority on
 Private Utilities 50

 Accomplishments of the Authority 57

 Suggested Power Pool 58

 Legal Status 59

 Conclusions 60

 Columbia River Projects

 History and Progress to Date 62

 Ultimate Cost - Bonneville 63

 Ultimate Cost - Grand Coulee 63

 Markets for Power 64

 Effect on Private Companies 64

 Local Political Aspects 65

 A Poorly Planned Development 65

 Passamaquoddy 66

 Mississippi Valley 66

 Miscellaneous Projects

 Casper-Alcova and Seminole Projects 68

 Fort Peck Dam 69

 Santee Cooper 70

 Central Valley 70

OTHER DEVELOPMENTS OF THE POWER PROGRAM	
Electric Home and Farm Authority	72
Federal Power Commission Rate Investigation	
Purpose	72
Results	73
National Power Policy Committee	74
National Power Survey	74
Rural Electrification	
Objectives	76
Method of Operation	77
Educational Program	78
Ultimate Costs to Farmers	78
Results	79
The Public Utility Holding Company Act of 1935	
Introduction	80
Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill	80
Provisions of the Act - Title I	83
Provisions of the Act - Title II	86
Legal Status of the Public Utility Holding Company Act	88
Administration of the Act - Securities and Exchange Commission	94
Administration of the Act - Federal Power Commission	97
Economic Effects of the Act	98
ATTEMPTS OF THE UTILITY INDUSTRY TO CORRECT ABUSES OF THE PAST	
Answer to Federal Trade Commission Indictment	
Growth of Industry	107
Regulation	110
Accusations against the Industry and the Answers	110
The Power Industry during the Depression	110
Holding Company Reform	111
Cooperation	113
POSSIBILITIES OF GOVERNMENT CONTROL	
Legal Aspects	115
Economic Aspects	
Administration	116
Determination of Rate Bases	119
Federal Incorporation	122
Political Aspects of Control	122
Need for Tolerance	124
CONCLUSIONS	
State Control of Intrastate Electricity	
Commission Regulation	126
Rate Regulation	128
State Compacts	129
Federal Control of Interstate Electricity	130
APPENDIX	
Exhibit 1	134
Exhibit 2	135
Exhibit 3	136
Exhibit 4	137
Exhibit 5	138
Exhibit 6	139
BIBLIOGRAPHY	140

140	BIBLIOGRAPHY
139	Exhibit 8
138	Exhibit 7
137	Exhibit 6
136	Exhibit 5
135	Exhibit 4
134	Exhibit 3
133	Exhibit 2
132	Exhibit 1
131	APPENDIX
130	Federal Control of Interstate Electricity
129	State Control
128	State Regulation
127	Commission Regulation
126	State Control of Interstate Electricity
125	COMMISSIONS
124	Need for Toleration
123	Political Aspects of Control
122	Federal Incorporation
121	Determination of Rate Basis
120	Administration
119	Economic Aspects
118	Legal Aspects
117	POSSIBILITIES OF GOVERNMENT CONTROL
116	Cooperation
115	THE FEDERAL PUBLIC UTILITY HOLDING COMPANY ACT OF 1935
114	Introduction
113	Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill
112	Provisions of the Act - Title I
111	Provisions of the Act - Title II
110	Legal Status of the Public Utility Holding Company Act
109	Administration of the Act - Securities and Exchange Commission
108	Administration of the Act - Federal Power Commission
107	Economic Effects of the Act
106	ATTEMPTS OF THE UTILITY INDUSTRY TO CONTROL ASPECTS OF THE RATE
105	Administrative
104	Accounting
103	Regulation
102	Government
101	Other Developments of the Power Program
100	Electric Home and Farm Authority
99	Federal Power Commission Rate Investigation
98	Purpose
97	Results
96	National Power Policy Committee
95	National Power Survey
94	Rate Investigation
93	Objectives
92	Method of Operation
91	Educational Program
90	Ultimate Costs to Farmers
89	Results
88	The Public Utility Holding Company Act of 1935
87	Introduction
86	Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill
85	Provisions of the Act - Title I
84	Provisions of the Act - Title II
83	Legal Status of the Public Utility Holding Company Act
82	Administration of the Act - Securities and Exchange Commission
81	Administration of the Act - Federal Power Commission
80	Economic Effects of the Act
79	ATTEMPTS OF THE UTILITY INDUSTRY TO CONTROL ASPECTS OF THE RATE
78	Administrative
77	Accounting
76	Regulation
75	Government
74	Other Developments of the Power Program
73	Electric Home and Farm Authority
72	Federal Power Commission Rate Investigation
71	Purpose
70	Results
69	National Power Policy Committee
68	National Power Survey
67	Rate Investigation
66	Objectives
65	Method of Operation
64	Educational Program
63	Ultimate Costs to Farmers
62	Results
61	The Public Utility Holding Company Act of 1935
60	Introduction
59	Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill
58	Provisions of the Act - Title I
57	Provisions of the Act - Title II
56	Legal Status of the Public Utility Holding Company Act
55	Administration of the Act - Securities and Exchange Commission
54	Administration of the Act - Federal Power Commission
53	Economic Effects of the Act
52	ATTEMPTS OF THE UTILITY INDUSTRY TO CONTROL ASPECTS OF THE RATE
51	Administrative
50	Accounting
49	Regulation
48	Government
47	Other Developments of the Power Program
46	Electric Home and Farm Authority
45	Federal Power Commission Rate Investigation
44	Purpose
43	Results
42	National Power Policy Committee
41	National Power Survey
40	Rate Investigation
39	Objectives
38	Method of Operation
37	Educational Program
36	Ultimate Costs to Farmers
35	Results
34	The Public Utility Holding Company Act of 1935
33	Introduction
32	Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill
31	Provisions of the Act - Title I
30	Provisions of the Act - Title II
29	Legal Status of the Public Utility Holding Company Act
28	Administration of the Act - Securities and Exchange Commission
27	Administration of the Act - Federal Power Commission
26	Economic Effects of the Act
25	ATTEMPTS OF THE UTILITY INDUSTRY TO CONTROL ASPECTS OF THE RATE
24	Administrative
23	Accounting
22	Regulation
21	Government
20	Other Developments of the Power Program
19	Electric Home and Farm Authority
18	Federal Power Commission Rate Investigation
17	Purpose
16	Results
15	National Power Policy Committee
14	National Power Survey
13	Rate Investigation
12	Objectives
11	Method of Operation
10	Educational Program
9	Ultimate Costs to Farmers
8	Results
7	The Public Utility Holding Company Act of 1935
6	Introduction
5	Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill
4	Provisions of the Act - Title I
3	Provisions of the Act - Title II
2	Legal Status of the Public Utility Holding Company Act
1	Administration of the Act - Securities and Exchange Commission
0	Administration of the Act - Federal Power Commission

Digitized by the Internet Archive
in 2016 with funding from

Boston Library Consortium Member Libraries

INTRODUCTION

Purpose of Thesis

The purpose of this thesis is to trace the history of electric utilities under private ownership from 1900 to date, including therein the abuses, as charged by the Federal Trade Commission's seven year investigation of holding and operating companies, which have caused active participation by the Federal government in the power field. Space will be given also to the utilities' answer to the alleged abuses and to their interpretation of Federal competition and regulation as a prelude to government ownership. The second part of the thesis will discuss in some detail all of the Federal projects which come under the heading of "power program". A description and brief history to date of each project is considered essential to set the stage because of the many aspects and ramifications of the program. In each case the economic aspects and probable consequences of each project will be analyzed and evaluated. A biased viewpoint has been avoided, and in writing the thesis both sides of all questions have been considered.

Available Material

The material on this subject is most exhaustive. In many ways more has been written on this angle of New Deal activities than on almost any other field. However, the subject is so current that no books have been published dealing in a single volume with the whole program. Most of the material has been secured from current periodicals, from material supplied by the various governmental agencies, and from material sent out by the utility companies.

Conclusions

Legislative strengthening of the state utility commissions' staffs, so that the United States may have 48 effective and well-

functioning regulatory bodies for control of intrastate electric utilities; a satisfactory basis of rate determination; and the use of state compacts on matters of regional interstate utilities, flood control, and water-power development; are all to be desired and sought in any economic set-up of the future. Even apart from constitutional limitations, the Federal government cannot regulate all the aspects of the electric power business. Rate regulation, service, safety requirements, expansion needs, objective consumption promotion, appliance development and expansion, are all local problems and need local attention; first, to a certain extent by local bodies, and second, for other problems by state commissions. The state commission may be in disrepute now, but certainly the people of this country ought to try to make it work effectively with more attention to its financial needs before throwing it out the window entirely and submitting to Federal domination in regulatory matters.

No one can gainsay the right of the Federal government to regulate companies in interstate commerce. Certainly there has been a "no man's land" for too long a period between state regulation of local operating companies, and no control at all over foreign holding companies. Unfortunately, utilities have been regulated recently on a depression standard, and the attitude of the government has not always been helpful. However, progress in the power field depends not on form of ownership, but upon the economics of demand for and supply of electricity. The job is there - people want electricity - regulation or form of ownership must not thwart this demand nor the supply to satisfy it. We believe that private ownership, coupled with adequate and reasonable state and Federal regulation is the best answer to the problem of wide distribution of electricity at low rates.

THE HISTORY BEHIND THE NEW DEAL POWER PROGRAM

Development of Electric Utilities under Private Initiative as Disclosed by the Federal Trade Commission Investigation

The Federal Trade Commission's investigation of utilities was instigated by Senator Thomas J. Walsh of Montana, who on February 28, 1927, proposed a Senate inquiry into the soundness of utility securities. Discussion by the Senate and vigorous lobbying from power interests prevented any action that year, but in 1928 the investigation was approved. Largely as a result of utility efforts, the inquiry was shifted from the Senate to the Federal Trade Commission. The work of the Commission was exhaustive and thoroughgoing. The first hearing was held March 8, 1928, and in the following years the Commission accumulated evidence which filled 84 printed parts of testimony, occupied about 18 feet of shelf space, and totalled probably as much as 43,000 pages. The last report, 84C, was submitted under date of December 31, 1935. Senator Walsh had hoped for publicity of what he felt were harmful practices, but with the passing months, the investigation passed from the pages of the newspapers, and most of the startling information was buried in closely printed government documents.

The purpose of the investigation was "to inquire into and report upon the growth of the capital assets and capital liabilities of electric and gas utility holding and operating companies, facts and practices relating to issuing of securities, the extent of the control and financial interest of holding companies in supervision, servicing, and management corporations, the character of services performed, the charges made therefor, the earnings and expenses of holding companies, and the value or detriment to the public of such companies controlling electric and gas operating utilities and to recommend what legislation, if any, should be enacted by Congress to correct any abuses that may exist in the

organization or operation of such holding companies."¹

The material presented in the summary of the Economic, Financial and Corporate Phases of Holding and Operating Companies comprises 882 pages, and a digest only of this phase of the investigation will be included.

Growth of Industry

For the 20 years prior to 1902, the power industry was in its infancy, and adequate statistics were lacking. The census figures of 1902, however, showed the status of the industry at that time, and the figures given in Table 1 indicate the growth from 1902-1932 in the number and value of plants, quantity of electricity generated and revenues. The preponderance of private enterprise in 1932 is clearly shown.

TABLE 1
Growth of the Electric Utility Industry as Shown by Statistics
of the United States Bureau of the Census for 1902, 1922, 1927
and 1932*

	<u>Establish- ments**</u>	<u>Kilowatts Generated</u>	<u>Value of Plant and Equipment</u>	<u>Gross Revenue from Sale of Electric Energy</u>
	Index	Index	Index	Index
Private and Municipal				
1902	100	100	100	100
1922	176	1,607	885	1,212
1927	120	2,979	1,842	2,141
1932	95	3,177	2,509	2,346
Private				
1902	100	100	100	100
1922	133	1,662	876	1,211
1927	76	3,085	1,840	2,172
1932	58	3,275	2,512	2,397

*Central electric light and power stations, 1932, pp. 4-16.

**The term "establishment" refers to ownership or control, consequently, in many cases a private establishment represents two or more generating stations or distributing systems.

Source: Utility Corporations, No. 72-A, p. 24.

From a study of income tax data, it was possible to ascertain the growth in net income of utilities as compared to all corporations re-

¹Utility Corporations, Summary Report of the Federal Trade Commission to the Senate of the United States, No. 73-A, p. 59.

porting. This information is shown in Table 2.

TABLE 2
 Net Incomes Index Number Electric Utility Corporations'
 Proportion of Net Incomes to
 the Aggregate Net Incomes for
 Electric Utility All Corpor-
 Corporations ations All Corporations

	Electric Utility Corporations	All Corporations	Percent
1918	100	100	0.5
1921	143	52	1.4
1925	436	115	1.9
1929	1,027	139	3.8
1931	679	44	7.9

Source: Utility Corporations, No. 72-A, p. 30

In the matter of transmission lines, according to the Census Bureau, the mileage of systems with voltages in excess of 6,600 volts exceeded 251,000 miles in 1932 as compared with single-track railroad mileage in that year of 247,595 miles.¹

Holding Company Development

Holding company organization has dominated the development of the privately owned utility companies. Alternating current, long-distance transmission, larger and more efficient generating units, made large-scale operation possible and profitable.

The increase in holding company importance may be shown by four governmental investigations. In 1911, the U. S. Bureau of Corporations found that 10 associated interests controlled 60% of the developed water power; in 1914, the U. S. Department of Agriculture found that 85 electric corporations controlled 68.6% of the total installed generating capacity; in 1924, the Federal Trade Commission found that holding companies controlled 65% of the private electric business; and in 1932 the same Commission found that holding companies controlled 78% of all electricity generated.² With regard to interstate movement of electricity, the companies included in the last survey transmitted in 1929 and 1930,

¹Ibid, No. 72-A, p. 41.

²Ibid, pp. 34-37.

98.5% of the U. S. total.¹

From 1928-1935, the Federal Trade Commission examined 18 holding companies, 42 subholding companies and 91 operating companies. The holding companies had consolidated total assets of over 4 billion dollars and the subsidiary operating companies of these groups generated in 1932, 52.3% of the national total of electricity supplied by privately owned companies.²

There existed different types of holding-company groups which had grown up in this country during the expansion of the power industry. There was the diversified investment set-up, typified by Electric Bond and Share Company, a development which was an outgrowth of the early days of the industry when equipment manufacturers were forced to take securities in payment from small local companies. A second form was the large connected type, e.g. Niagara Hudson Power Corporation, in which the utilities formed a continuous chain of properties. A third type, the large-city holding group was exemplified by North American Company which held securities of utilities serving large cities. In the last instance, a trend toward superholding companies was visible before the depression. The United Corporation was an example of this type.

The basis for the existence of holding companies in the electric field was found in the economic needs of small operating companies, and it was claimed, in the aggrandizement of individuals forming holding companies. Under the first heading, the financial and managerial functions of holding companies were:

- a. Furnishing common stock funds to local operating companies.
- b. Temporarily financing capital needs of subsidiaries.
- c. Furnishing temporary funds when markets were unfavorable to current financing.

¹Ibid, p. 43.

²Ibid, pp. 51-53.

- d. Furnishing specialized engineering, management, construction, and fiscal supervision, otherwise not available to small operating companies.

In the second instance, holding companies have been formed for:

- a. Personal profit.
- b. Power.
- c. Lucrative employment for promoters and others.
- d. Underwriting profits.

In controlling holding companies, there had emerged three different groups. A concentration of voting power in a small group or single company, e.g. Associated Gas and Electric Company; a group of holding companies, in each of which a large minority of the voting stock was held by a single holder or compact group, e.g. Middle West Utilities Company; and a group with wide diffusion of voting power, e.g. American Gas and Electric Company.

In addition to the holding company control of the electric power industry, some writers have attempted to indicate the extent of banker control over the industry. To digress a moment from the Federal Trade Commission investigation, the extent of concentration of control may be shown in the following table:

TABLE 3
Concentration of Control

	Percent of Installed Capacity	
1. Morgan-Bonbright-National City Spheres of Influence		
United Corporation and allies	19.14	
Electric Bond and Share	12.05	
Consolidated Gas of New York	<u>6.49</u>	37.68
2. Chase National-Harris, Forbes Spheres of Influence		
Standard Gas and Electric	4.87	
Utilities Power and Light	.95	
International Paper and Power	2.19	
Associated Gas and Electric	2.73	
Central Public Service	<u>.83</u>	11.57
3. Insull Interests		
Total		<u>10.31</u> 59.56

Source: Raushenbush, Stephen, The Power Fight; New Republic, Inc., New York, 1932, p. 4

During the course of its investigation, the Federal Trade Commission went into the capital assets of the companies examined in great detail. Its final conclusions on write-ups and inflation in this field were that the amount of water in the holding companies was 9.6% of their total capital assets, in the subholding companies, 16.5%, and in the operating companies, 22.1%.¹ These write-ups were caused by: inter-company profits in construction work; profits through revaluation of securities; unethical appraisals of fixed assets; capitalization of future earning power; and other unsound practices.

Many writers have taken their material from the Federal Trade Commission study and have quoted from it profusely. To illustrate the write-ups and inflation found, one of these authors stated that the 16 largest top holding companies increased their capital from 870 million to 3,100 billion dollars, or an increase of 2,230 billion, while operating companies increased their assets from 964 million to 1,968 billion dollars, or an increase of 1 billion.² To illustrate write-ups by purchase, he cites the Standard Gas and Electric Company, which paid \$8,147,526 in cash for 12,600 shares of the Wisconsin Valley Electric Company, having a book value of \$1,909,364.³ For write-ups by mergers, it was pointed out that the Niagara Hudson Power Corporation was the merger in 1929 of three companies having a book value of \$147,486,604. This value was written up to \$230,253,961 as a result of the merger.⁴

In examining the trend of electric rates, the Commission concluded that in far too many instances the ideal rate schedule was not achieved or even attempted. This would be: sufficient profit to attract

¹Ibid, p. 299.

²Ostrolenk, Bernhard, *Electricity - For Use or for Profit*; Harper & Bros., New York & London, 1936; *Utility Corporations*, No. 72, p. 193.

³Ibid, No. 36, pp. 447-450.

⁴Ibid, No. 72-A, p. 77.

capital and capable management; wide-spread use of electricity; and simple rate schedules. The Commission felt that a vast amount of analytical study was essential and more revealing accounting and operating records were necessary to put rates on a sound economic basis.

Pyramiding received considerable attention, for excessive use of this financial device undoubtedly led to the collapse of the unstable holding companies and the inevitable result - violent agitation for their elimination. Pyramiding, or the interposition between a holding company and its operating companies of one or more subholding companies, produced a tremendous leverage with large earnings to the apex holding company in prosperous times and conversely, the cutting off of all earnings to the top companies during depressions.

The trend of development in the power industry was inextricably tied up with holding companies in the period 1902-1932. It might be well therefore, to bring together the advantages and disadvantages of this type of organization, as set out by the Federal Trade Commission.

Effects on Operating Companies and Consumers

For

- Development of connected operations.
- Employment of larger and more efficient production plants with lower costs.
- Employment of more expert management and resultant lower costs.

Against

- Excessive construction and management fees.
- Write-ups and inflation of values.
- Inadequate depreciation.
- Intercompany profits.

Effects on Investment by Public

For

- Diversity of operating companies.
- Low cost for money borrowed.

Against

- Excessive pyramiding
- Manipulation
- Misrepresentation

Effects on Public Control

For

- Cooperation by some holding companies.
- Reduction in rates.

Against

Lack of interstate regulation.
Inadequate funds for state commissions.
Circumvention of state laws.

Breakdown of Regulation

A compilation of the corporation laws of various states with reference to utilities was prepared by the Commission's legal staff, and included as a part of the record of the investigation. The conclusions reached from this survey indicated a wide difference in the extent and effectiveness of the regulatory policies of the states. For instance, in 8 jurisdictions which purported to regulate public utilities, gas and electric companies were not included; and while 28 states and 3 territories had established by statute the right of one corporation to hold stock in other corporations, in 25 of these jurisdictions no control whatsoever was provided over the holding companies thus allowed to exist. In no jurisdiction was there any general and adequate provision for directly regulating the security issues of holding companies, while in 23 jurisdictions there was no provision for governmental regulation of the capitalization of assets by operating companies. In 5 jurisdictions no provision was made for governmental determination nor review of utility rates. The corporate powers conferred by various states varied widely. A few states offered practically unlimited privileges and exemptions in corporate charters as inducements for incorporation.¹

According to the Federal Trade Commission, state legislation had created, promoted or permitted holding company evils in the following ways: the abandonment of the common law rule prohibiting intercorporate stock holding, which was the first important step to the creation of holding companies (New Jersey was the first state to do this in 1889); and

¹Utility Corporations, No. 73-A, pp. 2-4.

the race of laxity among the states to grant the most liberal corporate privileges, which promoted holding company evils and permitted them to flourish.

Efforts of the states to regulate security issues and rates became entangled in conflicting concepts of "fair value". Application of the theory of fair value by a regulating commission logically would require a valuation by such agency of the property used and useful in the public service. In *Smyth v. Ames* (169 U.S. 466 (1898)), the grandfather of all rate cases, original cost was recognized as an element in determining fair value, but in later decisions it was largely discarded for estimated reproduction cost new less depreciation. Much uncertainty existed as to what constituted fair value and the legalistic interpretations for rate purposes did not clear up the picture. The most serious objection to fair value of course, was its ever-changing amount.

Efforts to regulate holding company management and service contracts had to encounter almost complete lack of jurisdiction over the dominating party - the holding company. However, the Commission admitted that some states had enacted legislation subjecting to commission control all contracts between a holding company and an operating utility.

The great difficulty of effective state regulation seemed to the Commission to lie in the practical impossibility of any uniform, effective and nation-wide legislation through action by the several states acting separately under a variety of urges and interests.

In discussing the then present extent of Federal regulation, the report continued with the Federal Power Commission Act, passed in 1920. This act covered only a small segment of the field where the Federal government happened to have the natural rights of a proprietor in a

water-power development. It could merely regulate licensees or their subsidiaries, and not holding companies.

The protection under this act was to be threefold: avoidance of inflationary costs; regulation of the issue of securities on developments where state commissions had not the power; and regulation of rates charged for power developed where states did not control. In his book, "The Power Fight", Raushenbush quotes the 1928 report of the Federal Trade Commission, in which the commission admitted its failure. On the first point it had settled \$21,851,000 in claims, but \$275,000,000 were still unsettled; on the second point it had acted in only one case - the Conowingo dam in Maryland; and on the third point it had done nothing at all.¹

The need for Federal regulation of holding companies was evident in 1935. The developments in the field showed a strong trend toward monopolistic control on a scale far beyond legal or geographic jurisdiction of the several states. Such monopoly was essentially a national problem. Monopoly control was evidenced by the fact that in 1929, three huge groups, composed of the United Corporation interests, the Electric Bond and Share Company interests, and the Insull companies then produced 45% of the electrical energy of the country.²

While some had contended that electric energy was still largely local, the volume of interstate transmission had been steadily increasing until it had become 17% of the total of that produced in the country.³ Treating interstate transmission in its entirety obscured its much greater importance in certain sections, i.e. in 1929, Vermont and Maryland

¹Raushenbush, Stephen; op. cit., p. 149.

²Utility Corporations, No. 73-A, p. 33.

³Ibid, p. 34.

exported over 72% of the electricity generated within their borders, and Idaho, 58%; while in 1929 Mississippi and Arkansas imported more than 100% of the amount consumed.¹

Propaganda

A separate report of the Commission dealt with the efforts of the utilities to secure advantageous treatment in the 1920's by a far-flung system of carefully planned propaganda. In view of the fact that many utilities have bitterly criticized New Deal propaganda on power subjects, it might be well to summarize briefly the results of the Commission's investigation as compiled by the author, Ernest B. Gruening.

The beginning of the utilities' campaign to educate the people has been traced to Samuel Insull, who in 1919 organized the Illinois Committee on Public Utility information. It was the forerunner of a nation-wide movement. By the end of 1922 committees had been organized in most states and the country had been divided into twelve zones or divisions of the National Electric Light Association. The growth of public relations mushroomed and many utility executives indicated that this phase of their business was even more important than selling electricity.

In the first place, important contacts were secured with educators in the university field. Money was paid out in travelling expenses, and many utility men helped to prepare courses favorable to private ownership and operation of electric utilities. Surveys were made of textbooks and many were found to be objectionable in their treatment of utility subjects. Efforts were made to have these changed.

Women's groups were contacted, and articles were written for locally prominent women and signed by them. Public speaking bureaus were

¹Ibid, p. 34. The Mississippi, Arkansas percentage represents loss before consumption and quantity exported.

organized and utility men spoke to service clubs and organizations of all kinds. The newspapers were infiltrated with weekly bulletins to be used as editorial comment. Asked by Judge Healy of the Federal Trade Commission whether there was any form of publicity which had been neglected by the National Electric Light Association, its Director of Public Information replied: "Only one, and that is sky-writing."¹

The utilities were also accused by the Commission of having actively engaged in politics. Illinois invented what was to one author the most successful trick in the political arena. Rob Roy McGregor, assistant director, outlined in a letter his method for defeating a Senator who favored government ownership of power plants, as follows: "This, of course, is not an attempt at writing a speech. My idea would be not to try logic, or reason, but to try to pin the Bolshevik idea on my opponent."²

Recommendations of the Federal Trade Commission

Many claims had been made as to the advantages and functions of holding companies. It had been claimed that they afforded advantages of super-management by staffs of highly skilled experts. It had also been claimed that advantages resulted from group financing and from group purchasing. A large part of these advantages were challenged by the Commission. Some existing independent operating companies, both private and municipally owned presented contradictions. Moreover, holding companies had acquired control of operating companies so large that the argument of the latter's inability to provide services was shown for what it was - specious. The abuses of the holding company fell chiefly into two classes: (1) Unsound and/or needless financial structures and practices

¹Gruening, Ernest, The Public Pays - A Study of Power Propaganda; The Vanguard Press, New York, 1931, p. 211.

²Raushenbush, Stephen; op. cit., p. 29.

which were a detriment and frequently a menace to the investor or the consumer or both. (2) The milking of operating companies through the device of numerous forms of contracts and arrangements. The investigation had disclosed that the tributes and profits thus exacted had in some instances ranged from 50% to over 300% on the cost of such services.¹

The Federal Trade Commission recommended that Congress might abolish the holding company entirely by prohibiting the use of the mails to any corporation whose stock was owned by another corporation, or to impose a prohibitive tax on such corporations. The anti-trust laws might also be considered applicable to holding companies if it could be proved that the setting up of corporate dummies placed a burden on commerce.

If Congress did not wish to abolish holding companies it might regulate them on the following bases: (1) the direct taxation method; (2) direct statutory inhibitions; (3) a compulsory Federal licensing act; and (4) a permissive Federal incorporation act.

The taxation method had a number of advantages, primarily because it could be applied to all corporations of a class and would not be limited to interstate commerce. Also taxation was definite and was assured of a reasonable degree of effective administration. Six specific taxes were recommended.

The more usual and long-established method of legislation directly and specifically prohibiting certain practices, with proper penalties was also suggested. This meant that a separate statute would be drawn which would make felonies or misdemeanors of the disclosed abuses as far as they might be reached under Federal jurisdiction. Twenty-four

¹Utility Corporations, No. 73- A, p. 64.

specific statutory inhibitions were mentioned.

A Federal licensing act, which might or might not be compulsory, supplemented by a Federal incorporation law was suggested as another alternative. It was believed to provide a reasonable solution. Regulation under this system would be afforded by making the adoption or abandonment of specific practices conditions precedent to Federal licensing. Eight suggestions as to termination of evils mentioned above in addition were suggested under this method.

The Commission primarily recommended taxation, and then direct prohibitive legislation.

In concluding this discussion of the Federal Trade Commission's investigation into electric utilities, it might be advisable to quote from their summary to indicate their attitude toward holding companies: "In the last analysis the foregoing practices (of holding companies) and the conditions which they have created must be judged not only by economic results, but by ethical standards. It is not easy to choose words which will adequately characterize various ethical aspects of the situation without an appearance of undue severity. Nevertheless, the use of words such as fraud, deceit, misrepresentation, dishonesty, breach of trust, and oppression are the only suitable terms to apply if one seeks to form an ethical judgment on many practices which have taken sums beyond calculation from the rate-paying and investing public."¹

¹Utility Corporations, No. 73-A, p. 63. December 24, 1933, p. 4031.

tion from the rate-paying and investing public."

ethical judgment on any practices which have taken place beyond ethical
opinion are the only ethical terms to apply if one needs to form an
as fraud, deceit, misrepresentation, dishonesty, breach of trust, and

out an appearance of undue severity. Nevertheless, the use of words such

will adequately characterize various ethical aspects of the situation with-

results, but by ethical standards. It is not easy to choose words which

conditions which they have created must be judged not only by economic

the last analysis the foregoing practices (of holding companies) and the

their capacity to indicate their attitude toward holding companies: "In

investigation into electric utilities, it might be advisable to quote from

In concluding this discussion of the Federal Trade Commission's

prohibitive legislation.

The Commission primarily recommended taxation, and then direct

in addition were suggested under this method.

licensing. Right suggestions as to termination of evils mentioned above

or abandonment of specific practices conditions precedent to Federal

Regulation under this system would be effected by making the adoption

another alternative. It was believed to provide a reasonable solution,

and, supplemented by a Federal incorporation law was suggested as

A Federal licensing act, which might or might not be compulsory-

specific statutory prohibitions were mentioned.

PRINCIPLES AND PURPOSES
OF THE POWER PROGRAM

President Roosevelt's Attitude

Before outlining the numerous power projects of the Federal government, it is essential to study the philosophy which brought them forth. No better source can be found than the speeches of the chief exponent of Federal power projects, President Roosevelt. In numerous speeches made over the past five years, he has expressed his attitude quite clearly.

During his first campaign he promulgated the following eight point program for power development:

1. Full publicity as to all capital issues of stocks, bonds, and other securities, liabilities and indebtedness, and capital investment, and frequent information as to gross and net earnings.
2. Publicity on stock ownership of stocks and bonds and other securities, including the stock and other interests of all officers and directors.
3. Publicity with respect to all intercompany contracts and services and interchange of power.
4. Regulation and control of holding companies by the Federal Power Commission and the same publicity with regard to such holding companies as provided for the operating companies.
5. Cooperation of the Federal Power Commission with public utility commissions of the several states, obtaining information and data pertaining to the regulation and control of such public utilities.
6. Regulation and control of the issue of stocks and bonds and other securities on the principle of prudent investment only.
7. Abolishing by law the reproduction cost theory for rate making and establishing in place of it the actual money, prudent investment principle as the basis for rate making.
8. Legislation making it a crime to publish or circulate false or deceptive material relating to public utilities.¹

However, in this same Portland speech, President Roosevelt stated that "as a broad general rule the development of utilities should remain, with certain exceptions, a function for private initiative and private capital." The exceptions were state-owned and Federal owned

¹Commercial and Financial Chronicle, September 24, 1932, p. 2091.

power sites which should be developed by government itself. But at that time he believed private companies should undertake the distribution of this governmentally produced power.

In his Milwaukee speech, Roosevelt advanced his "birchrods in the cupboard" or yardstick theory of regulation. One birchrod was the government development of great water-power resources and the other the principle of public policy which would allow any community to engage in the supplying of electricity if such community believed they were unable to obtain adequately low rates or good service from a private company. A forerunner of his distaste for legalistic interpretations was shown in his declaration that the "so-called reproduction theory (of rate making) is wholly unsound and we must substitute for this a rate base which rests on the theory of prudent investment".¹

The president's determination to secure cheaper electricity has often been reiterated. This may be illustrated by his speech at the dedication of Boulder Dam on September 30, 1935: "Such works as this serve as a means of making useful other national possessions. Vast deposits of precious metals are scattered within a short distance of where we stand today. They await the development of cheap power. These great government power projects will affect not only the development of agriculture and industry and mining in this section they serve, but they will prove useful yardsticks to measure the cost of power throughout the United States."²

And again when welcoming the Third World Power Conference on September 11, 1936: "We are going to see, I believe, with our own eyes electricity and power made so cheap that they will become a standard

¹Commercial and Financial Chronicle, October 8, 1932, p. 2427.

²Ibid, October 5, 1935, p. 2208.

article of use not only for agriculture and manufacturing, but also for every home within reach of an electric light line. The experience of those sections of the world that have cheap power proves very conclusively that the cheaper the power the more of it is used.¹

President Roosevelt's interest in national planning was expressed on September 19, 1936 when he favored: "Cooperative pooling of power facilities within each region - federal projects, privately owned utilities, municipal plants - through use of existing transmission lines to smooth out peaks and valleys of separate system operations, to reduce the amount of necessary reserve capacity, and to postpone the need for new generating facilities. Power could be made available throughout great regions at wholesale rates as low as in the Tennessee Valley."²

And again on June 3, 1937 when he asked for seven new regional authorities similar to the Tennessee Valley Authority and designed as bases for the formation of a Federal system for hydro-electric power projects.³

A possible shift in President Roosevelt's attitude was seen in the fall of 1937, when on November 9, after a power conference, he indicated that he was giving serious thought to the construction problem and the opportunity presented by the status of the electric utilities. There the greatest single need for building and expansion existed, but the utilities had been reluctant because of fear of government competition. Roosevelt intimated that the utilities might take the first step by reorganizing their capital structures and paring down the valuations on which rates were based. If this were done, private companies might expect less competition from the Federal government.⁴

¹Ibid, September 12, 1936, p. 1650.

²Ibid, September 26, 1936, p. 1972.

³Ibid, June 5, 1937, p. 3762.

⁴Ibid, November 13, 1937, p. 3131.

Utility Industry's Attitude

In answer to the President's determination to establish Federal projects as yardsticks in various sections of the country, the utility industry has vociferously responded with charges that the whole program was the opening wedge to government ownership of all utilities. The most ardent supporter of the utilities' cause has been Wendell L. Willkie, president of Commonwealth and Southern Corporation. He has charged three groups with being responsible for the agitation for government projects: First, those who have become enamored with European economic and social concepts and have sought their application to American life; second, those who appreciated that any industry which served 25 million customers was fair prey for political attack and demagogy in times of economic distress and who sought to capitalize this situation for their own advancement; and third, those who believed that in the years prior to 1929 such grave abuse arose in the public utility business that the industry was but receiving its fair measure of punishment and that these abuses could be corrected by no other method than the entry of government into the business.

Mr. Willkie has contended that the traditional function of government has been to regulate rather than to absorb and commandeer private business, or stifle and strangle it by vieing with it as a competitor. He has quoted Thomas Edison who stated: "There is far more danger in public monopoly than there is in private monopoly, for when the government goes into business it can always shift its losses to the taxpayers. If it goes into the power business it can pretend to sell cheap power and then cover up its losses. The government never really goes into business, for it never makes ends meet, and that is the first requisite of business. It just mixes a little business with a lot of politics and no one ever gets a chance to find out what is actually going on."¹

¹Address on January 21, 1935, in New York.

Other arguments of the utility executives tend along the same line. The management and operation of business is not compatible with the functions of democratic government. Politics enters into government ownership. Invention, growth, and development are fostered by a system of government which places a minimum of restriction on private enterprise. The electric light and power industry in America from its inception has been in the forefront of invention and technical development, in commercial enterprise, in business organization and in management. Stagnation and lack of progress in methods of business have always marked the course of government bureaus. If the leadership of private enterprise were removed, stagnation would set in.¹

Another leader has said that the most tragic consequence of government competition is that there can be no cordial cooperation from the people and no instinctive respect for a competitor which uses its victims' taxes and its dominant advantages in furtherance of competitive business. When the government lays aside its governmental functions and its sovereignty and in the conduct of proprietary business uses public funds produced by its competitors, asserts the power of eminent domain, engages in propaganda, abuse, and public deception, and practices espionage, there can be no respect for that agency.²

It is interesting to note that the complaint of the private utilities has as its basis the accusation that the New Deal power program is a prelude to government ownership, in other words, to government in business. All the old truisms of inefficiency, politics, stagnation, and propaganda are reiterated. Mr. Stuart Chase has discussed a study made as far back as 1914 by Mr. Sidney Webb and his associates in the

¹The Case for Private Ownership of Electric Utilities, Edison Electric Institute, 1936, pp. 1-7.

²Address by Forney Johnston, in Birmingham, Alabama, November 19, 1934.

Fabian Society of London, which concluded: "In face of the widespread incursion of state and municipal governments over the world into so many different departments of industry - continued for a whole century and steadily increasing in volume with growing experience of the results - it is, we think, only of academic interest to discuss the question of whether or not government enterprise can be deemed successful. No such abstract question can be properly put or answered."¹

Thus if we effectively eliminate the utilities' main plea that private ownership must be allowed to exist with the exclusion of all government ownership, we find that all they have left is a plea for fair government competition. The main theme of this thesis will be an attempt to discover whether the various government projects are providing fair competition for private interests.

¹Chase, Stuart, Government in Business, The MacMillan Company, New York, 1935, p. 72.

A FAR-FLUNG DAM BUILDING PROGRAM

The St. Lawrence Waterway and Power Project

The state of New York provides an ample market for electricity. It has more residential consumers of electricity than the total of 15 southern states.¹ Private companies now supply New York power needs, principally the Niagara and Hudson system.

The St. Lawrence River offered a potential output of power, but it also offered a variety of interests: Canada, the United States, and the state of New York. In 1932, under President Hoover, a treaty was signed between Canada and the United States providing for the development of a waterway system between the Great Lakes and the Atlantic via the St. Lawrence. In March, 1934, the treaty failed of ratification by the United States Senate. Needless to say, from 1934 to 1937 there was much marshalling of various interests, but by 1937 the treaty appeared to be relatively a dead letter. President Roosevelt, however, has been an ardent supporter of the project. On June 8, 1933, in a letter to Senator LaFollette, he endorsed the resolution passed by the House which would have awarded all power rights to New York in return for expenditures by that state of approximately 89 million dollars to pay the Federal government's share of the cost of the power project.² On September 16, 1936, in a letter to the National Seaway Council he expressed the belief that the next session of the Senate would ratify the treaty with Canada, a consumation which has not been achieved.³

The New York State Power Authority was created in April, 1931 to protect the interests of the people in the St. Lawrence power potentialities. The Power Authority comprised five trustees appointed by the

¹Ostrolenk, Bernhard; op. cit., p. 112.
²Commercial and Financial Chronicle, June 17, 1933, p. 4191.
³Ibid, September 19, 1936, p. 1796.

governor. It was given authority: to build dams, power houses and to erect transmission lines; to sell to municipalities; and in general to develop, maintain, and operate the property under its control, i.e. all property rights of the state of New York within the international section of the St. Lawrence. This state body in a sense paralleled the authority and work of the Tennessee Valley Authority. It has not been idle while waiting for the international aspects of the problem to be cleared up. It has arranged to handle America's share of St. Lawrence power - 1,000,000 horsepower - and will pay for the property necessary to produce power, plus half the cost of works jointly required for power and navigation.¹ The Authority has also made elaborate studies of possible rate bases in the St. Lawrence area and has made studies of state-wide power resources and their coordination.

The Federal Power Commission has estimated that there is a potential output of $7\frac{3}{4}$ billion kilowatt hours of power at the St. Lawrence River, and that the region now served by private companies faces a shortage of at least 600,000 kilowatt hours on the resumption of a pre-depression rate of industrial activity.²

It does not seem worth while to go further into the St. Lawrence project. The province of Ontario has informed the Dominion government that it has all the electric power it needs for some time to come, and so Canada will not press for ratification of the treaty. Most observers seem to agree that there is small likelihood of its passage by our Congress in the near future. However, an estimate of the probable cost of the project is included as Table 4.

¹Ostrolenk, Bernhard; op. cit., p. 120.

²Federal Power Commission, Interim Report, Power Series, No. 1; pp. 28 and 35.

TABLE 4
 Cost of Great Lakes-St. Lawrence Seaway and of Power Project in
 International Section of St. Lawrence

	United States	Canada
Total Expenditures	\$272,453,000	\$270,976,000
Amounts Already Spent, Welland Canal	<u>14,461,000</u>	<u>128,000,000</u>
New Funds Required	\$257,992,000	\$142,976,000
Share of N. Y. & Ontario Power Projects	<u>89,726,000</u>	<u>104,133,000</u>
Balance Required	\$168,266,000	\$ 38,842,000

Source: Moody's Public Utilities, 1937, p. a40.

Boulder Dam

Boulder Dam, although not a New Deal project, must be considered in any study of the Federal power program, because it was essentially a Federal undertaking and because it was to serve as the southwestern yardstick in the nation-wide system of measuring private electricity rates.

The project began in 1922 when the 6 states Colorado River Compact was signed, paving the way for Federal aid. In 1928 Congress enacted the Boulder Canyon Project Act, and in 1929, President Hoover declared the compact and the Act effective.¹ Much preliminary study and controversy preceded the building of the dam and it was the only Federal project which resulted in a very definite construction program with water and power allocations agreed to and rates fixed before actual building began. The purposes of the undertaking were: (1) Controlling the floods, improving navigation, and regulating the flow of the Colorado River; (2) providing for storage and for the delivery of the stored waters for reclamation of public lands and for other beneficial uses exclusively within the United States; and (3) for the generation of electrical energy as a means of making the project self-supporting and financially solvent.²

¹Arizona refused to sign the Compact, and carried to the Supreme Court a suit attacking the Boulder Canyon Project Act of 1928 as an unconstitutional attempt of Congress to allocate Colorado River water and Boulder Dam power. This suit was dismissed by the Supreme Court on May 18, 1931. The Court held the Act and procedure under it to be valid in accordance with the constitutional right of Congress to control navigable rivers.

²Engineering News Record, November 29, 1934, p. 686.

Cost of Great Lakes-St. Lawrence Seaway and of Power Project in International Section of St. Lawrence

Canada	United States	Total Expenditures
\$270,976,000	\$272,452,000	
<u>128,000,000</u>	<u>14,481,000</u>	Accounts Already Spent, Welland Canal
\$142,976,000	\$287,932,000	New Funds Required
<u>104,132,000</u>	<u>89,758,000</u>	Share of N. Y. & Ontario Power Projects
\$38,844,000	\$188,256,000	Balance Required

Source: Moody's Public Utilities, 1937, p. 260.

Boulder Dam

Boulder Dam, although not a New Deal project, must be considered in any study of the Federal power program, because it was essentially a Federal undertaking and because it was to serve as the southwestern yardstick in the nation-wide system of measuring private electricity rates. The project began in 1922 when the 67th Congress enacted a pact was signed, paving the way for Federal aid. In 1923 Congress enacted the Boulder Canyon Project Act, and in 1925, President Hoover declared the compact and the Act effective.¹ Much preliminary study and controversy preceded the building of the dam and it was the only Federal project which resulted in a very definite construction program with water and power allocations agreed to and rates fixed before actual building began. The purposes of the undertaking were: (1) Controlling the floods, improving navigation, and regulating the flow of the Colorado River; (2) providing for storage and for the delivery of the stored waters for reclamation of public lands and for other beneficial uses exclusively within the United States; and (3) for the generation of electrical energy as a means of making the project self-supporting and financially solvent.²

¹Arizona refused to sign the Compact, and carried to the Supreme Court a suit attacking the Boulder Canyon Project Act of 1923 as an unconstitutional attempt of Congress to allocate Colorado River water and Boulder Dam power. This suit was dismissed by the Supreme Court on May 18, 1931. The Court held the Act and procedure under it to be valid in accordance with the constitutional right of Congress to control navigable rivers.

²Engineering News Record, November 22, 1924, p. 686.

No Federal funds were made available for the dam until contracts had been signed for the sale of power which would ensure payment of all Federal expenditures at 4% interest in less than 50 years. A careful allocation of water and power to the various states was also worked out.

It was expected that more storage dams would be built later on the Colorado. Whether or not the site of Boulder was the best for the first unit, it definitely served a flood protection purpose to the states below it, and it was located at a point where sufficient fall of water was available to generate power.

Irrigation of the Imperial Valley was the prime consideration of Boulder Dam. Power and flood control were secondary, for no one dam could supply equal amounts of all. Power was to finance the project, but water was never to be stored purely for power development.

Allocation of the Federal grant for Boulder was as follows:

Dam and reservoir	\$ 70,600,000
Power plant	38,200,000
All-American Canal	38,500,000
Interest charges	<u>17,700,000</u>
	\$165,000,000

A main canal entirely on American soil had always been the aim of Imperial Valley irrigationists, because of the numerous disputes over the one which ran through Mexican territory for 50 miles. For this reason, in the Boulder Canyon Act provision was made for the construction of a main canal from the Colorado River to the Imperial and Coachella valleys. The entire cost to the government was to be repaid by the water users within 40 years.

Bids were received for Boulder power in 1929. At that time the city of Los Angeles and the Southern California Edison Company applied for all of the power to be generated, so that it seemed at the time as if

ample markets were available. Estimates of the total power available set the figure at 4,240,000,000 kilowatt hours annually. The policy was to sell the rights to use falling water in the generation of power, the time, rate, and total quantity of falling water delivered to be controlled by Federal authorities. Generating equipment in the power houses was to be installed by the government. The purchasers of power were to operate and maintain this equipment and to repay its cost plus 10% in ten years. The Southern California Edison Company was appointed the agency for transmitting the power to be used by other private companies and the city of Los Angeles was to act for the smaller communities. The Metropolitan Water District was to own the transmission lines over which energy was to be delivered at 220,000 volts for aqueduct pumping purposes. Allocations made in 1929 were as follows:¹

	%	Kilowatt Hours per Annum
Metropolitan Water District	36	1,526,400,000
Arizona	18	763,200,000
Nevada	18	763,200,000
City of Los Angeles	13	551,200,000
Southern California Edison	9	381,600,000
Three small cities	6	254,400,000

The expected revenue from power was estimated to be \$7,200,000 a year or \$361,000,000 for the 50-year period, an amount greatly in excess of the original cost. After the original cost was paid, the excess over maintenance and operation was to go 18 $\frac{3}{4}$ % to Arizona, 18 $\frac{3}{4}$ % to Nevada, and the remaining 62 $\frac{1}{2}$ % to the Federal government to be spent on flood control and further development of the Colorado River.

As indicated above, bids for power were made in 1929. With the ensuing depression, the need for power fell off sharply. In addition, Boulder was finished two years ahead of schedule. Then too, in 1934 there was an extremely low runoff from the Colorado Basin (20% of the

Ibid, p. 690.

average for the preceding 32 years) and all this raised serious questions about the economics of the power market. If the source of power in southern California were all steam, it might be economical to switch to Boulder hydro power, but of the sources serving Los Angeles the installed capacity is about half hydro and half steam. Present power requirements in southern California are not being met by the installed capacity with an average load of about 30% of the potential capacity of the installed generating equipment. On the low runoff question, experts have contended that the Colorado never had two successive years of low runoff, but when it is realized that the Act requires storage of 7,500,000 acre feet before any power is generated and in 1934 there was no surplus water, it is seen that the estimate of future revenue from power sales may not be accurate.

It is interesting to note that the Federal Power Commission's National Power Survey conducted in 1935 estimated a potential power shortage of 200,000 kilowatt hours in southern California with a return to normal business activity.

Figures concerning the power allotments, costs of power, and estimated annual repayments are shown in the following two tables:

TABLE 5
Allotments and Repayments
Firm Power Contracts Annual Payments
Kilowatt Hours at 1.63 mills

Southern California Edison, Los Angeles, Los Angeles Gas & Electric, Southern Sierras Power, Pasadena, Glendale, Burbank, Metropolitan Water District	4,330,000,000	\$7,050,000
---	---------------	-------------

Expected from dump power - \$775,000 additional; income plus water sales to repay government for cost at 4% interest. Cost of \$165,000,000, return of \$104,000,000, and \$31,200,000 to Arizona and Nevada respectively, expected to be realized in 50 years.

Source: Electrical World, August 17, 1935, p. 52

TABLE 6
Cost of Electric Energy at Boulder

	50% Load	75% Load	100% Load
Charge for falling water	1.63	1.63	1.63
Cost of Generation			
Operating & Maintenance	.103	.067	.052
Interest at 4.75%	.304	.203	.152
Depreciation	.113	.075	.056
Amortization at 1.107%	<u>.071</u>	<u>.047</u>	<u>.036</u>
Total cost (Mills)	2.220	2.020	1.930

Generating Capabilities of Southern California Systems
All Companies
and Cities

Installed		1,373,898
Output Capability - Energy	4,620,000,000	
Boulder Dam		
General Capability		1,317,500
Firm Power	4,328,600,000	
Capability Output	8,950,400,000	
Output in 1933	3,772,000,000	

Southern California Edison and Los Angeles Gas and Electric can generate at steam for 3.5 mills. With power from Boulder at 2 mills, plus transmission losses of 10%, and transmission costs over the 275 miles (estimated at 1 mill), steam can compete as long as the loads do not tax existing facilities.

Source: Electrical World, August 17, 1935, p. 53.

To complete the picture of the Colorado development, mention should be made of Parker Dam, being built for the Metropolitan Water District. It was not a part of the Boulder project, but it was built simultaneously about 150 miles below Boulder by the Bureau of Reclamation. It formed the pool from which water was to be pumped from the Colorado into the aqueduct of the Water District of Southern California. The government has the right to one-half the power privileges at Parker for use in the irrigation and drainage of lands in Arizona within the Colorado River Indian reservation and the Parker-Gila irrigation project. The District has the right to the other half of the power privileges for developing energy to be used in pumping water into the Colorado River aqueduct. The total cost of this dam was estimated at \$13,000,000.

Boulder Dam was the greatest concrete dam ever attempted by man. It is 727 feet high, and was formally opened on September 11, 1936,

by President Roosevelt. The dam backs up water in a natural reservoir forming a huge lake. This reservoir began filling on February 1, 1936, when the gate on the last remaining tunnel was closed. The dam was turned over the Federal government on February 29 by the construction companies who received \$54,500,000.¹

As far as the economics of Boulder Dam are concerned, the market for power lies primarily in the continued growth of southern California. The original contracts have been amended because of the depression. For instance, Glendale, Pasadena, and Burbank may take 50% of their allotment the first year, 70% the second, 85% the third, and thereafter the full amount. The Southern California Edison Company may take only 55% of its allotment in either 1938 or 1939.² It seems fair to conclude that the area will absorb the power eventually, and if the full market is deferred five to ten years longer than anticipated, the net loss to the government will be the interest on the investment in the unused portion of the power plant. Boulder Dam therefore, may be considered the one Federal project with a sound economic basis.

Tennessee Valley

Origins

The Tennessee Valley experiment is one of the most far-reaching and significant segments of the far-flung dam building program and economic rehabilitation aspirations of the Federal government. For this reason considerable attention must be given its origins, development, and present status in order to evaluate adequately the many-sided aspects of this Federal power, flood, and navigation development.

Muscle Shoals is a 37 mile stretch of rapids in the Tennessee River in northern Alabama. The first Federal attention to this spot was

¹Commercial and Financial Chronicle, March 7, 1936, p. 1567.

²Electrical World, August 17, 1935, p. 54.

in 1824 when President Monroe recommended a survey of the Shoals as one important aspect of transportation development in the United States. It is not essential to elaborate on the canal which was built, and its eventual disuse, nor on the expenditure of large sums of money, for none of the plans bore fruit. Electric power as an adjunct was first suggested in 1903 when the Federal government refused permission for a private company to build a power plant. During the World War, President Wilson, desiring a good location for the cheap manufacture of fertilizers, forwarded the building of such plants at Muscle Shoals. Some \$65,000,000 was spent, but improvements in fertilizer manufacture and the close of the War made these plants obsolete and never-used white elephants. In addition to the nitrate plants, a power plant was built, and the power from this plant was sold to the Alabama Power Company from 1925 to 1934, with a revenue of approximately \$5,500,000. Much backing and filling over the project occurred during the 1920's, highlighted by Henry Ford's offer to lease the development and pay 4% interest on the cost of completing Wilson Dam and of building Wheeler Dam. As a result of political squabbles, a century of activity at Muscle Shoals ended in 1932 with two nitrate plants costing \$65,000,000, and a dam and steam power plant costing \$60,000,000.

Creation of the Tennessee Valley Authority

Shortly after his inauguration in 1933, President Roosevelt asked Congress to create the Tennessee Valley Authority, a "corporation clothed with the power of government, but possessed of the flexibility and initiative of private enterprise". The original act was passed in May, 1933 authorizing the Authority and approving the appointment of Dr. Arthur E. Morgan of Antioch College as chairman, Dr. Harcourt A. Morgan, president of the University of Tennessee, and David E. Lilienthal, a member of the Wisconsin Public Service Commission. The President

made available an appropriation of \$50,000,000 on July 6.¹

Purposes of the Authority

In his original message to Congress asking for the Authority, President Roosevelt stated the following purposes: "The continued idleness of a great national investment in the Tennessee Valley leads me to ask the Congress for legislation necessary to enlist this project in the service of the people.....It is clear that the Muscle Shoals development is but a small part of the potential public usefulness of the entire Tennessee River. Such use, if envisioned in its entirety, transcends mere power development; it enters the wide fields of flood control, soil erosion, afforestation, elimination from agricultural use of marginal lands, and distribution and diversification of industry. In short, this power development of war days leads logically to national planning for a complete river watershed involving many States and the future lives and welfare of millions. It touches and gives life to all forms of human concerns."²

Some of the fields in which work is being done are outlined in a pamphlet issued by the Authority:

Land classification, improvement of agriculture, and proper utilization of marginal lands.

Coordination of agriculture and industry along practical lines.

Development of domestic industries to supplement agriculture in providing local employment. An effort to achieve a balance between mass-production industry based on raw materials and cheap power, small "quality" industries based on the large supply of intelligent labor, and industries for home consumption.

Development of the power resources of the Tennessee Valley watershed as an integrated system.

Utilization of the power resources of the Tennessee Valley as a yardstick in determining the relative costs of public and private power operation; distribution of this power to the greatest number of people at the least possible cost, and conservation of its national defense assets.

¹Saturday Evening Post, October 16, 1937, pp. 27, 77, 79.

²Pamphlet distributed by the Tennessee Valley Authority.

Experiments leading to the production of more and better fertilizer and fertilizer materials for the United States.

Opening the Tennessee River to an economic maximum of navigation.

Maximum flood control.

Promotion of reforestation and methods of retarding soil erosion.

Conservation and utilization of the basin's mineral and other natural resources.

Dr. Harcourt A. Morgan has stated other reasons for the choice of the Tennessee Valley as a laboratory experiment in national planning, in addition to the huge investment in Muscle Shoals already built. In a radio address given at Washington on September 26, 1934, he said:

.....the Tennessee River watershed starts up in the western end of Virginia and sweeps southwestward in a wide arc across western North Carolina and eastern Tennessee, northern Georgia, northern Alabama, and a corner of northeastern Mississippi, only to swing north again across Tennessee and Kentucky, and finally to flow into the Ohio River at Paducah, Kentucky.

The elevation in this valley varies from 250 feet above sea level to about 6,000. The climate runs all the way from that of the Great Lakes in the mountain sections to subtropical in the cotton country of the Gulf States. Two million people inhabit its 42,000 square miles and another four million reside in the territory immediately influenced by the valley. They can raise anything that grows between Canada and the Gulf of Mexico. The mineral resources of the valley are rich and varied, and the rainfall is heavy, running from 50 to 80 inches per year. Tremendous hydro-electric possibilities are latent in the large rivers that drop sharply as they bear the rainfall down through this valley.

No other comparable area in the United States offers the diversity of climate, of soil, of vegetation, and of resources which we find in the Tennessee Valley. It is the perfect laboratory for an attempt which is of vital concern to the future of every one of us.

Original Act and Amendments

What powers were conferred on the Authority to carry out the varied purposes outlined above? To quote briefly from the original Act:

.....the Corporation--

- (a) Shall have succession in its corporate name.
- (b) May sue and be sued in its corporate name.

(c) May adopt and use a corporate seal, which shall be judicially noticed.

(d) May make contracts.....

(e) May adopt, amend, and repeal bylaws.

(f) May purchase or lease and hold such real and personal property as it deems necessary or convenient in the transaction of its business.....

(h) Shall have power in the name of the United States of America to exercise the right of eminent domain, and in the purchase of any real estate or the acquisition of real estate by condemnation proceedings, the title to such real estate shall be taken in the name of the United States of America.....

(i) Shall have power to acquire real estate for the construction of dams, reservoirs, transmission lines, power houses, and other structures, and navigation projects at any point along the Tennessee River, or any of its tributaries.....

(j) Shall have power to construct dams, reservoirs, power houses, power structures, transmission lines, navigation projects, and incidental works in the Tennessee River and its tributaries, and to unite the various power installations into one or more systems by transmission lines.

Sec. 5. The board is hereby authorized--

(a) To contract with commercial producers for the production of such fertilizers...as may be needed in the Government's program.....

(j) Upon the requisition of the Secretary of War or the Secretary of the Navy to manufacture for and sell at cost to the United States explosives or their nitrogenous content.

(k) Upon the requisition of the Secretary of War the Corporation shall allot and deliver without charge to the War Department so much power as shall be necessary in the judgment of said Department for use in operation of all locks, lifts, or other facilities in aid of navigation.

(l) To produce, distribute, and sell electric power, as herein particularly specified.

Sec. 10. The board is hereby empowered and authorized to sell the surplus power not used in its operations, and for operation of locks and other works generated by it, to States, counties, municipalities, corporations, partnerships, or individuals, according to the policies hereinafter set forth; and to carry out said authority, the board is authorized to enter into contracts for such sale for a term not exceeding 20 years, and in the sale of such current by the board it shall give preference to States, counties, municipalities, and cooperative organizations of citizens or farmers, not organized or doing business for profit, but primarily for the purpose of supplying electricity to its own citizens or members.....

Sec. 11. It is hereby declared to be the policy of the Government so far as practical to distribute and sell the surplus power generated at Muscle Shoals equitably among the States, counties, and municipalities within transmission distance. This policy is further declared to be that the projects herein provided for shall

be considered primarily as for the benefit of the people of the section as a whole and particularly the domestic and rural consumers to whom the power can economically be made available, and accordingly that sale to and use by industry shall be a secondary purpose, to be utilized principally to secure a sufficiently high load factor and revenue returns which will permit domestic and rural use at the lowest possible rates and in such manner as to encourage increased domestic and rural use of electricity.....

Sec. 12. In order to place the board upon a fair basis for making such contracts and for receiving bids for the sale of such power, it is hereby expressly authorized, either from appropriations made by Congress or from funds secured from the sale of such power, or from funds secured by the sale of bonds... to construct, lease, purchase, or authorize the construction of transmission lines within transmission distance from the place where generated, and to interconnect with other systems. The board is also authorized to lease to any person, persons, or corporation the use of any transmission line owned by the Government and operated by the board.....

Sec. 13. Five per centum of the gross proceeds received by the board for the sale of power generated at Dam Numbered 2, or from any other hydro-power plant hereafter constructed in the State of Alabama, shall be paid to the State of Alabama; and 5 per centum of the gross proceeds from the sale of power generated at Cove Creek Dam, hereinafter provided, or any other dam located in the State of Tennessee, shall be paid to the State of Tennessee.¹

In August, 1935, the Tennessee Valley Act was amended and provided: Authority to loan to states and municipalities for the purchase of power distributing systems; authority to issue up to \$50,000,000 in bonds for such loans and for the Authority's expenses; authority to construct lines even if they duplicated existing facilities, and the Authority did not need to try first to buy out private lines; authority given the Comptroller General to audit the books of the Authority, but he must pay for it from his own funds and must submit his report to the Authority first before making it public; permission to regulate power resale rates; and permission to buy without competitive bidding in emergencies.

¹ Tennessee Valley Authority Act of 1933, H.R. 5081, pp. 3-5, 7-9.

The initial aspects of the Tennessee Valley experiment have been considered. The purposes of the Act and the powers of the Authority have been delineated. The rest of this section will concentrate on the power features of the undertaking, ignoring the many other fields of endeavor, simply because space forbids a consideration of them.

Government Propaganda

The Authority has done a good job of selling its power program by the use of pamphlets, radio broadcasts, articles, speeches, and the press. The power policy of the Tennessee Valley Authority was laid down in a series of articles by Dr. Arthur E. Morgan in the Survey Graphic as follows:

1. The business of generating and distributing electric power is a public business.
2. Private and public interests in the business of power are of different kind and quality and should not be confused.
3. The interest of the public in the widest possible use of power is superior to any private interest. Where the private interest and this public interest conflict, the public interest must prevail.
4. Where there is a conflict between public interest and private interest in power which can be reconciled without injury to the public interest, such reconciliation should be made.
5. The right of a community to own and operate its own electric plant is undeniable. This is one of the measures which the people may properly take to protect themselves against unreasonable rates. Such a course of action may take the form of acquiring the existing plant or setting up a competing plant, as circumstances may dictate.
6. The fact that action by the Authority may have an adverse economic effect upon a privately owned utility, should be a matter for serious consideration of the Board in framing and executing its power program. But it is not the determining factor. The most important considerations are the furthering of the public interest in making power available at the lowest rate consistent with sound financial policy, and the accomplishment of the social objectives which low-cost power makes possible. The Authority cannot decline to take action solely upon the ground that to do so would injure a privately owned utility.
7. To provide a workable and economic basis of operations, the Authority plans initially to serve certain definite regions and to develop its program in those areas before going outside.

8. The initial areas selected by the Authority may be roughly described as:

(a) The region immediately proximate to the route of the transmission line soon to be constructed by the Authority between Muscle Shoals and the site of Norris Dam.

(b) The region in proximity to Muscle Shoals, including northern Alabama and northeastern Mississippi.

(c) The region in proximity to Norris Dam.

At a later stage in the development it is contemplated to include, roughly, the drainage area of the Tennessee River in Kentucky, Alabama, Georgia, and North Carolina, and that part of Tennessee which lies east of the west margin of the Tennessee drainage area.

To make the area a workable one and a fair measure of public ownership, it should include several cities of substantial size such as Chattanooga and Knoxville and, ultimately at least one city of more than a quarter million, within transmission distance, such as Birmingham, Memphis, Atlanta, or Louisville.

While it is the Authority's present intention to develop its power program in the above-described territory before considering going outside, the Authority may go outside the area if there are substantial changes in general conditions, facts or governmental policy, which would necessarily require a change in this policy of regional development, or if the privately owned utilities in the area do not cooperate in the working out of the program.

Nothing in the procedure here adopted is to be construed in any sense a commitment against extending the Authority's power operations outside the area selected, if the above conditions or the public interest require. Where special considerations exist, justifying the Authority going outside this initial area, the Authority will receive and consider applications based on such special considerations. Among such considerations would be unreasonably high rates for service and a failure or absence of public regulation to protect the public interest.

9. Every effort will be made by the Authority to avoid the construction of duplicate physical facilities or wasteful competitive practices. Accordingly, where existing lines of privately owned utilities are required to accomplish the Authority's objectives, as outlined above, a genuine effort will be made to purchase such facilities from the private utilities on an equitable basis.

10. Accounting should show detail of costs and permit of comparison of operations with privately owned plants, to supply a "yardstick" and an incentive to both private and public managers.

11. The accounts and records of the Authority as they pertain to power will always be open to inspection by the public.¹

Attitude of the Utilities

The attitude of the utilities is perhaps best expressed by an advertisement, which appeared in the Boston Traveller of January 6,

¹P. 13 of a reprint from Survey Graphic, Jan., Mar., May, Nov., 1934, and March, 1935.

1937, under the heading "Cost of an Unsolved Problem", and over the signature of Wendell L. Willkie, President of the Commonwealth and Southern Corporation. This utility system, serving areas in Michigan, Ohio, Illinois, Indiana, Pennsylvania, Georgia, Florida, Mississippi, South Carolina, Alabama, and Tennessee is perhaps most vitally concerned with the Tennessee Valley Authority, and Mr. Willkie has devoted much of his time since its inception to attacking it in articles, pamphlets, speeches, and radio talks. A few figures from this advertisement indicate the nature of the system's complaint:

The Commonwealth and Southern system is made up of 6 southern companies and 5 northern companies. Approximately the same number of electric customers are served by each group. Under an aggressive uniform merchandising policy, the companies sold to their customers more than \$18,000,000 of household appliances, \$8,600,000 by the southern companies and \$9,800,000 by the northern companies. In the south the increase over 1935 in the sale of such appliances was $7\frac{1}{2}\%$ and in the north it was $40\frac{1}{2}\%$, although equal efforts were made in each area.

The retarding effect of the Tennessee Valley Authority is further shown in a comparison of the increase in the sale of electric energy for industrial use from 1933 to 1937: northern companies increased 52% and southern companies 18.3%. There is no surer method of discouraging the additional investment of capital in a community and the location of new industries there than to have capital already invested jeopardized by governmentally subsidized competition and socialization.

During the last two years the northern companies have been able to refund over \$250,000,000 of their senior securities at prevalent low rates while southern companies, under impending threat of competition and duplication by the Tennessee Valley Authority, have been wholly unable to so refund. Moreover, their preferred stocks are selling as much as 40% below par despite the fact that dividends have been regularly paid and there has been a substantial increase in the business of each of these companies.

Construction budgets for 1937 reveal a strong contrast; northern companies have budgeted approximately \$25,000,000 for new construction; in the south, \$16,000,000 is the figure although requirements there are about \$33,000,000.

The average domestic rate in the entire Commonwealth and Southern system has declined from 5.19 cents per kilowatt hour in 1932 to 3.43 cents in November, 1936. Rates of Commonwealth and Southern companies in each of the 11 states in which they operate are substantially lower than the average for the state.

It would be possible to go on with quotations from immense quantities of material published by the private utilities. But this sample is indicative of their attitude.

The Tennessee Valley Yardstick

An accounting and statistical analysis of the three annual reports of the Authority so far published is helpful in an examination of the so-called "yardstick to measure private operation". In the first place, if the Tennessee Valley Authority is a corporation "clothed with the flexibility and initiative of private enterprise", one may well advance the question: Why are not the annual reports put out in the same form as that of a private utility? A private company in its annual report would present a consolidated statement to give the reader some idea of the whole picture of utility operations for the year. But the Tennessee Valley Authority gives statements of its activities alone, and includes separate statements of the various towns and cooperatives taking power. In the report for the fiscal year ended June 30, 1935, income statements for 7 of these were included. In the report for June 30, 1936, income statements and balance sheets for 9 of the associations were included, although at that time power from Wilson Dam was being distributed in 11 communities, to 6 cooperatives, and to 6 temporary direct operations, or a total of 23 areas. Of course, private companies do not give separate statements for all their subsidiaries, but if the Tennessee Valley Authority is not going to publish a consolidated statement, why should it not include its subsidiaries - all of them? Inasmuch as in both 1935 and 1936, the statements presented showed net incomes for all subsidiaries, one may well wonder if the statements not shown were those showing a loss on

operations. Another comment is to the effect that the balance sheet, as it is called in the 1935 report, and the statement of application of funds, as it is called in the 1936 report, seem to have several discrepancies, which are not explained. For instance, in the 1935 report, the total assets to June 30, 1935 were \$78,340,604.01. In the next year's report, this cumulative total was brought over at \$78,353,940.04. The difference is only \$13,336.03, it is true, but an explanation would seem called for.

The reports have been combined and in Table 7 is set up the Tennessee Valley Authority's balance sheets and supporting schedules for the first three years of its operation.

TABLE 7
Tennessee Valley Authority-Balance Sheets and Supporting Schedules
for the Fiscal Years ending June 30

	1934	1935	1936
Assets*			
Net investment in programs:			
Navigation & flood control	\$ 9,506,446	\$31,678,792	\$40,104,701
Electricity - No. 2 below	1,301,813	1,840,639	4,263,611
National defense	557,611	1,022,007	708,459
Fertilizer & agricultural development	540,395	1,621,328	2,669,078
Regional studies, experiments, & demonstrations	81,267	337,230	456,391
Total	<u>\$11,987,533</u>	<u>\$36,499,995</u>	<u>\$48,202,241</u>
General equipment & inventory (net)	450,713	243,517	380,994
Undistributed administrative & service expense (net)	21,316	254,565	150,566#
Appropriations not advanced	37,724,083	25,736,495#	5,139,336
Cash with TVA treasurer & in transit	1,061,541	15,711,614	15,777,089#
Accounts receivable	153,656	31,434#	154,351
Total assets	<u>\$51,398,842</u>	<u>\$26,941,762</u>	<u>\$37,949,267</u>
Liabilities			
Appropriations:			
4th Deficiency Act of 1933	\$50,000,000	...	...
Emergency Appropriation Act of 1935	...	\$25,000,000	...
2nd Deficiency Act of 1935	...	...	\$36,000,000
Total	<u>\$50,000,000</u>	<u>\$25,000,000</u>	<u>\$36,000,000</u>

*Do not include properties received from War Department on which valuation has not as yet been established.

#Represents credits; deduct.

	1934	1935	1936
Brought forward	\$50,000,000	\$25,000,000	\$36,000,000
Realized from properties transferred*(TVA Act 1933, Sec. 7)	226,621	202,259	328,188
Payables & other liabilities	<u>1,172,221</u>	<u>1,739,503</u>	<u>1,621,079</u>
Total appropriations and liabilities	<u>\$51,398,842</u>	<u>\$26,941,762</u>	<u>\$37,949,267</u>

*Do not include properties received from War Department.

Schedule No. 2 - Net investment in programs: Electricity

A. Operations (net)	\$ 572,505*	\$ 183,935*	\$ 612,291*
B. Plant and equipment	1,874,319	1,984,329	4,733,592
C. Research & demonstrations	...	40,244	142,309
	<u>\$ 1,301,813</u>	<u>\$ 1,840,639</u>	<u>\$ 4,263,611</u>

*Represents net income: deduct.

Sub-Schedule No. 2-A - Net investment in programs: Electricity (operations)

Operating revenues			
Outside sales	\$ 825,560	\$ 368,511	\$ 827,589
Charges to other TVA activities	25,676	194,959	342,916
Total operating revenues	<u>\$ 851,235</u>	<u>\$ 563,469</u>	<u>\$ 1,170,505</u>
Operating expenses			
Production expense	\$ 121,465	\$ 169,901	\$ 203,247
Transmission expense	25,960	28,827	76,240
Commercial expense	...	14,351	9,296
Electrical development expense	1,582	46,775	57,889
General administrative expense	99,151	123,546	193,551
Total operating expenses	<u>\$ 248,158</u>	<u>\$ 383,399</u>	<u>\$ 540,224</u>
Net operating revenues	<u>\$ 603,078</u>	<u>\$ 180,070</u>	<u>\$ 630,281</u>
Revenue deductions			
Provision under Sec. 13-TVA Act	\$ 39,575	\$ 16,900	\$ 45,347
Rent for leased plant	...	...	150
Total revenue deductions	<u>\$ 39,575</u>	<u>\$ 16,900</u>	<u>\$ 45,497</u>
Net income from operating properties	<u>\$ 563,503</u>	<u>\$ 163,170</u>	<u>\$ 584,784</u>
Nonoperating income			
Interest earned	\$ 334	\$ 5,160	\$ 27,414
Miscellaneous	...	903	93
Total nonoperating income	<u>\$ 334</u>	<u>\$ 6,063</u>	<u>\$ 27,507</u>
Net income to reserve	<u>\$ 563,837</u>	<u>\$ 169,234</u>	<u>\$ 612,291</u>
Adjustments to reserve (net)	<u>8,668</u>	<u>14,701</u>	<u>...</u>
Total reserve for amortization, construction, interest & other purposes	<u>\$ 572,505</u>	<u>\$ 183,935</u>	<u>\$ 612,291</u>

Maintenance

Structures buildings & structures	2,302	2,302	2,302
Service facilities & grounds	2,000	2,000	2,000
Boilers and machinery	2,000	2,000	2,000
Water conduits and lines	2,000	2,000	2,000
Transportation and railroads	2,000	2,000	2,000
Ray and equipment	2,000	2,000	2,000
Water turbines and wheels	2,000	2,000	2,000
Other	2,000	2,000	2,000
Total	17,304	17,304	17,304

Sub-Schedule No. 2-B - Net investment in programs: Electricity
(plant and equipment)

	1934	1935	1936
Hydroelectric generating property	\$ 606	\$ 60,150	\$ 141
Steam & other generating property	54,442	9,270	3,291
Transmission lines & substations for dam construction & other purposes	296,384	916,563	3,434,929
Electric property acquisitions (net)*	735,367	105,511#	853,065
Rural lines (net)*	292,913	472,258	1,135,890
General equipment	31,630	53,748	14,382#
Inventories	422,308	574,980	708,454#
Undistributed plant expense	40,668	2,870	29,112
Total plant & equipment	<u>\$1,874,319</u>	<u>\$1,984,329</u>	<u>\$4,733,592</u>

*Includes deductions of repayments from power associations to which properties have been transferred.

#Deduct.

Sub-Schedule No. 2-C - Net investment in programs: Electricity
(research & demonstrations)

General studies	\$...	\$ 4,536	\$ 2,485
Electrical equipment for agriculture	...	13,914	37,320
Study of assessment & taxation of utility properties	...	...	7,286
Ceramics research	...	21,794	95,218
Total research & demonstrations	\$...	\$ 40,244	\$ 142,309

TABLE 8

Expenditures for the Generation of Power at Wilson Dam Hydroelectric
Plant for the Years Ending June 30, 1935, and June 30, 1936

	1935	1936
Operation		
Supervision & engineering	\$ 11,930	\$ 21,066
Advisory fees and expense	4	30
Generating stations	49,473	60,786
Other hydroelectric labor	12,191	6,420
Misc. operating labor	11,387	11,005
Lubricants	294	693
Supplies and expense	4,374	4,599
Total operation	<u>\$ 89,653</u>	<u>\$104,600</u>
Maintenance		
Station buildings & structures	\$ 6,380	\$ 5,002
Service facilities & grounds	1,329	6,025
Forebays and reservoirs	1,012	2,650
Water conduits and dams	547	4,108
Penstocks and tailraces	98	356
Way and equipment	140	107
Water turbines and wheels	1,339	4,204
Main generators	2,496	6,729
Carried forward	<u>\$ 13,341</u>	<u>\$ 29,181</u>

	1935	1936
Brought forward	\$ 13,341	\$ 29,181
Exciting apparatus	48	464
House service units	877	1,152
Control and protective equipment	3,891	4,354
Other electrical equipment	2,091	4,389
Misc. power-plant equipment	<u>5,010</u>	<u>2,610</u>
Total maintenance	<u>\$ 25,258</u>	<u>\$ 42,150</u>
Total hydrogenerating expense	\$114,911	\$146,750
Joint production expense	<u>...</u>	<u>3,930</u>
Total net hydrogenerating expense	<u>\$114,911</u>	<u>\$142,820</u>
Total kilowatt hour output	122,370,300	467,186,200
Expense per kilowatt hour output	\$0.000939	\$0.000306

Perhaps the best way to examine the yardstick is to compare figures from the Tennessee Valley Authority statements with those taken from the reports of the three Commonwealth and Southern operating companies in the same territory. These comparisons are shown in Table 9.

TABLE 9

Comparison of Significant Statistics

Tennessee Valley Authority, Alabama Power Company, Georgia Power Company, and Tennessee Electric Power Company

Total Operating Revenues

TVA	\$ 851,235	\$ 563,469	\$ 1,170,505
Alabama Power	15,341,403	16,687,916	18,536,213
Georgia Power	22,122,957	23,698,272	26,499,087
Tennessee Electric	12,409,568	13,409,824	14,972,954

Operating Expenses*

TVA	248,158	383,399	540,224
Alabama Power	4,477,409	5,089,496	5,865,459
Georgia Power	8,638,355	9,135,947	10,651,799
Tennessee Electric	4,645,555	5,308,028	6,186,360

Operating Ratio#

TVA	33.8	71.0	50.1
Alabama Power	51.3	53.4	55.4
Georgia Power	54.6	54.4	57.3
Tennessee Electric	63.4	64.7	66.6

Taxes, including all paid

TVA	\$ 39,575	\$ 16,900	\$ 45,347
Alabama Power	2,224,584	2,427,188	2,641,102
Georgia Power	2,115,521	2,333,788	2,815,282
Tennessee Electric	1,963,539	2,113,292	2,522,419

% Taxes to Total Operating Revenues

TVA	4.6	3.0	3.9
Alabama Power	14.5	14.6	14.2
Georgia Power	9.6	9.8	10.6
Tennessee Electric	15.8	15.7	16.8

*Includes production, transmission, commercial, and electric development expense for TVA; maintenance for private companies.

#% of Operating Expenses plus taxes and depreciation to Total Operating Revenues.

TABLE 9 - (Continued.)

	1934	1935	1936
Interest Charges including Bond Discount Amortization			
TVA	•••	•••	•••
Alabama Power	\$ 4,851,113	\$ 4,863,933	\$ 4,805,535
Georgia Power	6,150,781	6,280,972	6,257,464
Tennessee Electric	2,651,317	2,672,484	2,703,784
% Interest Charges to Total Operating Revenues			
TVA	•••	•••	•••
Alabama Power	31.6	29.1	25.9
Georgia Power	27.8	26.5	23.6
Tennessee Electric	21.3	19.9	18.1
% Depreciation to Total Operating Revenues			
TVA	•••	•••	•••
Alabama Power	7.7	8.3	9.5
Georgia Power	6.0	6.0	6.5
Tennessee Electric	10.2	9.4	8.4
Net Income			
TVA	563,837	169,234	612,291
Alabama Power	2,760,269	3,023,384	3,633,615
Georgia Power	3,898,299	4,522,565	5,050,792
Tennessee Electric	1,889,156	2,056,020	2,300,391
% Net Income to Total Operating Revenues			
TVA	66.2	30.1	52.2
Alabama Power	18.0	18.1	19.6
Georgia Power	17.6	19.1	19.0
Tennessee Electric	15.2	15.3	15.4
Fixed Capital			
TVA	\$ 28,076,342	\$ 39,272,525	\$ 47,234,742
Alabama Power	179,839,589	180,756,904	179,782,265
Georgia Power	260,992,016	262,239,466	265,011,771
Tennessee Electric	98,270,300	99,043,753	100,697,420
% Net Income to Fixed Capital			
TVA	2.0	.4	1.3
Alabama Power	1.5	1.7	2.0
Georgia Power	1.5	1.7	1.9
Tennessee Electric	1.9	2.7	2.3

Source: Moody's Public Utilities, 1937, pp. 1118-1151; TVA Annual Reports.

The operating ratio, the percent of operating expenses plus taxes and depreciation, to total operating revenues discloses the first shortening of the yardstick. The Authority charged but 3.9% for taxes in 1936, against 14.2%, 10.6%, and 16.8% for the other three companies, and no depreciation at all. As a result the operating ratio in 1934 was favorable, but it proved most erratic by jumping to 71.0 in 1935, the highest of the group. As also seen, the Authority charged no

interest and this also proved a sizeable amount for the other companies. The return on gross income was large for the Authority, caused for the most part by a failure to charge comparable expenses. The return on fixed capital percentage requires further explanation. As shown, it is quite low for the three companies. The Authority charged to electricity a very small portion of its total investment in programs for the three year period. None of the balance sheets included the cost of properties turned over by the government, the allocations not having been made. However, at hearings before the Alabama Public Service Commission on November 5, 1934, representatives of the Authority announced a tentative valuation of \$19,528,800 for the hydro-electric, and \$1,920,000 for the steam-plant facilities, or a total of \$21,448,800.¹ This amount has been added each year to the gross figures shown by the Authority for electricity investment. The investment allocation of dams under completion has not been set because of controversy over the proper allotments between navigation, flood control, national defense, and electricity. To be perfectly arbitrary, 50% of each year's investment in navigation and flood control has been allocated to electricity. With these somewhat arbitrary distinctions, the property investment of the Authority chargeable to electricity has been determined. On this basis, the Authority compares quite unfavorably with the other companies in the matter of return on investment in plant.

As the result of an investigation of this sort, one cannot escape the conclusion that the so-called yardstick is relatively short in three important respects, namely, taxes, depreciation, and interest. Of course, the purposes of the whole program must be defined first before one can criticize the results of the operating experience of the Authority.

¹Mason, E. S., Power Aspects of the TVA's Program, Quarterly Journal of Economics, May, 1936, pp. 377-414.

If generation of power is incidental to the whole program - as proclaimed by representatives since the Ashwander decision - power may well be charged with only the cost of power plant construction and generator construction. If the whole program is to be put to the test of economic justification, and certainly if the yardstick idea is to control, that part of the investment to be charged to power might be determined by deducting from the total cost the capitalized value of the probable annual net benefits to flood control and navigation - difficult to compute, but possible. Of course, if the purpose is to show the benefits of public over private operation, probably any arbitrary allocation of investment is justified, and omission of tax, interest, and depreciation expense is excusable.

In governmental multiple-purpose projects, such as the Tennessee Valley experiment, very few features can be found in common with privately operated utilities, and perhaps it is futile to attempt comparison. But this study has been made because of the avowed purpose of the President to set up yardsticks to measure private operation.

Difficulties in cost allocation in government projects are numerous. Many of the factors are non-venible, but should bear their portion of the costs, although they can never be self-liquidating; in flood control it is possible to estimate the amounts which would be lost without control, but there are greater social benefits which cannot be measured; many of the future benefits cannot be determined in the present with any accuracy; and irrigation is largely local, while flood control is a national problem. Joint costs must be charged on a social basis, but costs incurred for specific benefits may be charged to the beneficiaries of those benefits. This inevitably leads to the by-product method of charging for electricity, and charges power only

with separable costs.¹

A few other comments may be made on the Authority's statements. Research and demonstrations jumped from zero in 1934 to \$142,309 in 1936; electrical development expense jumped from \$1,582 in 1934 to \$57,889 in 1936. This leads to the supposition that many of the cooperatives and towns taking Authority power are being subsidized in their new business, for these latter organizations show very small new business expenses. The investment in rural lines jumped from \$292,913 in 1934 to \$1,135,890 in 1936, showing the great growth in transmission lines.

It is impossible, as indicated above, to get an accurate picture of the results of the Authority and its municipalities on a consolidated basis. However, some indication of the work accomplished in 1936 is given by the following analysis, made by accountants of Commonwealth and Southern, it is true, but apparently done on a scientific basis. Accounts were consolidated and the following results were shown: At the end of the fiscal year 1936, the Authority was serving 17,682 customers through municipalities and other outlets. The average for the year was 15,000 from whom the total revenue was \$635,000, or an average of \$42.30 per customer. Consolidated operating expenses were \$434,976, or an average of \$29.00 per customer. There was an average investment of \$6,900,000 for the fiscal year, excluding generating plants. In March, 1936, Mr. Lilienthal represented to Congress that the electricity program would earn $3\frac{1}{2}\%$ interest, 3% depreciation, and 1% taxes on the investment, a total of $7\frac{1}{2}\%$ for fixed charges. The fixed charges of $7\frac{1}{2}\%$ on \$6,900,000 amounted to \$517,500, or \$34.50 per customer. Total

¹Gray, Horace M., Joint Costs in Multiple-Purpose Projects; The American Economic Review, June, 1935, p. 224.

expenses gave an average cost of \$63.50 per customer and an average revenue of \$42.30, or a loss of \$21.20 per customer, excluding entirely the production cost of the 33,000,000 kilowatt hours used by these customers. If this energy is given the value that Mr. Lilienthal gave it in March, 1936, that is, 4 mills per kilowatt hour, and 10% is added for transmission and distribution losses, there is an additional loss of \$145,000, or \$9.68 per customer; a total average cost of \$73.18 per customer and an average revenue of \$42.30 per customer. This makes the total loss \$30.88 per customer. Therefore, the rate charged by the Authority is below cost and does not give a fair return on the investment.¹

Analysis of Rate Structure

The Tennessee Valley Authority sells power wholesale to municipalities, cooperatives, and industrial consumers. For the former, it prescribes and controls all resale rates, supervises the accounting systems, and in general controls the operations of the organizations. The types of rate schedules promulgated may best be exemplified by typical ones quoted from the 1936 annual report, between the Authority and the town of Dickson, Tennessee, and between the Authority and the Monsanto Chemical Company.

Dickson

Wholesale Power Rate

Demand charge.--90 cents per kilowatt of demand per month.

Energy charge.--First 100,000 kilowatt-hours consumed per month at 4 mills per kilowatt hour; next 200,000 at 3 mills per kilowatt hour; next 700,000 at 2.5 mills per kilowatt hour; excess over 1,000,000 kilowatt hours at 2 mills per kilowatt hour. Charge for energy in excess of 360 times the demand shall be subject to a reduction of 0.5 mills per kilowatt hour from the otherwise applicable rate.

Standard Residential Rate

Minimum monthly bill.--75 cents per meter.

Rate.--First 50 kilowatt hours consumed per month at 3 cents per kilowatt hour; next 150 at 2 cents per kilowatt hour; next

¹Analysis of the Annual Report of the TVA, released on December 31, 1936; by the Commonwealth & Southern Company and its Operating Companies published February 15, 1937, pp. 46-47.

200 kilowatt hours at 1 cent; next 1000 at 0.4 cents; excess over 1400 kilowatt hours at 0.75 cents.

Basic Commercial Rate

Rate.--First 250 kilowatt hours per month at 3 cents per kilowatt hour; next 750 at 2 cents per kilowatt hour; next 1,000 at 1 cent; excess over 2,000 at 0.8 cents.

Minimum monthly bill - \$1 per meter.

Basic Industrial Rate

Demand charge.--\$1 per kilowatt of demand per month.

Energy charge.--First 10,000 kilowatt hours at 10 mills per kilowatt hour; next 25,000 at 6 mills; next 65,000 at 4 mills; next 400,000 at 3 mills; excess over 500,000 at 2.5 mills.

Contract between TVA and Monsanto Chemical Company

May 16, 1936

Energy charge.--First 100,000 kilowatt hours at 3.6 mills per kilowatt hour per month; next 200,000 at 2.7 mills; next 700,000 at 2.25 mills; excess over 1,000,000 at 1.8 mills.

In a rate study, under date of May, 1936, the Authority estimated the following savings to municipalities taking its power:¹

Municipalities - Amory, Athens, Dayton, New Albany, Pulaski, Tupelo	
Total Bill - Former Rates	\$123,810
Total Bill - TVA Rates	<u>54,647</u>
Total Savings	\$69,163
Former Rate per kwh	6.57¢
TVA Rate per kwh	<u>2.90</u>
Saving per kwh	3.67¢
Former Bill per Customer	\$35.98
TVA Bill per Customer	<u>15.84</u>
Saving per Customer	\$20.04
% Saving	56

It cannot be denied that the promotional rate has had tremendous effect in the Tennessee Valley in increasing the demand of residential customers. The Authority's rates, however, were set in 1933 at the outset of the undertaking, and no attempt was made to set them on the basis of a fair return on the fair value of property used and useful in the public service. The problem of diminishing returns will inevitably face the Authority because of the lack of population in its area.

A comparison of TVA rates with those of two private utilities will further indicate the lowness of the former. For instance, the

¹TVA, Division of Rates, Research, and Economics, Statistical Bulletin No. VIII, Economics of Electric Distribution, May, 1936, p. 8.

Detroit Edison Company, a well-managed utility serving Detroit, has the following rate schedule, in part:¹

Residence Rate

Minimum charge.--\$.50.

Energy charge.--9 cents per kilowatt hour for the first 10 kilowatt hours; 4 cents for the next 40; 2½ cents for any excess.

Commercial

Minimum charge.--\$1.00.

Energy charge.--5 cents for first 250 kilowatt hours consumed; 4 cents for next 500; 3 cents for any excess.

The Hartford Electric Light Company, serving Hartford, Connecticut has made several experiments with promotional rates in the last few years, under the direction of its aggressive president, Mr. Ferguson. Its schedule follows, in part:¹

Domestic

Energy charge.--10 cents for first 10 kilowatt hours consumed; 5 cents for next 15; 2.85 cents for next 200; 1.5 cents for any excess; 1 cent for night water heating.

Electric Home Schedule

Energy charge.--10 cents for first 15 kilowatt hours consumed; 2½ cents for next 150; 2 cents for next 100; 1½ cents for any excess.

Commercial

Energy charge.--10 cents for first 1000 kilowatt hours consumed; 6 cents for any part of next 1,500; 4½ cents for any part of next 7,500; 3½ cents for any excess.

As is fairly obvious from this comparison, the TVA rate is unusually low and is definitely promotional from the smallest kilowatt hour consumption to the largest.

Effect of the Tennessee Valley Authority on Private Utilities

In discussing the effect of the Authority's activities on the private companies in the area, it would be easy to report the abuse hurled from both sides, for there has been much of it. However, it seems more equitable to present both points of view in outline and then to evaluate them by statistical analyses.

¹Poor's Public Utilities, 1937, pp. 2256 and 54.

The mainstay of the Authority's assertion that private utilities have not been harmed has been the fact that the utilities in the region have enjoyed more prosperity than they ever had before. For example, the Georgia, Alabama, and Tennessee companies lead all other companies east of the Rockies in average residential consumption for 1935. Georgia had 1,039 , Alabama, 997, and Tennessee, 966 kilowatt hours. In June, 1935, the Edison Electric Institute selected the Tennessee company as the outstanding one in the country for 1934 because it had established one of the most, if not the most, remarkable sales increase in residential, commercial, and industrial power in the history of the electrical industry.¹

Commonwealth and Southern counters: How is it, if the southern companies are so prosperous, that their securities are so depressed, and refinancing is impossible? In brief, the main criticism of the yardstick rates has included the following points: ridiculously small taxes; reduced freight rates on all material used in construction work; franking privilege on all mail; cost of insurance and damages taken care of by the Federal treasury; inadequate depreciation; absurd retail rates; TVA sales promotion, accounting, engineering, and other services furnished to municipalities without charge; nonpayment of Federal income or other Federal taxes, and nonpayment of state property, income, or other taxes by municipalities; gifts to municipalities from the Federal treasury of from 30% to 40% of the cost of an electric distribution system, never to be repaid; and non-recognition by TVA of jurisdiction by state utility commissions.²

In an effort to see just what the Authority has done to the southern utilities of the Commonwealth and Southern system, a statistical

¹Lilienthal, David E., Is TVA Really Hurting Private Utilities? Public Utilities Fortnightly, June 4, 1936.

²Guild, Jo C., How the TVA Really Hurts Private Utilities; Public Utilities Fortnightly, July 2, 1936.

study has been made of the three southern companies, Alabama Power Company, Georgia Power Company, and Tennessee Electric Power Company; and two northern companies of the same system, Central Illinois Light Company, and the Ohio Edison Company. Another company from another system, the Niagara Hudson Power group, Buffalo General Electric Company has been included for further comparison.

TABLE 10
Analysis of Commonwealth and Southern Companies

	1933	1934	1935	1936	% Increase 1933-1936
Net Income					
Alabama	\$3,276,291	\$2,760,269	\$3,023,384	\$3,633,615	10.9
Georgia	5,065,554	3,898,299	4,522,565	5,050,792	.2 ^d
Tennessee	1,944,168	1,889,156	2,056,020	2,300,391	17.9
Central Ill.	1,771,948	1,892,644	2,099,341	2,011,977	13.5
Ohio Edison	3,471,569	3,269,834	3,452,052	4,185,582	20.6
Buffalo G.E.	2,522,310	2,618,048	2,563,970	3,497,697	38.7
Operating Ratio					
Alabama	48.7	51.3	53.4	55.4	
Georgia	49.5	54.6	54.4	57.3	
Tennessee	59.7	63.4	64.7	66.6	
Central Ill.	59.5	60.5	61.6	64.8	
Ohio Edison	49.8	53.0	52.9	56.7	
Buffalo G.E.	65.1	69.4	70.8	69.3	
Number Preferred Shares					
Alabama	367,207	367,187	367,178	367,178	
Georgia	501,748	501,748	501,741	501,725	
Tennessee	241,553	241,344	241,296	241,296	
Central Ill.	111,453	111,464	111,464	111,464	
Ohio Edison	296,698	296,706	296,692	296,692	
Buffalo G.E.	117,990	117,990	117,990	117,990	
Earned per Share Preferred					
Alabama	\$ 8.92	\$ 7.52	\$ 8.23	\$ 9.90	.98
Georgia	10.10	7.77	9.01	10.07	.03 ^d
Tennessee	8.05	7.83	8.52	9.53	1.48
Central Ill.	15.90	16.98	18.83	18.05	2.15
Ohio Edison	11.70	11.02	11.63	14.11	2.41
Buffalo G.E.	21.38	22.19	21.73	29.64	8.26
Times Interest Charges Earned					
Alabama	1.69*	1.57*	1.66**	1.82**	.13
Georgia	1.83**	1.65**	1.77**	1.92**	.09
Tennessee	1.72*	1.77*	1.80*	1.97*	.24
Central Ill.	2.97	3.43	4.07*	3.51*	.54
Ohio Edison	1.90*	1.90*	1.86*	2.24*	.34
Buffalo G.E.	2.14	2.22	2.21	2.64	.50

* Before Federal Income taxes.

**Before Federal Income and State Taxes.

d - deficit.

TABLE 10 (Continued)

	1933	1934	1935	1936	% Increase 1933-1936
Electric Sales (in M kilowatt hours)					
Alabama	1,371,136	1,402,623	1,678,864	1,888,678	37.7
Georgia	931,150	933,009	1,078,336	1,299,982	39.6
Tennessee	391,270	539,308	581,737	727,229	85.8
Central Ill.	221,617	241,645	262,246	325,996	47.1
Ohio Edison	626,446	698,512	774,308	1,012,653	61.6
Buffalo G.E.	821,130	950,455	955,515	1,578,509	92.2
Electric Customers					
Alabama	99,709	107,699	114,187	120,710	21.1
Georgia	149,721	162,932	175,097	179,754	20.1
Tennessee	108,715	115,740	122,321	132,413	21.7
Central Ill.	55,853	57,789	59,004	62,735	12.3
Ohio Edison	170,910	177,319	181,278	188,877	10.5
Buffalo G.E.	170,907	174,395	177,274	180,104	5.3

Source: Moody's Public Utilities, 1937, pp. 1108-1155; 1193-1195.

In view of the complaint that the lack of refunding keeps the southern companies from sharing in the general better times, it may be interesting to compare market prices for the securities of these same companies.

TABLE 11

Market Prices of Commonwealth and Southern System Securities

	1933	1934	1935	1936
Alabama Power				
1st Gold 5s, due 1946	63-100 $\frac{1}{2}$	66-92 $\frac{3}{4}$	88 $\frac{1}{4}$ -105 $\frac{1}{4}$	102 $\frac{1}{2}$ -108 $\frac{1}{4}$
7% Preferred	26-68	31 $\frac{3}{4}$ -58 $\frac{1}{2}$	41 $\frac{1}{2}$ -80 $\frac{1}{2}$	67 $\frac{1}{4}$ -84 $\frac{3}{4}$
Georgia Power				
1st & Rfd. gold 5s, due 1967	54 $\frac{3}{4}$ -90 7/8	59 1/8-84 $\frac{1}{4}$	81 $\frac{1}{2}$ -100	95 3/8-105 3/8
\$6 Cum. Preferred	35-70 $\frac{1}{2}$	43 $\frac{1}{2}$ -64 $\frac{1}{2}$	52-89	79 $\frac{1}{2}$ -95 1/8
Tennessee Electric				
1st & Rfd. 5s of 1956	48-95 $\frac{3}{4}$	55-84	81 $\frac{3}{4}$ -100 5/8	89-98
6% 1st Preferred	24-65	24 $\frac{1}{2}$ -50 $\frac{1}{2}$	36-67 $\frac{3}{4}$	56 $\frac{1}{2}$ -72
Central Illinois				
1st & Rfd. 5s, due 1943	98-100	107 $\frac{1}{4}$	107 $\frac{1}{2}$	...
1st & cons. 3 $\frac{1}{2}$ s, due 1966	...	...	...	108-109
6% and 7% Preferred	61-63	80-93	106-108	...
4 $\frac{1}{2}$ % Preferred	...	...	...	108-109
Ohio Edison				
1st & Cons. 5s, due 1960	63 $\frac{3}{4}$ -98	67 $\frac{1}{2}$ -98 $\frac{1}{2}$	97 $\frac{1}{4}$ -106 7/8	105 1/8-107
\$6 Preferred	55 $\frac{1}{2}$ -64 $\frac{1}{2}$	45 3/8-69 $\frac{1}{2}$	70-103 $\frac{3}{4}$	101 $\frac{1}{2}$ -109 $\frac{1}{2}$
Buffalo General Electric				
1st 5s of 1939	102-107 $\frac{1}{2}$	105 $\frac{1}{2}$	107-111 $\frac{1}{2}$	105 $\frac{1}{2}$ -110 $\frac{1}{2}$

Source: Moody's Public Utilities, 1937, pp. 1108-1155; Commercial and Financial Chronicle, Bank and Quotation Record, Jan. 1934-1937; Poor's Public Utilities, 1937, p. 1407.

Long-term money is the cheapest thing in the country today. In 1936 long-term financing was \$2,759,247,900 as compared with \$306,158,800 in 1932, while short-term financing was only \$54,470,000 as compared with \$175,170,500 in 1932. Long-term financing, which represented about 65.4% of all electric power and light financing carried coupons with an average rate of 3.538%. Short-term financing carried 3%, and preferred stock financing carried an average dividend rate of 4.531%.¹

The ten utilities in the TVA sphere of influence cannot refund regardless of the soundness of their capital structures, their present earnings or their existing service areas because of the feared adverse effects of the Authority. Table 12 indicates the need and savings to be realized from refinancing.

TABLE 12
Need for Financing and Savings

	Times Fixed Charges Covered		Times Fixed Charges plus Preferred Dividends Covered	
	1935	5-Yr. Avg.	1935	5-Yr. Avg.
Alabama Power	1.62	1.72	1.09	1.15
Birmingham Electric	1.45	1.66	0.84	1.04
Carolina Power & Light	1.61	1.50	1.09	1.01
Georgia Power	1.72	1.87	1.17	1.21
Memphis Power & Light	2.24	2.44	1.62	1.55
Mississippi Power*	1.37	1.34	0.96	0.96
Mississippi Power & Light	1.37	1.55	0.94	1.07
South Carolina Power	1.57	1.47	1.24	1.18
Tennessee Electric Power	1.77	1.90	1.12	1.19
Tennessee Public Service	1.49	2.13	0.85**	1.21

* Including interest charges on \$3,000,000 bonds held in escrow.

**Currently paying no preferred dividends.

¹Abrams, E. R., TVA and the Bond Market, Public Utilities Fortnightly, January 7, 1937, p. 25.

TABLE 12 (Continued)

	Gross Savings from Refunding		Total
	Bonds	Preferred Stocks	
Alabama Power	\$ 729,160	\$ 335,761	\$1,064,921
Birmingham Electric	61,000	79,682	140,682
Carolina Power & Light	460,000	215,765	675,765
Georgia Power	1,176,238	220,869	1,397,107
Memphis Power & Light	126,375	60,206	186,581
Mississippi Power	106,559	38,056	144,615
Mississippi Power & Light	160,000	33,634	193,634
South Carolina Power	103,060	14,076	117,136
Tennessee Electric Power	653,431	225,552	878,983
Tennessee Public Service	70,000	24,802	94,802
	<u>\$3,645,823</u>	<u>\$1,248,403</u>	<u>\$4,894,226</u>

Source: Abrams, E. R., TVA and the Bond Market; Public Utilities Fortnightly, January 7, 1937, pp. 27-28.

Clearly, the southern companies of Commonwealth and Southern have managed to operate their electric business efficiently under TVA competition, but they have not been able to increase their business in a fashion to compare with other companies. Georgia Power showed a deficit in income from 1933 to 1936 of .2%, while Buffalo General Electric increased its net income 38.7%. In earnings per share of preferred stock, the southern companies did not fare as well as the two northern companies. Times interest charges earned do not show much difference, largely because all companies are rather heavily in funded debt. The surprising result is noted in the figures for electric sales and customers. All companies showed a good increase in sales, and the southern companies showed plainly the results of a concentrated sales effort for larger loads. Tennessee Electric, with only a 21.7% increase in customers, enlarged its electric sales 85.8%. The plight of the southern utilities is best shown in the market quotations of their securities. Here is plainly delineated the effects of TVA competition or the threat of competition. Central Illinois was able to refund successfully in 1936, and the other quotations speak for themselves.

In summing up the effect of TVA on private companies, one is forced to the conclusion that they are far from being driven out of business. The greatest difficulty seems to be in topheavy capital structures which cannot be refunded, with consequent large fixed charges. As far as operating results are concerned, the companies are holding their own.

In view of the fact that capital structures need revamping, a suggestion made by one author for solving the situation seems apropos.¹ The outstanding bonds and preferred stocks of the utilities in the TVA area have a par value of \$430,000,000, with interest rates of 5% and 6%, and with \$6 and \$7 dividend rates. Let a government formed corporation buy new issues of these utilities at low rates and let them call in their high-rate securities at about \$450,000,000. Let the new issues carry 3½% interest rates for the bonds, and 4% for the preferred stocks. This refunding would reduce the annual debt burden \$7,000,000. Let the government corporation issue its own bonds and preferred stock in the same amount at 3% interest on the bonds and \$4 on the preferred. The spread would cover all expenses. Let the interest savings thus achieved be passed on to the consumers and then the rates of the private companies would be near TVA rates. Let all power developed by TVA dams be purchased by private companies at wholesale rates fixed by TVA. Let future construction be handled by the private companies, financed from reserves or by the sale of new bond issues to the government corporation. With this plan the low rate objectives of the President would be achieved, and as a concomitant widespread use would result. An important feature of this plan would be the protection of the interests of investors now holding the securities of the private companies.

¹Doying, G. E., A Plan to Solve TVA Tangle; Public Utilities Fortnightly, March 18, 1937, p. 350.

Accomplishments of the Authority

From the 1936 annual report, we learn that construction progress leading to the unified development of the Tennessee River system included the virtual completion of Norris and Wheeler Dams, continuation of construction at Pickwick Landing, the beginning of work on the Guntersville and Chickamauga projects, and preparation for construction at the Hiwassee Dam site, as well as maintenance of the Wilson Dam. Under preliminary investigation were the Gilbertsville, Watts Bar, and Coulter Shoals projects, required to complete improvement of the main stream, and the Fontana project, desirable in maintaining water control. Along with these activities substantial progress was made in construction, acquisition, and operation of electric transmission and distribution facilities, as well as in the development and operating of electric furnaces at the Government plants at Muscle Shoals.

At the close of the fiscal year, power from Wilson Dam was being distributed in the following communities.

TABLE 13
Distribution of Wilson Dam Power

Distribution Area	Date of Initial Service	Total Customers June 30, 1936
Municipalities:		
Muscle Shoals City, Ala.	Oct. 14, 1933	118
Tupelo, Miss.	Feb. 7, 1934	1,454
Athens, Ala.	June 1, 1934	997
Amory, Miss.	Sept. 2, 1934	812
New Albany, Miss.	Nov. 12, 1934	1,363
Pulaski, Tenn.	Jan. 4, 1935	897
Dayton, Tenn.	Feb. 1, 1935	788
Okolona, Miss.	July 14, 1935	486
Dickson, Tenn.	May 12, 1936	716
Holly Springs, Miss.	May 15, 1936	525
Cooperatives:		
Alcorn County, Miss.	June 1, 1934	2,086
Pontococ County, Miss.	Mar. 1, 1935	868
Prentiss County, Miss.	June 20, 1935	828
Tishomingo County, Miss.	Aug. 15, 1935	632
Tombigbee Association, Miss.	Nov. 1, 1935	1,913

TABLE 13 (Continued)

Distribution Area	Date of Initial Service	Total Customers June 30, 1936
Monroe County, Miss.	Feb. 15, 1936	109
Temporary Direct Operations:		
Lauderdale County, Ala.	Oct. 20, 1934	745
Colbert County, Ala.	Dec. 4, 1934	212
Lincoln County Corp., Tenn.	Oct. 1, 1935	451
Pickwick Corp., Tenn.	Apr. 21, 1936	471
Alabama Power District	May 1, 1936	626
Duck River Electric Membership Corp., Tenn.	May 27, 1936	585
		<u>17,682</u>

Source: Tennessee Valley Authority, Annual Report, June 30, 1936, p. 289.

Suggested Power Pool

In September, 1936, President Roosevelt called a conference of southern utility operators to discuss proposals for a power pool between TVA and southeastern utilities. A power pool organization would buy power from TVA or private plants and then would transmit it over pool-owned transmission lines and sell it at wholesale to any local distribution system, either public or private. The transmission pool would buy from the cheapest sources and sell wherever power was needed. The plan fell through because private companies secured an injunction against TVA activities at about the same time, and the President accused them of sabotaging his program.

Later in 1937, Chairman Morgan of TVA made an unusual plea for cooperation between the Authority and the utilities in the southeast. The gist of his statement was the cooperation that would be possible with a wider spread of new executives in key positions in private companies. He believed that government projects should cooperate with private interests whenever a high quality of industrial statesmanship existed in private companies. He felt that government has had little experience with handling large, operating businesses, and that the transition should be gradual.

A national power policy should be developed, and in so doing the bitter class controversies should be avoided. Mr. Morgan believed that it was an integral part of the job of statesmanship to recognize opportunities to break up vicious circles of mutual distrust and hate between business and government.¹ Unfortunately, the other two members of the Board do not agree with Mr. Morgan's views.

Legal Status

The legal status of the Authority was first decided in the Ashwander case. On February 17, 1936, the Supreme Court handed down its opinion on Wilson Dam, but did not pass on the validity of the TVA Act. It found the issues in the case to be limited to the lawfulness of the construction of the war-time Wilson Dam and the construction or acquisition of connecting transmission lines for the sale of surplus electric energy lawfully produced at that dam. The Court did not decide the right of the Authority to build dams, install power houses, acquire and construct transmission lines, and distribute and sell electric energy for the purpose of establishing a yardstick, fixing prices, subsidizing municipal ownership or engaging in the electric business in competition with private utilities.

On May 29, 1936, 19 companies operating in the immediate territory of TVA filed suits to test the validity of the entire power program. On August 19, 1936, these same companies asked for a temporary injunction to stop construction of lines and substations by the TVA until the original bill could be heard. This injunction was granted on December 12, 1936, but TVA took an appeal from the decision.²

The Supreme Court, on June 1, 1937, rejected the Government's

¹Statement in New York Times, January 17, 1937; reprinted in Public Utilities Fortnightly, February 18, 1937, pp. 246-253.

²Poor's Public Utilities, 1937, p. 1405.

plea that it consider a Circuit Court of Appeals order for a trial in the Federal District Court of Tennessee of the suit to enjoin the extension of TVA power operations, brought by the Tennessee Electric Power Company and others. The Government wanted this suit dismissed.¹

On October 11, 1937, the Supreme Court ruled that the Georgia Power Company failed to win a review of a Fifth Circuit Court decision preventing the power concern from concentrating its battle against TVA in the Tennessee Federal District Court.²

A test of the constitutionality of the competitive activities of the TVA against private utilities was begun on November 14, 1937, when the United States District Court at Chattanooga, Tennessee, opened hearings in which the plaintiffs were the Tennessee Electric Power Company and 18 associated companies, while the defendants were the 3 Authority directors. The court refused the utilities a subpoena for the minutes of TVA director's meetings. The companies contended that the TVA was distributing power on a subsidized basis at prices far below rates feasible to private enterprise. Judge Allen ruled that rates of utilities and TVA were not material to the case as it was not a rate hearing. Hearings are expected to continue into 1938.³

Conclusions

What has the Tennessee Valley Authority done for the Tennessee Valley? It has made a good beginning of a planned navigation and flood control system, for water conservation, and power production. The Authority is studying soil conservation intelligently and has awakened the Valley to the practicability of more modern farming methods.

¹Commercial and Financial Chronicle, June 5, 1937, p. 3767.

²Ibid, October 16, 1937, p. 2484.

³Ibid, November 20, 1937, p. 3281.

However, permanent soil conservation has not been proven, nor the outcome of subsidized agriculture ascertained. General participation by the Valley's people and institutions in the work of the Authority has not yet been accomplished, and the Authority has failed to develop a plan or program of its own operation, the three separate phases of which - cultural, agricultural, and power - must be worked out. TVA has not shown that regional cooperation can be secured; it has not proved that comprehensive river development is economically justified or is wise; it has not presented a model of organization, finance, and administration for other similar projects. To be fair, the blame rests more on Congress and the President than on the Authority, because the problem was huge. Unfortunately, there has also arisen a two to one split in the membership of the Board which has led to a lack of administrative harmony. The Authority has made a remarkable record in dam building and hydrologic planning, but as an agency for broad regional planning its accomplishments are disappointing.¹

No long-time economic effects can be perceived now after only four years of operation. The test of TVA justification lies in the future. The opportunity is there for achievement of social planning on a large scale, but the Authority has muffed it so far. The opportunity for a fair yardstick of electricity costs has also been passed by. Eliminating all bias, one must conclude that at present TVA is not presenting fair competition to the utilities, and it would be better to drop the yardstick theory entirely and run TVA on its merits as an experiment in government planning, with by-product electricity to be sold to private distributors.

¹See The Tennessee Valley Experiment, five articles in Engineering News Record and one editorial in successive issues, beginning December 3, through December 31, 1936.

Columbia River Projects

History and Progress to Date

On the Columbia River in Washington and Oregon the Federal Government, with Public Works Administration funds, is building the Bonneville Dam, under the direction of the Engineering Corps, and the Grand Coulee Dam, under the direction of the Bureau of Reclamation. On both of these projects it is planned to develop large blocks of power.

On January 18, 1937, President Roosevelt appointed a committee, headed by Secretary Ickes, to recommend legislation designed to establish a broad national policy for the generation, transmission, and distribution of electrical energy. The move was considered essential because power from Bonneville would be available sometime in 1937. The policy would apply to Boulder Dam, the Tennessee Valley, and other New Deal projects, but identical rates in every part of the country would not necessarily result.¹

The report of this committee was transmitted to Congress on February 24, 1937. The appointment of an administrator at Bonneville was recommended. He should be given authority to build transmission lines, give preference to public and cooperative agencies in power allotments, and his rate schedules, unlike the TVA, should be submitted to the Federal Power Commission for approval. He should also have regard to the recovery of costs in his rate schedule. To the cost of electric facilities should be added part of the joint cost of facilities used for other purposes.²

On his trip west in the fall of 1937, President Roosevelt spoke at Bonneville and reaffirmed his policy of the widest possible use of

¹Commercial and Financial Chronicle, January 23, 1937, p. 543.

²Ibid, February 27, 1937, p. 1364.

electricity. He also admitted that he was thinking in terms of 50 years hence for the regional development of the northwest, and visualized the growth there of small communities - a back to the land movement.

On October 30, 1937, the President appointed J. D. Ross, formerly of the Securities and Exchange Commission, as administrator of the Bonneville project. He also approved a 40-year amortization plan as the basis for fixing rates for power originating at Bonneville, plus $5\frac{1}{2}\%$ interest. The Federal Power Commission is now engaged in separating the cost of the project into navigation and power.¹

Ultimate Cost - Bonneville

Bonneville is located at the upper limits of tidal effect on the Columbia River about 140 miles from the mouth and $4\frac{1}{2}$ miles below Cascade Locks. The project includes the dam, power house, fishways, and navigation lock. Originally, the development as a whole (with two of the ten ultimate power units) was estimated to cost \$31,000,000, but since the early estimates were made, revision has appeared necessary, so that now the estimated figure for the total cost is about \$39,000,000. The ultimate capacity of the power plant will be 430,000 kilowatts of which the present plan contemplates the installation of only two 43,000 kilowatt units.²

Ultimate Cost - Grand Coulee

The present program at Grand Coulee calls for the construction of a low dam (145 feet high) with provisions for developing about 103,000 kilowatts of power initially, and about 617,000 kilowatts ultimately. Irrigation is closely associated with this project and on the basis of present estimates, it is hoped that the profits from the sale of power

¹Ibid, October 30, 1937, p. 2774.

²Engineering News Record, Power, Navigation, and Irrigation in Two Projects on the Columbia, November 29, 1934, pp. 678-685.

will return the investment in the dam and power plant and 50% of the cost of the irrigation improvements. The remainder of the irrigation cost is to be paid by landowners at \$88 per acre. The project was begun in 1933 under a PWA allotment of \$63,000,000.¹

Markets for Power

Advocates of western power projects have believed that the objective of getting maximum beneficial use of power at the earliest possible date should be the basis for fixing a power rate. A promotional rate would result under this plan. However, the present average consumption for domestic consumers in the northwest is about 1165 kilowatt hours per year or double the average for the United States as a whole. Would promotional rates be wise in this section? Probably not. In addition, heavy power consuming industries are being studied as potential power consumers, among them being those dealing with aluminum, nitrogen and phosphate compounds, newsprint, and ferro-alloys. Many industrial power studies have been made and the private companies have cooperated in this, hoping that a non-competitive policy will be adopted by the Government.

Effect on Private Companies

The power capacity in the northwest at the present time is capable of producing six billion kilowatt hours annually at the 47% capacity factor that prevailed in 1930. Therefore, generating facilities now installed in this section can produce 50% more power than was required in 1933. With Bonneville, Grand Coulee, and private projects - notably at Seattle - 1 1/2 billion kilowatt hours are to be added. Thus we see a tremendous overproduction. Private companies doubt if they can compete with a low rate at Bonneville and Grand Coulee. Because of low

¹Idem.

rates and aggressive expansion policies, only a small percentage of the total population is now without electric service in the three northwest states of Washington, Oregon, and Idaho; increased domestic usage therefore must come from population growth and greater utilization by present consumers. No wonder the President envisioned the power market as 50 years in the future.

Local Political Aspects

Both the Bonneville and Grand Coulee projects were undertaken hurriedly in the late summer of 1933 at the request of representatives of Washington and Oregon in order to create work in that part of the country. Both are being paid for by the Federal Government. No study of power markets was made in advance of the allotment of funds to determine the economic soundness of the projects. However, the region does have extensive natural resources that are largely undeveloped as yet.

A Poorly Planned Development

The present low dam at Grand Coulee will be useful only for the development of power; but a high dam at the same site would raise the river level to a point where it would be practicable to use secondary power developed at the dam to pump water to irrigate 1,200,000 acres in the Columbia Basin, a semi-arid region lying to the east of the Columbia River and north of the Snake River. However, without the people and new commerce brought by an irrigation project, the present power project bids fair to become as great a white elephant as was the Muscle Shoals development.¹

Thus, there are two projects in a vast wilderness, with no people to use the power and no planned irrigation to make the land arable. One might mention the feared ruin of the salmon-packing industry because

¹Idem.

of these dams. Elaborate fish elevators and ladders have been built, but no one seems to know whether or not the salmon will climb these ladders on their way up the Columbia River to spawn. The whole project seems impossible to justify on any economic basis at present.

Passamaquoddy

Very little space will be devoted to Passamaquoddy, because the project has been abandoned, although 7 million dollars was spent on it. Passamaquoddy was a project to harness for power generation the ocean tides in Passamaquoddy Bay, which have a normal range of 18 feet. Passamaquoddy Bay is located at Eastport on the northeastern end of the Maine seacoast about 250 miles from Portland. Approval as a Federal undertaking was given in May, 1935, and work was started on June 1. It was an ill-conceived money-spending project, far from any markets for power. Much argument has been devoted to the feasibility of tide-harnessing schemes, but the Federal Government spent 7 million without solving it, and it seems unnecessary to discuss the project further.¹

Mississippi Valley

On January 9, 1936, Senator Norris introduced into the Senate a bill (S.3524) to create a Mississippi Valley Authority. The nature of the measure was substantially the same as the Tennessee Valley Authority Act, except for certain new provisions. The proposed bill would give to a Commission of three men general authority over flood control, navigation, irrigation, soil erosion, and electric power that may be developed in connection with any of them, in the entire drainage area of the Mississippi River and its tributaries, except the Ohio Valley, which would be turned over to the existing Tennessee Valley Authority.

¹Moody's Public Utilities, 1937, p. a41.

The bill was lost in the welter of more pressing legislation, but possibly it may come up again in 1938, for Senator Norris is still interested in it.

Hearings were held by a Senate sub-committee in April and the 894 private utilities in the region were represented by Mr. Charles W. Kellogg of the Engineers Public Service Company. The main objections to the bill were as follows: The board may, without regard to the provisions of civil-service laws, appoint employees, fix their compensation, and define their duties. Any appointee may be removed at the discretion of the board, thus assuring political control. The accounts are to be audited by the Comptroller General once a year, and the board shall be given an opportunity to examine the criticisms and point out errors. This feature was a result no doubt of the Tennessee Valley Authority's controversy with Comptroller General McCarl.

Furthermore, any contracts made with private companies or individuals for sale of power to be resold at a profit may be cancelled upon one year's notice in writing, if the board needs the power to supply the demands of States, counties, etc. (The TVA provision was five years.) Such arbitrary cancellation powers would of course work a hardship on private companies which would need stand-by facilities at all times. In addition, the MVA may construct or operate any plant or plants, either steam or otherwise as stand-by plants in connection with their hydro-electric generating undertakings. Hydro competition is bad enough, but steam plants to be built by the Government were a horrible nightmare to the utility interests.¹

At the hearings considerable attention was given to the essential inconsistency in most cases between flood control and navigation

¹Control of Flood Waters in the Mississippi Valley; Hearings before a Sub-Committee on S.3524, March 24-April 15, 1936; Part 1, pp. 1-8.

improvement on the one hand, as envisioned by the bill, and production of power on the other. For maximum flood control the reservoir behind a dam should be empty before the flood came, at which time power production would be zero, and after stored flood waters had been fed out gradually during the navigation season, the reservoir behind the dam would again be empty, thus producing no power. An example was cited of ideal flood control, namely, the Miami Conservancy District, designed and constructed by Dr. A. E. Morgan, in which the reservoirs were entirely empty except when a flood arose, and in which the regulation rose automatically from the size and nature of the openings in the dam.

As the Mississippi Valley Authority has not yet been put into operation, further space will not be given to it, but one must conclude that the real purpose behind the bill was to extend into the large area covered by the Mississippi drainage basin the general plan envisaged in the Tennessee Valley Authority Act, i.e., to utilize the Federal functions of flood control, navigation improvement, and irrigation, and to continue as a by-product the generation, transmission, and distribution of electric energy at low rates.

Miscellaneous Projects

Casper-Alcova and Seminoe Projects

Two major features of the combined power and irrigation project on the North Platte River in Wyoming have had \$22,700,000 earmarked for their construction. They are the Casper-Alcova irrigation diversion dam and 106 mile canal, and the Seminoe storage and power dam. The former, the irrigation unit, calls for the construction of a dam across the river near Alcova about 10 miles below the Pathfinder Reservoir, and the building of a canal system to supply water to 66,000 acres of irrigable land lying to the north, west, and southwest of Casper; the latter (the

storage and power unit) calls for the construction of a dam across the river in the heart of the Seminoe Mountains, a few miles above the upper end of the Pathfinder Reservoir, to store 1,000,000 acre-feet of water for power and irrigation of the Casper-Alcova lands, together with a power house below the dam to develop 38,400 kilowatts of power from water as it is discharged from the Seminoe Reservoir into the Pathfinder Reservoir.

The economic and public-benefit questions in the projects are highly complex and difficult to evaluate. On the one hand, the irrigation work will cost far more than can be repaid by the land to be irrigated. On the other hand, the argument is very strongly made that there is urgent need for an agricultural development in this area. However, the question may well be raised: how far is the Federal Government justified in furnishing money for a regional development that can return only a small part of its cost and must be supported by the revenues of a power plant not needed for irrigation service?¹

Fort Peck Dam

The great reservoir now under construction on the Missouri River at Fort Peck, 20 miles southeast of Glasgow, Montana, is primarily for navigation; power and irrigation are minor considerations, and even flood control is not an important factor, because the reservoir is located in the semi-arid region of the river valley far above the humid areas from which come most of the destructive floods. Hence, the essential justification for the present plan to spend about \$84,200,000 in building Fort Peck is to be sought in navigation benefits only.

Army engineers have been unable to convince themselves that the project is sound. From the point of view of navigation, the annual

¹Irrigation and Power on the North Platte River, Engineering News Record, November 29, 1934, p. 698.

saving to freight movers would be \$4,584,000 for an expenditure of \$134,800,000. Any increased commerce is uncertain and the benefits from irrigation, power, and lands are so intangible as to be impossible of prediction.¹

Santee Cooper

Money has already been earmarked by the PWA for the construction of the \$37,500,000 navigation and electric power project in the Santee Basin of coastal South Carolina. However, the South Carolina Electric and Gas Company, the Carolina Power and Light Company, and the South Carolina Power Company have sued the State Public Service Authority and the PWA to stop the project, claiming injurious competition, unlawful diversion of the navigable waters of the Santee River, and tampering with intrastate electric rates. Judge J. L. Glenn of the Federal District Court at Columbia, South Carolina, denied the companies an injunction on the grounds that competition alone was no cause for relief. An appeal indicates that the whole project is at present in the courts and not in process of construction.²

Central Valley

An act of the California Legislature, passed in 1933, created the Water Project Authority and empowered it to construct and operate a system of works called the Central Valley Project, for the development, distribution, and sale of water and electric energy in the Sacramento and San Joaquin valleys; the cost of construction to be met by issuing revenue bonds in amounts not exceeding \$170,000,000; principal and interest on the bonds and operating costs to be met by revenues from the project. The program of development includes the construction of:

¹Fort Peck Dam; Engineering News Record, November 29, 1934, p. 693-698.

²Electrical World, September 11, 1937, p. 87.

Kennett Dam, Contra Costa Conduit, San Joaquin Pumping System, Friant Dam, Madera Canal, Friant-Kern Canal, and other units.

The major objects of the project are to supply water for the irrigation of semi-arid lands now under cultivation, but not having an adequate supply of water; to develop hydro-electric power; to control the floods of the Sacramento and San Joaquin Rivers; to make the Sacramento navigable from its mouth 250 miles to Red Bluff, and the San Joaquin navigable 86 miles above Stockton; to control the salinity of the waters of the Sacramento-San Joaquin delta area; and to provide fresh water for industrial use in the upper San Francisco Bay region. No provision has been made for the distribution of power or water, although preference is to be granted cities, districts, and other municipal subdivisions.

A sum of \$15,000,000 was allocated by the Federal Government to initiate construction work on this project, the money to be expended under the direction of the United States Department of the Interior, Bureau of Reclamation. Subsequently, this allocation was reduced to \$8,100,000 by order of the President. At the 1935-1936 session of Congress, an appropriation of \$6,900,000, in addition to the \$8,100,000 was voted.

The Bureau of Reclamation is engaged in obtaining rights of way and in making surveys and studies preliminary to the construction of a dam and other works at Friant and Kennett.¹

All of the towns and cities in the region are now supplied by electricity by the Pacific Gas and Electric Company. This project is difficult to evaluate until completed and in operation.

¹Pacific Gas and Electric Company, Prospectus, \$35,000,000 1st & Refunding Mortgage Bonds, Series I, 3½%, dated October 21, 1936, p. 40.

OTHER DEVELOPMENTS OF THE POWER PROGRAM

Electric Home and Farm Authority

The Electric Home and Farm Authority was created by executive order on December 19, 1933, as a Delaware Corporation. With the cooperation of some 50 manufacturers of electrical appliances, 24 private and publicly owned utilities, and 300 independent dealers, it has made available electrical appliances to many persons, by advancing their purchase through regular dealer outlets. The Authority has operated largely in conjunction with the Tennessee Valley Authority in Alabama, Georgia, Mississippi, and Tennessee. In August, 1936, the Authority was re-incorporated in the District of Columbia, largely to give its operations national scope, and it will undertake to finance retail sales of electric and plumbing equipment and appliances in cities and rural areas in the future.¹ The project is doubtless feasible for areas which are not now serviced with installment credit facilities, and it is hard to see any jeopardy to private interests in such an agency.

Federal Power Commission Rate Investigation

Purpose

During the summer of 1935, the Federal Power Commission published, in a series of 48 state reports, the findings of that part of its nation-wide electric rate survey covering "Domestic and Residential Electric Rates in Effect January 1, 1935." Authority for the survey was vested in the Commission by Public Resolution No. 18 of the 73rd Congress, which directed the Commission to investigate, compile, and analyze "the rates charged for electric energy and its service to residential, rural, commercial, and industrial consumers throughout the United States by private and municipal corporations."

¹Commercial and Financial Chronicle, August 17, 1936, p. 1035.

The Survey included all communities of 250 or more population, for which information was available, nearly 18,000 communities being covered. The information, secured from private and municipal plants producing 99% of all electricity generated in the country was transmitted to Congress through the individual state reports "in a form which can be readily understood and which seems to afford a fair basis for comparison; that is, by typical monthly bills for electricity consumed." For the purpose of this Rate Survey the Government allotted \$525,000.

Results

The main thing shown by the report was the great diversity and complexity of rates in the United States. The report did not show that municipal plants charged lower rates than did private plants, as may be seen in Table 14. The report did show an urgent need for some attempts at uniformity and simplicity in rate structures.

TABLE 14
Municipal and Private Electric Plants in the U.S.
Residential Electric Rates in Effect Jan. 1, 1935
Average by States & Geographic Divisions

	Municipal Companies	Private Companies
Number of Communities	1742	16,007
Average Net Monthly Bill in Kilowatt-Hours Per Month		
25	\$ 2.15	\$ 2.23
40	3.21	3.20
100	5.73	5.47
150	7.93	7.10
250	11.01	9.38
500	19.52	14.02
Average Charge Per Kilowatt-Hour in Kilowatt-Hours Per Month		
25	8.60¢	8.92¢
40	8.03¢	8.00¢
100	5.73¢	5.47¢
150	5.29¢	4.73¢
250	4.40¢	3.75¢
500	3.90¢	2.80¢

Source: From data in Federal Power Commission Rate Survey--State Reports, 1935; reprinted in Comparison of Municipal and Company Rates, Edison Electric Institute, New York, pp. 3 and 7.

National Power Policy Committee

The National Power Policy Committee, composed of Harold L. Ickes, Frank R. McNinch, Elwood Mead, T. W. Norcross, Morris L. Cooke, Robert E. Healy, David E. Lilienthal, and Edward M. Markham, was named in the summer of 1934, to make a series of reports to coordinate government policy on power problems. The first report was presented by President Roosevelt to Congress on March 12, 1935, and in effect merely summarized the findings of the Federal Trade Commission's investigation of holding companies. The Committee passed on to Congress the recommendations of the Commission about legislation designed to eliminate the vicious actions of holding companies, and was a forerunner of the Public Utility Holding Company Act of 1935. For instance, the report stated that the ultimate purpose of any legislation should be the practical elimination within a reasonable time of the holding company where it served no demonstrably useful and necessary purpose and that to attain the flexibility desirable for the handling of this complicated problem, Federal control should be vested in an administrative commission. Furthermore, supervision over new securities, acquisition of properties, and intercorporate relationships should be vested in this commission.¹

National Power Survey

Under an executive order of August 19, 1933, the Federal Power Commission was ordered to make a national power survey to determine the relation between the nation's power requirements and the generating capacity of existing power plants. On March 15, 1935, the Commission submitted an interim report, the conclusions of which are given below:

1. The use of electricity for domestic purposes as well as in certain branches of industry has grown at such a rate during the depression that, upon a resumption of normal industrial

¹Report of National Power Policy Committee, House of Representatives, Document No. 137.

activity, the demand for power will be at least 4,000,000 kilowatts in excess of that which existed in 1929. This is equivalent to the capacity of some 50 large generating stations.

2. Very little new generating capacity has been constructed by the privately owned utilities since 1930. As a result, the capacity of existing plants is 2,325,000 kilowatts less than the demand that will exist for power upon a resumption of pre-depression industrial activity, assuming maintenance of normal reserve capacity.

3. This shortage is being rapidly accentuated by the obsolescence of plants which would have been replaced under normal conditions. As of January 1, 1935, 56% of the total installed steam-electric capacity of the United States was at least 10 years old, 11% was 20 years old or older, and about 1% at least 30 years old. Inefficient and obsolete plants with a capacity of at least 2,000,000 kilowatts should be scrapped and replaced within the near future.

4. Analysis by districts of the relation between the capacity of existing plants and the demand that will be created with the resumption of normal industrial activity shows that critical shortages will exist in almost every section of the United States. The only regions in which substantial surpluses of capacity now exist to meet normal demand are Florida, part of Michigan, an area along the lower Mississippi, North Dakota, Idaho, Utah, and New Mexico, and parts of Texas, Minnesota, Montana, Washington, and Oregon.

5. Government plants provided for or under construction will meet these shortages in certain limited areas. Only one major private power development and one major municipal plant are now under construction. Many of the regions where the greatest power markets now exist and where the shortage will be most acute when industrial activity is renewed do not have projects under construction at the present time sufficient to carry the loads that will develop upon resumption of normal industrial activity.

6. In view of the time required to plan and construct large generating plants, whether hydro or steam, early construction of new plants with an aggregate capacity of between 3,000,000 and 4,000,000 kilowatts is imperative. This would involve capital expenditures of at least \$300,000,000.

7. The critical shortage of existing generating capacity most seriously affects the great industrial districts of the East and Middle West. It would, therefore, be disastrous in case the United States should become involved in war. The situation might be even more acute than that which existed during the World War when, in many districts, electric service had to be denied to domestic and commercial customers and nonessential industries to meet war needs for power.

8. Careful planning under Federal supervision of new power plants and facilities for transmission is required to promote the safety and welfare of the Nation. Selection of sites for hydro or steam plants, to be developed either by public or private agencies, should take into consideration not only the pertinent engineering and economic factors, but also essential considerations of broad national policy.¹

Rural Electrification

Few American farmers have electric power and light service. Fewer than 1 in 9 have service from central electric generating stations. A graphical representation of this fact is shown in Exhibit 1 in the Appendix.

President Roosevelt, recognizing the need for rural electrification, created the Rural Electrification Administration on May 11, 1935, with an allotment of \$100,000,000, and named Morris L. Cooke as its administrator. On March 5, 1936, the Senate passed the Norris Bill, providing for the creation of a permanent Rural Electrification Administration. The new bill provided \$420,000,000 for a 10-year program of loans to states, municipalities, or non-profit organizations to build generating plants and distribution lines in areas now without electric power; \$100,000,000 for the first two years, and \$40,000,000 each for the next eight years. The loans were to be self-liquidating over 25 years at 3%.²

Objectives

The Administration's objectives have been as follows: To get electric service into rural areas where there is none; but not to set up competition, because the rural or farm areas will not ask for the building of new generating plants. Line extensions have been stimulated in one of four ways: by cooperatives; by private company extensions; by municipally owned companies where they serve the territory; and

¹Federal Power Commission, National Power Survey, Interim Report, 1935;

pp. x-xi.

²Commercial and Financial Chronicle, March 7, 1936, p. 1567.

through state or public electrification authorities.¹

Method of Operation

Money is set aside for a project as follows: An initial application or request for a loan is docketed as a project by the Projects Division of the Administration; a primary study of the engineering, legal, and financial aspects is made by the staff; and on satisfactory projects an application for allotment is made by the Administration to the advisory committee on allotments appointed under the Emergency Relief Administration Act of 1935. After approval a contract is drawn between the Rural Electrification Administration and the borrower; funds are allocated; and construction begins.

The loans cover: the cost of building a distribution line, including the service lines to the farm house (up to 150 feet in length), and the customers' meters. Occasionally where there is no adjacent source of power and the size of the project warrants, a short transmission line and substation, or a small generating plant may be included as part of the project. The Electric Home and Farm Authority makes loans to finance wiring of the premises and the purchase of electric appliances. To make a project economically sound and self-supporting it is necessary, as a general rule, to use in each household an electric refrigerator, a kitchen range, or a water heater, or else to use on the farm a piece of electrical farm equipment such as a milk cooler, a feed grinder, or a general purpose motor.²

Some indication of the cost of rural lines may be given. Good rural lines can be built in most localities for \$1,000 or less per mile of line, including three transformers, services, and meters. Where there

¹Flynn, John T., All Lit Up and Going Places, Collier's, August 24, 1935, p. 13.

²What Every Farm Leader Should Know about Rural Electrification, pp. 4, 7, 8; Light and Power for the Farm, p. 8 - Rural Electrification Administration, Washington, D. C.

are more than three customers to a mile, the cost per mile will increase slightly for each additional customer, while the cost per customer, will, of course, decrease.

By February, 1937, the Rural Electrification Administration had lent or definitely earmarked a total of \$36,895,178 to build about 35,000 miles of line to serve 130,000 customers with central station electricity.

Educational Program

Education is essential to the development of widespread rural electrification. The campaign has been made fully cooperative in the sense that every agency having a part has conducted its own activities in the light of all the rest. The appliance manufacturers and dealers, the operating service companies, and the master plumbers have been among the cooperating agencies.

Rural electrification is being undertaken with the assurance of the whole-hearted cooperation of the National Grange, the American Farm Bureau Federation, and other farm groups, the public utility industry, the manufacturers of electrical and plumbing equipment, the Master Plumbers' Association, and various other agencies. Many of these groups see in the Rural Electrification Administration's program a new standard of farm life.

Ultimate Costs to Farmers

In the first place, 100% of the cost of a system is borrowed from the Administration. A rural system requires at least three customers to the mile. At a cost of \$1,000 per mile, each customer borrows \$333. Each customer must pay 6.91% a year for interest and amortization on a 20-year basis. Per month, this would be \$1.91. In addition, the Administration requires adequate depreciation charges to protect its

investment. At 4% on \$333, another \$1.11 per month is added. The electricity charge, meter reading costs, bookkeeping, maintenance, insurance, taxes, and installments on appliances have yet to be added to the \$3.02 basic cost. The extension of rural lines plainly is not going to be cheap for the farmer.¹

Results

Electric cooperative associations are now appearing rapidly. They are not entirely new as in some areas cooperatives have been common during the last 15 years. More than 11 states have enacted legislation creating non-profit corporations to obtain funds from the Rural Electrification Administration to build and operate lines. In Minnesota alone, 56 cooperative associations have been formed. Economy has marked the operation of the cooperatives. For instance, the homes of customers are used for meetings, there are no offices, and meters are read quarterly with payments on a quarterly basis.

The wholesale rate for power is the most important item of cost to the cooperatives. In Arkansas five major private companies, controlling more than 90% of the energy, have agreed to cooperate with the Arkansas Public Utility Commission in setting up a rural electrification authority to promote rural electric projects. The success of the whole program depends, of course, on the individual load-building of farmers.²

In conclusion, it seems entirely true that the Rural Electrification Administration has stimulated private companies to extend their lines into rural areas on a more liberal repayment basis, and for this reason, the project seems entirely justified at present.

¹Brooks, Jonathan, Uncle Sam as Promoter, Public Utilities Fortnightly, February 4, 1937, p. 171.

²Adams, W. C., Rural Electric Cooperatives Expanding Rapidly under REA, Idem, p. 161.

The Public Utility Holding Company Act of 1935

Introduction

The Public Utility Holding Company Act of 1935, or the Wheeler-Rayburn Bill as it is sometimes called, represented a long step along the road of social control of business enterprise. In fact, to some it seemed the first prelude toward complete nationalization of the power industry, and a direct challenge to the whole theory of private ownership of business. To others, it was the solution for the abuses, represented for the most part by the electric holding company, which had grown up during the 1920's.

The literature on the subject is most exhaustive. The Holding Company Act has been analyzed, propagandized, and criticized from all perspectives.

Chronology and Brief Discussion of the Events Leading to the Passage of the Wheeler-Rayburn Bill, Taken from Current Issues of Barron's and the Commercial and Financial Chronicle

On February 6, 1935, Representative Rayburn introduced House Bill No. 5423, and Senator Wheeler, Senate Bill No. 1725, both designed to eliminate some and regulate the remaining holding companies in the electric utility field.

On March 12, 1935, President Roosevelt transmitted the report of the National Power Policy Committee to Congress and urged passage of legislation recommended by the Committee. The President stated emphatically that except where absolutely necessary, the utility holding company must go. He said further, "It is a late innovation, dating from the same unfortunate period which marked the beginning of a host of other laxities in our corporate law which have brought us to our present disgraceful condition of competitive charter-mongering between our states."

The National Power Policy Committee's report drew heavily on the results of the Federal Trade Commission's investigation of electric utilities, discussed earlier in this thesis, and merely passed along its recommendations.

Inasmuch as the final passage of the legislation is best understood when portrayed against the background of utility and Congressional activity, it seems essential to discuss briefly the events of the spring and summer of 1935.

On March 13, Senator Norris introduced a resolution authorizing the Federal Trade Commission to investigate alleged propaganda of the utility interests.

On May 14, the Senate Interstate Commerce Committee reported on a modified bill.

By June 5, some 67 amendments had been proposed. On June 4, the Business Advisory and Planning Council, composed of 52 business leaders, had recommended regulation, but not abolition of holding companies.

On June 11, the Senate passed the Bill by 56-32, after defeating amendments to modify Section 11, the "death-sentence" clause by one vote.

On July 2, by a vote of 323-81, the House passed a modified bill, eliminating mandatory death sentence and allowing the Securities and Exchange Commission to determine if holding companies should be allowed to continue. The House also decided to investigate the utility lobby.

The Black Committee began its investigation of the activities of Associated Gas and Electric Company, which was not a member of either the Committee of Public Utility Executives nor the Edison Electric

Institute.

On July 10, the Bill had been sent to Conference to be discussed by the two houses and all during the lobby investigation these conferences were held up.

The fake telegram episode was a good example of what politicians mean when they say business men are stupid politically. In a paid advertisement in the July 29th issue of Barron's, the Associated Gas and Electric Company denied that the fake telegrams had the sanction of the system, but did say that "employees were supplied with material so they could 'intelligently' persuade customers and security holders to oppose the Wheeler-Rayburn Bill."

In spite of the investigation, the House, on August 1, by 210-155 again rejected the death-sentence clause.

Then Howard Hopson, president of Associated Gas and Electric, subpoenaed to appear before the Black Committee, created quite a stir in the press by eluding summons-servers.

The utility groups issued dignified statements disclaiming any connection with the Associated group, but unfortunately they were lost in the welter of publicity. For instance, T. N. McCarter, president of the Edison Electric Institute stated in August, 1935, "The Associated Gas and Electric Company is not a member of the Edison Electric Institute. The policy which certain representatives of that company are alleged to have pursued does not meet with the approval of the Institute. It has been the aim and policy of the Institute that the whole opposition to these governmental activities and to this legislation which collectively threatened the very life of the industry should be carried on in an open and above-board manner."

On August 22, the House by 219-142 voted to accept a compromise proposal of Senator Barkley of Kentucky, eliminating the Senate proposal to dissolve unnecessary holding companies by 1942 and instructing the Securities and Exchange Commission to reduce all holding companies to single integrated systems.

The Senate Interstate Commerce Committee drew up a conference report which was adopted on August 24 by the House, 222-112, and by the Senate without record vote.

President Roosevelt signed the Bill on August 26, to become effective October 1, with December 1 as the deadline for registration with the Securities and Exchange Commission. Thus ended one of the most bitterly fought pieces of New Deal legislation.

Provisions of the Act - Title I

The first section of the Act comprises the real Public Utility Holding Company Act, purporting to reduce and limit each holding company system to one single integrated system and by regulation to prevent certain relationships and financial practices which are harmful for consumer or investor.

The Act is very complex, and this discussion will confine itself to a summary of the main provisions, relying on the briefs filed by both plaintiffs and defendants in the following suit: Securities and Exchange Commission v Electric Bond and Share Company et al., District Court of the United States for Southern District of New York, No.

ES1-378.

Section 1 sets forth the legislative findings upon the basis of which Congress found control of utility holding companies necessary. Section 2 defines, for the sake of clarity, the terms to be used throughout the Act. Section 3 sets forth the classes of holding companies

which Congress exempts. These three sections represent the introductory passages of the Act.

Then come six groups of regulatory provisions. Sections 4 and 5 cover registration; 6 and 7, the issue of securities; 8, 9, and 10, the acquisition of securities and utility assets; 11, corporate simplification and reorganization; 12, and 13, service contracts and other intercompany transactions; 14 and 15, reports and accounts.

Sections 16 through 33 set forth the administrative provisions relating to enforcement, investigations, hearings, rules and regulations, penalties, and similar matters.

In Section 1 (a), Congress declared that a public utility holding company being affected with a public interest is affected with a national public interest when it builds up and maintains its control and influence over operating companies by the use of the mails and channels of interstate commerce, and that Congress has the power to employ its unquestioned authority over the mails and over interstate commerce to prevent the evils and abuses which spring from the holding company's use of the mails and such channels of commerce.

Section 1 (b) outlines the abuses of holding companies in the utility field, abuses which have been discussed before.

Section 2 defines 29 terms. For instance, Section 2 (a) (7) defines a holding company as a company which actually controls operating companies through a 10% or higher investment.

Section 3 provides that predominantly intrastate holding companies are exempted.

The crux of the whole Act is in Section 4 (a) which provides that where a holding company carries on, directly or through a subsidiary company any one of certain activities in interstate commerce or

through the mails, the holding company must register with the Securities and Exchange Commission under Section 5 by filing a notification of registration and then filing a registration statement containing certain detailed information regarding the company's business.

Sections 6 and 7 provide for permission of the Commission before a registered holding company may issue new securities. Sections 8, 9, and 10 require that the acquisition of subsidiaries must conform to certain standards, such as geographical dispersion, reasonable prices, economically justified, etc.

The "infamous" Section 11 provides in (a) that the Commission shall examine the corporate structure of every registered holding company and its subsidiaries and determine the extent to which such structure may be simplified, complexities eliminated, voting power fairly and equitably distributed, and properties and business of the system confined to a single integrated organization.

In paragraph (b) the Commission is directed as soon as practicable after January 1, 1938, to order each registered holding company and subsidiaries to take such action as the Commission shall find necessary to limit the operations of the system to a single integrated organization. The Commission may permit a holding company to continue to control one or more additional integrated systems located in a single state or adjoining states on an affirmative finding that such additional systems cannot be operated independently without loss of substantial economies.

Paragraphs (d), (e), and (f) define the means by which the reorganization is to be accomplished. They involve application to the Court for enforcement of the Commission's order, the appointment of a trustee (which may be the Commission) by the Court, and the

disposal of any or all assets on order of the Court in accordance with a reorganization plan which may be proposed by the Commission and must receive Commission approval in any event. Security holder consent is not necessary.

By paragraph (g) it is made unlawful for any person to solicit proxies, consents, authorizations, etc. in connection with a reorganization plan unless such plan has been proposed by the Commission or has been submitted to or reported on by it.

Sections 12 and 13 are set up to prevent upstream and to regulate downstream loans, to regulate service contracts, and to insure strict control of all dealings in which parties are not at arms' length.

Sections 14 and 15 set up accounting standards to be followed in reporting to the Commission.

Among other rules of procedure, the administrative sections 16-33 provide in Section 20 (c) that the orders of the Commission can be made only after notice and hearing, and in Section 24, that all orders are subject to appropriate judicial review.

Provisions of the Act - Title II

The second section of the Act, called the Federal Power Act, is in three parts: Part 1 comprising the original Federal Water Power Act of 1920 with certain amendments, controlling the licensing of water-power projects on government lands and on streams under the jurisdiction of the United States; Part 2, dealing with the regulation of electric utility companies engaged in the business of transmitting or selling electric energy in interstate commerce; and Part 3, headed "Licensees and Public Utilities--Procedural and Administrative Provisions".

The Federal Power Act specifically states that its jurisdiction is "to extend only to those matters which are not subject to regulation by the states". Electric energy in interstate commerce is defined as that "transmitted from a state and consumed at any point outside thereof". Sale at wholesale is defined as "sale of energy to any person for resale".¹

The regulatory provisions of the Federal Power Act gives the Federal Power Commission much the same authority as the better state commissions have over intrastate companies. However, the Federal Power Commission may not require a certificate of public convenience or necessity before a company may engage in interstate business.

The Federal Power Commission has authority over security issues of any utility subject to the Act which does not do business in the state in which it was organized or issues of which are not regulated by the commission in that state.

In accounting, the Federal Power Act provides for record keeping prescribed by the Commission, but this does not relieve a utility from complying with state regulation on this score.

In the acquisition of securities or assets of other utility companies the Act requires approval of the Commission on amounts in excess of \$50,000.

Jurisdiction over service is limited. The Act provides that on the request of a state commission, the Federal Power Commission may prescribe proper service, but may not arbitrarily demand enlarged facilities.

Rate control is confined to wholesale rates in interstate service. It does not include power similar to that granted by courts on

¹Benton, J. E., Will the Utility Act Upset State Regulation, Public Utilities Fortnightly, January 2, 1936, p. 28.

the Interstate Commerce Commission to set intrastate rates which conflict with those in interstate railroad service.

The Federal Power Commission is directed to divide the country into regional power districts and to encourage interconnection and coordination of facilities within each district and between districts.

In addition, upon application of any state commission or person engaged in the transmission of energy, the Federal Power Commission may force a public utility (if no undue burden is put upon it) to physically connect its transmission facilities with others and sell or exchange energy. Larger generating facilities may not be forced on the utility however. In event of war, the Commission may on its own motion or on complaint require temporary connection of facilities.

Other provisions of the Act direct the Commission to make available to state commissions information and reports as may be useful, to make its rate valuation and other experts available to the state commissions.

In summary then, the Federal Power Commission is given much the same regulatory authority over electric interstate operating companies as was given the Securities and Exchange Commission over interstate holding companies.

Legal Status of the Public Utility Holding Company Act, from
Current Issues of the Commercial and Financial Chronicle

The utilities lost no time after the passage of the Act in August, 1935, in rushing to the courts with innumerable cases to test the constitutionality of the Act. On September 16, suit was filed in the Federal District Court of Baltimore on behalf of the American States Public Service Company, a vulnerable company controlling water and power companies in seven widely separated states.

On November 7, Judge William C. Coleman of the Baltimore Court handed down a decision that the Public Utility Holding Company Act was invalid in its entirety. On November 8, James M. Landis of the Securities and Exchange Commission stated that the decision did not exempt companies from civil and criminal penalties for failure to register.

United Gas Improvement Company was one of the first large companies to refuse to register and on November 20 filed suit in the United States District Court in Philadelphia asking for temporary injunctions against enforcement. The government's suit against the Electric Bond and Share Company was brought in the Federal Court of the Southern District of New York on November 26.

Before the December 1 deadline, 60 companies had applied for registration, 331 had filed exemptions, and 46 suits had been brought to restrain the Securities and Exchange Commission.

On December 24, Attorney General Cummings filed in the District of Columbia Supreme Court, requesting a stay on all proceedings involving the Act until the United States Supreme Court decided the suit of the Securities and Exchange Commission against Electric Bond and Share. On January 6, 1936, this was granted.

Late in February, 1936, the Circuit Court of Appeals in Charlotte, North Carolina, modified Judge Coleman's decree by eliminating his ruling that the Act was entirely unconstitutional.

On March 30, the Securities and Exchange Commission won a victory when the Supreme Court refused to review the American States Public Service Company case.

On June 22, the Court of Appeals for the District of Columbia reversed a decision of the District Supreme Court restraining further

proceedings in suits filed by seven companies. This was a victory for the utilities.

On July 24, the Securities and Exchange Commission asked the Supreme Court to reverse the June 22 decision because of the almost impossible task of preparing briefs for so many cases.

On September 14, the Securities and Exchange Commission filed briefs with Judge Mack of New York City, charging that Electric Bond and Share by failure to register, prayed for relief from regulation with unclean hands. The brief also stated that only about one-tenth of the industry had filed.

On September 9, the Electric Bond and Share Company filed a brief contending that the registration provisions were not a separate system of regulation, but were a part of the whole Act. On October 10, this was denied by the Commission.

On December 7, the government obtained a partial victory when the Supreme Court remanded to the Federal District Court, the government's petition to stay the suits brought in the District of Columbia until Electric Bond and Share was decided.

On January 29, 1937, Judge Mack ruled that utility holding companies must register with the Securities and Exchange Commission. This seemed to indicate that the provisions of the Act might be adjudged separately.

The Electric Bond and Share Company, however, was not satisfied to comply with the court's order and appealed; on April 6, this appeal was granted.

On November 8, the United States Circuit Court of Appeals upheld the law in sustaining a decision by Judge Mack, restraining the Electric Bond and Share Company from using the mails in interstate

commerce unless it registered with the Securities and Exchange Commission under the Act.

After the January, 1937 decision, the American Water Works and Electric Company decided to register, drop its suit, and cooperate with the Commission in simplifying its capital structure. Other large groups to register have been the North American Company, Middle West Corporation, American Light and Traction Company, and the Northern States Power Company.

In the briefs filed by the government in the Electric Bond and Share case, it is contended that the registration provisions are separate from the other provisions of the Act and that registration does not impair any of the constitutional rights of the companies. Registration provides publicity requirements which supplement and extend the Securities Acts of 1933 and 1934. The defendants in their briefs contend that the registration statement cannot be held inseparable from the rest of the Act. Assumption of the status of registered holding companies would practically compel submission to the regulatory provisions.

The Securities and Exchange Commission contends that not a single operating utility in the Bond and Share system is located in any of the five states in which are incorporated the 13 holding companies. This explains why the government is so anxious to have this company as the test case before the Supreme Court. It is particularly vulnerable as an uneconomic holding company.

The government relies of course on its control over interstate commerce and the mails to secure approval by the Supreme Court of the Act. For instance, the plaintiffs' brief cites *Stafford v Wallace* (258 U.S. 495, 521) in which the authority of Congress to control interstate commerce was upheld and *Whitfield v Ohio* (297 U. S. 431)

which granted Congress power to control interstate shipments of economically evil articles even though they are not inherently dangerous.

The eight abuses of holding companies outlined in Section 1 (b) of the Act are claimed as fact finding by Congress which is generally presumed to support the constitutionality of legislation in the courts and which has to be proved wrong by defendants for relief. *Lindsley v National Carbonic Gas Company* (220 U.S. 61).

The registration provisions are claimed to be merely a continuation of Congress' contention in the Federal Trade Commission Act and the Interstate Commerce Act that the informatory process is in itself a valuable regulation of interstate commerce. *Dayton-Goose Creek Railroad Company v U. S.* (263 U.S. 456).

It is further claimed that the technique is essentially similar to that adopted by Congress under the anti-trust laws, *Northern Securities Company v U.S.* (193 U.S. 197); and under the commodities clause of the Hepburn Act, *U. S. v Reading Company* (253 U.S. 26).

The provisions of the Act were intended to be and are separable. In fact, the Act may be compared with the whole series of Congressional Statutes enacted over a period of years covering railroads. Congress intended to draft the Act so that the invalidation of any part of a section or even of a subsection should not affect the remainder.

In rebuttal the defendants attempt to refute the Commerce and Postal authority in this field.

"The power of Congress under the Commerce Clause comprehends three things: (1) regulation of activities constituting interstate commerce; (2) regulation of activities directly affecting interstate commerce; (3) regulation of the use of the instrumentalities of

interstate commerce.

* * * * *

"But the power of Congress over the use of the facilities of commerce is very different. The use does not constitute interstate commerce; the use does not make the activity performed thereby interstate commerce. The power to regulate the use therefore exists only because such use may obstruct or burden the facilities of commerce or may cause them to be misused. Consequently, this power extends only to the prevention of such obstruction, burden or misuse. Congress cannot, as the Commission contends, regulate the activity performed by means of the use in accordance with its concept of a 'sound public policy' because the activity is not interstate commerce and such regulation is not therefore a regulation of interstate commerce.

"The Commission confuses two concepts. It starts with the perfectly proper premise that holding companies are subject to some form of regulation under the Commerce and Postal clauses. Then the Commission jumps to the conclusion that the activities performed by means of such use are interstate activities."

The defendants attack Section 11 in the following manner:

"Section 11 is not an exercise of the bankruptcy power. Corporations are to be divested of 'control', 'securities', and 'other assets' and are to be liquidated or reorganized solely because the Commission has determined that their corporate structures 'may be simplified, unnecessary complexities therein eliminated, etc.' The Commission's plenary power is untrammelled by any test or standard. It alone is to 'determine what may be simplified, etc.', how these corporations may be divested of their property not in satisfaction of their creditors but because the Commission has determined that this would be

appropriate 'to the operations of an integrated public utility system.'"

It is very difficult, in view of the Wagner Act decision, to venture a prediction as to what the Supreme Court will do with this Act. Some questions may well be raised, however, in view of previous decisions, as to just what the major points to be decided seem to be.

In the matter of interstate commerce, there have been many cases holding that the generation of electricity and the manufacture of gas are intrastate and under state jurisdiction even if immediately transmitted across state lines. *Utah Power and Light Company v Pfast* (1932)-(286 U.S. 165). It has also been held that local distribution of electricity or gas is under state jurisdiction even if it has been transmitted across state lines. *East Ohio Gas Company v Tax Commission* (1931)-(283 U.S. 465). A twilight zone indeed! However, under the Wagner Act interpretation of interstate commerce, these above decisions may well be reversed. It is expected that the Supreme Court will decide the constitutionality of the Public Utility Holding Company Act in 1938.

Administration of the Act - Securities and Exchange Commission

"The (Public Utility) Act constitutes the Securities and Exchange Commission the repository of arbitrary power to regulate, manage, control, and destroy an industry, subject to conditions so indifferently defined as to constitute no limitation at all."¹

Thus one author views the black future for the administration of the Act. But one must remember that the Securities and Exchange Commission has won, on the whole, praise from those it regulates, at least until Mr. W. O. Douglas became chairman. This was largely due to Mr. Kennedy and Mr. Landis who are both out now, but if the Commission carries on the good work of these two, the administration of the Public Utility

¹Mitchell, J. G., *Utility Act Replete with Uncertainties, Obscurities and Arbitrary Powers*, *Annalist*, September 13, 1935, p. 357.

Act will continue to be fair and reasonable.

So far the Securities and Exchange Commission has rather welcomed the lack of registrations because it has given it time to work out and develop a wise course to follow. Among other rulings, it has: (a) ordered adherence to a uniform accounting system beginning January 1, 1937, designed to eliminate many of the past bad practices; (b) broadened a rule exempting securities received as dividends by registrants to include other securities beside stocks; (c) issued many rules covering exemptions to certain sections of the Act; and (d) issued many forms for all types of registering companies.

One of the members of the Commission, Mr. R. E. Healy, gave an illuminating talk on the administration of the Act in August, 1936. The impression gained was that the Commission was trying hard to be reasonable about the many problems raised.

The machinery for registration, according to Mr. Healy, has been made as simple as possible, exemptions were made elastic, the definition of a holding company was taken in its widest aspect, and certain standards of determining what companies were to be considered utilities were set up.

The finance section has been organized into eight groups, to each of which are assigned a number of systems, whether registered or not. These are all being studied in preparation for simplification.

The Act has strict control over security issues. The mechanism followed by the Commission begins when the declaration of a security issue is filed; then the particular company's finance division checks it over; presents the material at a hearing before a trial examiner; then submits it to the Commission for a finding.

Many other details of procedure have been equally carefully worked out, and the whole system seems to be functioning smoothly. The Commission does not regard its task of administration as driving an opening wedge for public ownership. It is felt that Federal regulation is still in an experimental stage, but that the Act provides extensive flexibility of procedure so that the Commission may learn through experience.

The problems to be solved by the Commission under Section 11 will present almost insurmountable difficulties. The real problem will be geographical, for holding companies are spread all over the map. Three courses have been suggested: (a) selling outlawed properties to the public; (b) selling to other utility companies; and (c) transferring outlying properties from one system to another. All of these will raise complexities in the capital markets. It will be hard to swap properties. Investors must be protected and voting power fairly and equitably distributed. Operating companies must be maintained. Once the Commission starts work on this phase of its control in 1938, it may well have to recommend changes in the law simply because it may be impossible to distribute equitably holding company income from operating companies and at the same time dissolve the holding companies. The program may not be completed until 1940 or later, because each holding company must have hearings, and will be given a year to comply, with one extension.

In a statement issued November 16, 1937, the Commission asserted that the process of forming an integrated public utility system was of necessity in many cases "an evolutionary rather than a revolutionary" one and should be so conducted as to protect security holders from sacrifice attendant upon forced selling.¹

¹Commercial and Financial Chronicle, November 20, 1937, p. 3273.

Administration of the Act - Federal Power Commission

The Federal Power Commission has been the subject of bitter controversy because of its non quasi-judicial attitude and its liberal leanings. It works hard though on many investigations ordered by Congress.

The main administrative act of the Commission so far under Title II was the adoption on June 16, 1936, of a uniform system of accounts to take effect January 1, 1937. It was developed in cooperation with the National Association of Railroad and Utility Commissioners, state and Federal agencies, and after solicitation of the views of the companies concerned.

One controversial point was the requirement that the actual cost of electrical utility property constructed or acquired in the future be stated in the accounts and that all property as of January 1, 1937, be reclassified on the basis of original cost (actual or estimated) and the difference between this and book cost be carried in a separate adjustment account. The problem of valuation will be discussed later.

The Commission at present feels that there is no immediate prospect for any interference with intrastate rates and hopes that rate regulation of interstate rates will dovetail with state regulation on a cooperative basis.

A four-point program to be presented to the January, 1938 session of Congress by the Commission will recommend changes in Title II. Defects in the Act are listed as follows: There is nothing in the Act preventing electric utilities from abandoning service before obtaining the consent of the Commission. The language of the Act is confusing in regard to control over mergers and sales of properties. Control by the Securities and Exchange Commission of management or holding companies

and the fees they may charge operating companies is considered a serious defect. The regulation of transfers and sale of securities and other liquid assets needs revision.

The best insight into the policy of the Commission may be gained from a statement made by Basil Manly, one of its members: "It (the Commission) avoids alike the extreme of state socialism on the one hand and economic anarchism on the other. It does not go along with those who demand nation wide public ownership and operation of the generation, transmission, and distribution of electricity. It refuses likewise to be misled by those anarchistic captains of industry who resort to every device to escape regulation so that they may follow their own individualistic and destructive policy."¹

Economic Effects of the Act

In attempting to evaluate the form of social control set up by the Public Utility Holding Company Act of 1935, one must recognize the line of demarcation between the technical and financial aspects of the power industry, and further, the difference between rate policy and corporate structure under financial aspects. The technical advances in the United States have been second to none, but the financial history of the utilities has been quite dubious. Then too, the rate-making policy of all too many utilities has been involved in law suits and long drawn out valuation cases while the corporate structure, through the use and misuse of the holding company device in the 1920's was certainly not sound. Therefore, the main attack by the Federal government has been on the financial side of the industry and it is this side which is to be regulated by the Public Utility Act.

As far as the Federal Power Act is concerned, that is an

¹Brayman, Harold, The FPC, the FCC, the SEC, Public Utilities Fortnightly, July 30, 1936, p. 115.

attempt to fill the "no-man's land" gap created by the Supreme Court in the field of interstate power transmission, and since power is still largely locally generated, the social control features of this Act are not so far-reaching at present. However, it is quite possible that the interstate transmission of energy will play a more dominant role in the future when the Securities and Exchange Commission finishes its economic integration of holding company systems and interconnections are necessary, when the huge government hydro projects start branching out in search of wider markets, and when the thyatron tube, making long-distance transmission feasible, is commercially developed.¹

Agitation for control of holding companies by the Federal government was inevitable after the collapse of so many unsound companies. And it was long over-due. Holding companies in the early days were essential to the growth of the industry. No one can deny that the promoter's stimulation brought about our present superior service. But, with a sellers' market, an excellent opportunity was offered for the formation of holding companies based on future possibilities. In fact, the power utilities just repeated the frenzied finance of the railroads. Therefore, the managements of the holding and superholding companies were not interested in furnishing public utility service, but in issuing and selling securities. When the sellers' market stopped, the whole structure fell.

The Public Utility Act has already caused a marked "squeezing" in the layers of companies of many systems, as will be described later. If the Securities and Exchange Commission continues its reasonable course, by the time the integration is completed, we may well have sound, economically functioning systems. Satisfactory results have not been obtained through the management of far-flung operating companies by

¹For technical note on thyatron tube, see Exhibit 6, in Appendix.

highly centralized management through intercorporate organizations.

(One may well wonder if the centralized Securities and Exchange Commission and Federal Power Commission will do any better.) The need therefore is for more localized management, with supervision on a regional basis. The coming development in the utility field is essentially a marketing job. The operating utility still needs the service of a centralized holding company organization in the matter of securing experts and perhaps even financial assistance. Honest service companies, on a mutual basis have their place. Strict regulation would seem to be the answer in this field, and this is provided in the Act.

It is all very well to say that the death sentence was an arbitrary assumption of unconstitutional power, but one may wonder if there was any other solution to the obvious need of doing something about companies such as Associated Gas and Electric and Electric Bond and Share. Of course, regulation should have come in years ago, but once these widely-separated empires were built up, how else could they be coordinated but under threat of extinction? It has been the American system to swing from one extreme to the other. We did not learn anything from the early, unregulated railroad days. Many people during the 1920's realized that the holding company device was getting out of hand, but as usual we waited until fingers were burned before deciding to do anything about it.

The magnitude of the task of integration placed upon the Securities and Exchange Commission and the fact that reorganizations are subject to review in the courts of equity seem to indicate that nothing hasty will be attempted. Perhaps the rigid control of all phases of holding company activity would have been the answer rather than Section 11, but it is hard to conceive of any ill-effects from integration as such,

if the provisions of "fair to investors" and "economically justified" are faithfully followed. The Act was entirely too harsh from a public relations point of view, in that the industry has fought hard in the courts to have it thrown out. Some companies have cooperated by registering and it is easy to imagine that they will secure better treatment from the Securities and Exchange Commission than Electric Bond and Share Company -- assuming that the Act is upheld by the Supreme Court.

One may well digress from a narrow consideration of the Public Utility Act as a control for holding companies and mention the stringent Federal tax laws applying to such companies, which to some observers will have more potent influence on simplification than the death sentence. For instance, the 1936 law provides that 15% of all dividends received by a corporation from another corporation must be included in income for corporate normal taxes and for the excess profits tax, all dividends of a corporation from another corporation must be included in income. With many layers of holding companies, taxes will have to be paid over and over again on part of the same income.¹ The Federal government is determined to eliminate super-holding companies in one way or another.

In conclusion, the states have been powerless to regulate the holding companies. Therefore, no one can gainsay the fact that the Federal government must take the job. Holding companies were economically justified in the beginning of the power industry, and they still are in the narrower, integrated, regional sense. The Public Utility Act is the solution offered - it is almost impossible to judge its success until the actual integration mechanism begins in 1938. As a means of social control of holding companies, the Act was not in essence cooperative toward the solution of a knotty economic dilemma. But the agency chosen

¹For the Holding Company--Death, Taxes or Both? Public Utilities Fortnightly, July 30, 1936, p. 159.

to administer it has shown itself fully aware of the immense problems of the industry and with a continuation of this same policy, the Public Utility Act will probably shake down, through amendments, into a sane and sensible means of control.

The effect of this Act on operating companies may be both beneficial and detrimental, depending on the angles from which it is viewed. Operating companies, where strong, probably can get along perfectly well without financial assistance and they can afford their own staff of experts. Operating companies have often suffered from remote control and lack of understanding of local problems and may well prosper when relieved from too much red tape. However, the smaller companies still need services performed for them and assistance in financing expansions. Then too, one can easily see a need for holding companies in the development of rural electrification and interconnection for favorable load building and control. A first degree holding company as provided in the Act would seem to cover these needs. Operating companies have been functioning under state regulation, not uniform it is true, but it is hard to believe that the Public Utility Act will irreparably damage their future development as some maintain. From an economic point of view, operating companies perform an essential service and regulation or no regulation they will continue to be measured in the light of the most efficient service at the lowest rates compatible with a fair return.

Since regulation of public service companies is supposed to be in the interests of the consumer, one should consider what will be the effect of the Act on the general consuming public. In brief, this legislation does not solve the specific problems of utility rate structure at all. During the debate on the Act, Representative Rankin

mentioned a billion dollar overcharge, but it does not seem evident that operating companies in the main were sabotaged by the pernicious habits of some holding companies. The whole difficulty with rate making has been the legalistic attitude as opposed to the marketing attitude. The operating companies have been prone to rush into the courts when commissions have attempted to revise rate structures. The lengthy rate and valuation cases which often ensue strangle any effective regulation in the consumer interest, for often by the time "fair value" and a "fair rate of return" have been finally agreed upon, economic conditions have changed completely and a new set of facts is in existence. Perhaps this situation is inevitable in a regulated industry, but that seems to be one of the dangers of too much social control. Under the umbrella of governmentally protected semi-monopoly, utilities have often failed to be as aggressive as competitive industries, they have thwarted efficient regulation by hiding under the 14th Amendment, they have tended to make domestic and commercial rates inflexible while realizing the competitive nature of wholesale rates, they have not been up on their toes in establishing promotional rates for domestic users, and no premium has been available for alert, capable, far-sighted management.

And the utilities have not been wholly to blame. A fixed return on fair value has not taken into account the fact that utilities must do business in a dynamic world subject to shifts in the business cycle. The untenable valuation theory of rate making should give way to some sort of sliding scale arrangement, more quickly adjustable to changing conditions.

The Public Utility Act, with its bias toward the financial side of utility holding companies and control of interstate utilities

only, does not really solve the exceedingly difficult problems of operating companies and the general consumer of utility service.

The whole problem of rate making needs a thorough revision. The "horse play" attitude of operating companies in this field has done as much harm to private ownership as the frenzied finance of the holding companies. The legal interpretations have not been consistent either. In fact, Mr. J. C. Bonbright, in his book on "The Valuation of Property" states on page 1154 that in effect, the pronouncements of the Supreme Court on valuation have helped speed public ownership on its way.

The financing of utility companies in the future, both holding company and interstate utility company, under the controls set up, should provide more protection to the investor and more sound capital structures. So far there is no evidence that the Public Utility Act has impeded financing in general. In spite of the claims that capital has shied away from the utility industry, many sound companies have been able to take advantage of easy money conditions and refund their securities at lower interest rates. From a long range aspect, investment bankers must realize that improved conditions will benefit them and confidence in holding companies may well be restored by regulated financing. One great danger is that the public may mistake government regulation for endorsement of securities. The recent recession, and the correspondence between the Stock Exchange and the Securities and Exchange Commission indicates the difficulties encountered by a government body trying to regulate a dynamic stock exchange.

One of the main arguments against both Title I and Title II has been that state regulation will be emasculated and in some provinces rendered useless. One can find ample material pro and con on this aspect. Some feel that commission regulation has been inefficient and

only partially successful because of a lack of a professionalized body of commissioners in most states, inadequate appropriations, deficiencies in basic laws, unworkable methods of valuation imposed by courts, exploitation of industry by bankers and brokers, etc. Title I of the Public Utility Act deals with holding companies, but through such control has power to regulate the financial aspects of subsidiaries. Therefore, the presumption is that encroachment on state authority may result. But in the matter of security issues, the Securities and Exchange Commission has shown an inclination not to interfere with those already passed by state commissions or those for an operating company's own financing. The main danger of duplication seems to lie with Title II. Although it specifically states that jurisdiction of the Federal Power Commission extends only to those matters not subject to regulation by the states, its supervision enters fields already state controlled.

The Federal Power Commission may control rates in wholesale interstate service only. The original Interstate Commerce Act of 1887 did not contemplate Federal interference with intrastate railroad rates, but in 1914, the *Houston, East and West Texas Railroad Co. v U. S.* (234 U.S. 342) case held that the Interstate Commerce Commission could control intrastate rates where necessary to prevent discrimination against interstate rates. The Federal Power Act may end the same way because the business of rendering electric service does not permit clear segregation in all respects between different classes of service - generation, transmission, and distribution systems may well handle both inter and intrastate electricity.

Federal controls set up in the Public Utility Act do seem to infringe somewhat and in some fields duplicate state regulation. Perhaps under the impetus of Federal competition in this field of utility control,

the state commissions may well seek legislative action to augment and define their powers to cope with a threat to their existence. If states refuse to control utility service - and many do not do an adequate job at the present time - the Federal government under its present set-up will do it for them. Real cooperation between Federal commission and state commission control in attacking common problems should provide room for both of them to function.

Does the Public Utility Holding Company Act of 1935 really solve the fundamental social and economic problems of utility service? It does not seem so to do. Regulation of the railroads did not save them from motor vehicle competition and probably retarded any initiative they might have developed. Under state commission regulation, problems of other utilities, such as the street railway and gas companies were not solved. Therefore, one must conclude that regulation under the Public Utility Act will not materially affect the problems of service, expansion, efficient management, and advances in the arts in the electric field. Regulation cannot be substituted for management, but through sane regulation management may be held responsible for results.

Whether the Public Utility Act is the answer to the problem of regulation can only be determined in the light of future events. At least, it represents an attempt to cope with difficult problems, and it should not be considered the last word, nor thrown out entirely, until the Securities and Exchange Commission and the Federal Power Commission have had an opportunity to demonstrate their ability or inability to secure results.

The electrical industry has devoted much time and effort to the standardization of equipment, methods, practices, and terms, an achievement that has not yet reached abroad.

ATTEMPTS OF THE UTILITY INDUSTRY TO CORRECT ABUSES OF THE PAST

Answer to Federal Trade Commission Indictment

Growth of Industry

Material prepared by the Edison Electric Institute brings out the point that private and municipal ownership began in 1882 on an even footing. The preponderance of private capital in 1932 is an indication to the Institute of the merit of that type of enterprise.

In the technical field, great strides have been made by the electric power industry. A brief chronology of outstanding events since 1900 is shown in Table 15.

TABLE 15

- 1899 - First steam turbo generator built.
- 1906 - DeForest invented grids for use in vacuum tubes.
- 1908 - Suspension insulators removed limitation of 50-60 kilovolts for transmission of energy.
- 1911 - Drawn Tungsten incandescent lamp filaments introduced.
- 1923 - First commercial mercury vapor turbo generators installed.

Source: The Case for Private Ownership of Electric Utilities, Edison Electric Institute, 1935, pp. 12-13.

The progress made in larger generating units and efficiency in coal consumption is shown in Table 16.

TABLE 16

Growth of Size of Steam Turbines and Boilers

Year	General Average Size of Unit Installed in Year	Fuel Use
	Boiler, 1000 Sq. Ft.	Pounds Coal
	Heating Surface	per Kw.Hr.
	Turbine, KW.	
1908	10,000	5.25
1919	30,000	3.20
1930	100,000	1.62

Source: Ibid, p. 23

The electrical industry has devoted much time and effort to the standardization of equipment, methods, practices, and terms, an achievement not yet matched abroad.

Integration and interconnection have reduced the cost of electricity, brought it to many smaller communities and increased the reliability of the service.

In the industrial field, electricity has grown to play an important part. In 1929, 79% of all power used in manufacturing was electric. In 1932, privately owned electric utilities sold 98.6% of the power supplied industry.¹

In the domestic field the growth of the average annual use and reduction in price is indicated in Table 17,

TABLE 17
Domestic Electric Service and Cost of Living
Index Nos. - 1913 = 100

Dec. Year	Average Annual Use Kw.Hr.	Average Annual Bill	Average Revenue per Kw.Hr.	Cost of Living*	Domestic Electric Service
1913	264	\$22.97	8.70¢	100.0	100.0
1918	272	22.50	8.27	166.9	95.1
1923	368	26.50	7.20	174.7	82.8
1928	463	30.70	6.63	173.3	76.3
1932	601	33.54	5.58	133.5	64.2

*U.S. Bureau of Labor Statistics (revised Series-Sept. 1935)
Source: Ibid, p. 23.

Electric service has been extended to all classes of urban homes and today nearly all homes in America in communities reached by electric wires have electric service.

In the field of rural electrification, the growth under private development is shown in Table 18.

TABLE 18
Farm Electrification

Dec,31	Total Number of Farms	Farms Using Electricity	
		Number	% of Total
1923	6,341,000	177,561	2.8
1928	6,321,800	506,242	8.0
1932	6,498,100	709,449	10.9

Source: Ibid, p. 28

¹The Case for Private Ownership of Electric Utilities, Edison Electric Institute, 1935, p. 15.

In tracing the investment history of the utilities, Table 19 indicates the rate of return on capital invested in plant and equipment. Because of the nature of the industry, a relatively large capital investment is required. For example, in 1932, the average investment was \$530 per electric customer.¹

TABLE 19
% Return on Investment
Commercial Electric Municipal Electric
Enterprises Enterprises

1902	4.4	8.3
1912	4.5	9.5
1922	6.5	10.1
1932	6.1	7.6

Source: Ibid, p. 30

In the matter of losses to utility investors during 1931-1935, through receiverships, the percentage was 4 2/3 of the fixed capital of the industry as compared to 21.7% in the case of steam railroads.²

Rates for electric service have been lowered over the past 50 years and this achievement is considered remarkable in view of the large increases in taxes paid to various governmental bodies, and a generally rising level of wages and prices of materials.

Comparisons of electric statistics for different countries are of small value because of differences in terms, accounting, conditions affecting operations, etc. In Table 20, however, the kilowatt hour per capita gives a fairly accurate idea of the preeminence of the United States in the production of electricity.

TABLE 20
Electricity Production Per Capita

Country	Area Sq. Miles	Population 1929-1931	Population per Sq. Mi.	Electricity Production	Kw.Hr. per Capita
Australia	2,974,581	6,500,751	2	2,435,858,000	375
Europe	1,982,591	380,312,000	192	73,229,250,000	193
Soviet Russia	8,144,288	157,000,000	19	4,541,000,000	29
United States	3,026,789	122,775,046	41	88,591,736,000	722

Source: Ibid, p. 47

¹Ibid, p. 17.

²Ibid, p. 18.

Regulation

The Federal Trade Commission claimed that regulation had broken down and that long rate cases had defeated judicial regulation of rates and services. The Institute emphasized the point that most of the development and growth of the industry had taken place under regulation and that "regulation protects the customer from monopoly but preserves the advantage of efficiency and initiative of private management".¹

In the matter of law suits, the survey made by the editor of Public Utilities Fortnightly magazine found that between the time utility commissions were established (about 1907) and 1934, 142,704 decisions were handed down by the commissions of 21 states, and of these 1,389 were appealed to state courts, and 108 to Federal courts.²

Accusations Against the Industry and the Answers

One of the outstanding sins listed in the Federal Trade Commission's report was the use of write-ups which brought much inflation into utility assets. The industry claims that the methods used by the Commission in determining this inflation were unfair and often cumulative. The Institute points to the inflation of farm values after the War, to the rising price level, and finally to the Federal government's profit in writing up the gold reserves at the time the dollar was devalued, in an effort to show that the utility industry has not been the only offender.

In the matter of advertising and propaganda, the industry maintains its right to advertise as does any other business, and claims that the attempts at educating the public were child's play compared to the vast amounts of government material poured out on such projects as the Tennessee Valley and rural electrification.

The Power Industry During the Depression

Mr. Charles Kellogg of the Edison Electric Institute has said

¹Ibid, p. 78; from Public Utilities Fortnightly, May 21, 1936, p. 3

²Ibid, p. 79.

that the best answer to the claims of anti-utility propoganda is the work the industry has been doing in the past six years. This may be shown statistically in the following table:

TABLE 21
The Power Industry

	Kw.Hrs.Sold to Ultimate Con- sumers	Number of Customers	Revenue from Ultimate Consumers	All Sales Average		Kilowatt Generating Capacity
				Realization ¢ per Kw.Hr.Sold	Farms with Farms	
1932	63,710,792,000	23,877,741	\$1,813,717,100	2.85		33,864,072
1933	65,915,703,000	24,027,153	1,754,366,100	2.66		33,733,620
1934	71,081,598,000	24,662,828	1,831,870,500	2.58		33,524,471
1935	77,596,025,000	25,312,802	1,911,988,900	2.46		33,888,305
1936	89,500,000,000	26,100,000	2,058,300,000	2.30		34,076,000
1937*	98,805,302,000	26,783,273	2,170,007,700	2.19		#
			Av. Cost for Household	Aver. Bill in \$	Farms Occupied Dwellings	% Using Elec.
	Construction Expenditures	Consumption Per Customer KWH	Use in ¢ per KWH			
1932	\$285,000,000	587	5.57	33.25	6,188,144	11.5
1933	129,300,000	593	5.49	32.56	6,305,119	11.3
1934	147,654,000	624	5.30	33.07	6,422,088	11.6
1935	192,855,000	669	4.99	33.38	6,462,175	12.2
1936	275,000,000	719	4.69	33.72	6,502,280	14.1
1937*	#	785	#	#	#	#

*Twelve months ending September 30, 1937.

#Not available.

Source: The Electric Light & Power Industry in the U.S., Statistical Bulletin No. 4, Edison Electric Institute, January, 1937, pp. 2,3,8,15,17,18; Edison Electric Institute Bulletin, December, 1937.

Holding Company Reform

To determine the accomplishments of the industry in self-reform, one may well study the eliminations of holding companies in several of the large systems, both before and after the Public Utility Act of 1935.

For instance, in the 1936 annual report of the United Gas Improvement Company, there was mention of 3 dissolutions and 2 mergers. In the report of the Consolidated Edison Company of New York for the same year, there was reference to 11 mergers with 2 more contemplated. In the 1936 report of the Niagara Hudson Power Corporation, the squeezing of that system was portrayed graphically, as follows:

TABLE 22
59 System Companies at 12/31/29

Niagara Hudson Power Corporation			
Buffalo, Niagara & Northeastern		5 subsidiaries	Mohawk Hudson
Eastern Power Corp.	Power Corp.	7 sub-subsidiaries	Power Corp.
5 subsidiaries	3 subsidiaries		8 subsidiaries
10 sub-subsidiaries	11 sub-subsidiaries		6 sub-subsidiaries

35 System Companies at 2/1/37

Niagara Hudson Power Corporation			
Buffalo, Niagara & Eastern Power Corp.		15 subsidiaries	5 subsidiaries
5 subsidiaries			1 sub-subsidiary
7 sub-subsidiaries			

21 System Companies if Proposed Consolidations are Effected

Niagara Hudson Power Corporation			
Buffalo, Niagara & Eastern Power Corp.		5 subsidiaries	3 subsidiaries
4 subsidiaries			1 sub-subsidiary
6 sub-subsidiaries			

Source: Annual Report of the Niagara Hudson Power Corporation, 1936.

The Associated Gas and Electric Company presented the following table in its 1936 report:

TABLE 23
Companies Merged or Dissolved

1922-1932	235	
1932-1936	102	337

Source: Annual Report of Associated Gas & Electric Co., 1936.

Commonwealth and Southern Corporation presented the following proof of holding company reform:

TABLE 24

Before	Now
5 companies	Commonwealth & Southern (Del.)
24 companies	Consumers Power
8 companies	Central Illinois Light
9 companies	Southern Ind. Gas & Electric
7 companies	Ohio Edison
4 companies	Pennsylvania Power
10 companies	Tenn. Electric Power
4 companies	Alabama Power
4 companies	Georgia Power
3 companies	Gulf Power
7 companies	Miss. Power
5 companies	South Car. Power
1 company	Commonwealth & Southern (N.Y.)

TABLE 24 - (Continued)

Before: In addition to the 91 companies named, there were 61 subsidiaries owned by the constituent companies of the present 11 operating companies and 63 other companies either predecessor holding companies or their subsidiaries, making a combined total of 215 companies of which 165 were in existence in 1929 when Commonwealth & Southern was organized.

Now: The 11 operating units named own 25 companies mostly non-operating and continued merely for the purpose of holding real estate or franchises or to meet mortgage requirements or other corporate purposes. Two other companies owned by the Commonwealth & Southern Co. (Delaware) are in effect asset realization companies for 20 subsidiaries owning transportation, ice, water, and other property and securities, making a combined total of 60 companies.

Source: The Commonwealth & Southern Corporation and its Subsidiary Companies, Outline of History and Development, February 26, 1935, p. 54.

Cities Service Company announced in 1936 that 19 companies were eliminated, bringing the three-year total to 91.

Cooperation

Several far-seeing executives in the electric power field have been willing to cooperate with the government. Unfortunately, many executives have devoted much time and effort to denouncing the whole program as un-American and leading directly to public ownership of all industry.

Mr. Wendell Willkie has always been willing to confer with President Roosevelt, although it is true that he has written and spoken much against unfair competition from the Tennessee Valley Authority. Perhaps one of the most encouraging signs is that both Mr. Willkie and Mr. Floyd Carlisle of Consolidated Edison of New York conferred with President Roosevelt in November, 1938, about the tremendous amount of building expansion the utility industry could undertake if investors could be persuaded to believe that government competition was not a serious threat.¹

Perhaps the attitude of utility leaders, the men whose companies have always had high standards of performance in utility service - not promotion and high finance - was best exemplified in a speech entitled "Some Puzzles of a Public Utility Man" made by Mr. Alex Dow, president

¹Mr. Willkie has since made a public offer to sell the southern companies to the government.

of the Detroit Edison Company before the Investment Bankers Association convention, November 3-7, 1937. Some of the things which puzzled him might be summarized as follows:

Utility men are told to sell electricity cheaply, yet they are required to collect a tax of 3% of the gross bills of domestic and commercial consumers and pay it to the Federal government; yardstick plants are set up, yet reports show no taxes paid, and no allocation of facilities received from the Federal government; rate comparisons between different localities are popular, yet in comparing Michigan and Ontario, for instance, no mention is made of the wide variance in wage rates paid in the two sections; the industry is still damned in Congressional speeches as a power trust, yet the seven-year Federal Trade Commission investigation failed to prove the existence of such a thing; most laws have tended to punish the guilty and let the innocent go free, but the Public Utility Act punishes both alike.

He continued: "To what end is business being guided anyhow? Is investment of their moneys or speculation for profit to be made safe for the stupid and for those unwise in their conceits, by policing every traveller on that road?"

"Detroit Edison Company since 1915 has ceased to be a holding company. None of the new requirements laid on us have been intolerable. The new accounting system will make us additional expense, but compel no novel routine. The increase by the Interstate Commerce Commission of freight rates on coal will add \$180,000 to our annual expenses. The Guffey Act is expected to further increase our costs of coal. The Social Security Act adds to our expenses, as does a 40-hour week. The sum of all these expected increases means the deferrment of rate reductions to our customers."¹

¹Commercial & Financial Chronicle, November 13, 1937, pp. 3063-3064.

One can sympathize with Mr. Dow's plight, but it has the ring of all conservatives who object to change. Mr. Dow admits that his company, being one of the better managed, has not been affected materially by the new legislation, yet he obviously does not approve of it. Change of any kind is always fiercely resisted. Yet those who want to retain the capitalistic system are above all the ones who should learn to accommodate their desires to the demands of social legislation. The hysterical attempts of some utility men to avoid any regulation by the Federal government will in the end make it more difficult for the industry to get a hearing on points about which they are right. Utility men need to realize that the pressure towards collectivism, as exemplified abroad, will grow stronger and not less in this country if regulation does not satisfy the general public. The present trend toward cooperation in utility control is therefore to be welcomed.

One should not forget that a lot of the New Deal utility legislation has been the product of the depression. And in addition, it is well to remember that the attitude of the government toward the utilities since 1933 has in part been a direct outgrowth of the attitude of utility holding companies toward regulation in the 1920's.

POSSIBILITIES OF GOVERNMENT CONTROL

Legal Aspects

Congress seems to have the constitutional power to regulate holding companies if they substantially affect interstate commerce, even though it is conceded that they are not themselves engaged in such commerce; also, Congress may protect interstate commerce from being dominated by holding companies; and if necessary to protect such commerce against such domination, it may prohibit the holding company entirely. The fact that holding companies have been created under state laws

confers on them no immunity from the power of Congress to regulate commerce among the several states. (U.S. v. Northern Securities Co., 193 U.S. 197; Addyston Pipe & Steel Co. v. U.S. 175 U.S. 211; Minnesota Rate Cases, 230 U.S. 352, 398-1913; U.S. v. Patten et al., 262 U.S. 543.)

Congress also has power to levy excise taxes upon any designated class. The only limitation upon such power is that the tax shall be uniform throughout the United States for the taxed class. (Flint v. Stone Tracy Co., 220 U.S. 107, p. 153.)

With the power of Congress to regulate interstate commerce clearly laid down, it is essential that some definition of the jurisdiction of the Federal and State bodies be made, because electricity is thought of as a service, and its transportation over state lines is not as clear cut as is that of commodities carried by rail.

Economic Aspects

Administration

In studying government control of electric utilities, one is impressed with the great variety, duplication, and lack of cooperation of the several authorities. In addition to the Federal set-up, described below, there are utility commissions in practically every state. One of the first necessities to adequate government control is the coordination of agencies and the delineation of their specific duties.

More than a score of executive departments, through bureaus that operate more or less independently, commissions, boards, government corporations, and single administrators have functions of a major character directly concerned with power and expressly authorized by statute. The Federal agency interest in power is sprawled all over the lot of the vast government set-up in Washington, with no centralization of control or supervision over the myriad activities. This may be seen in the

following tabulation in which all the agencies mentioned have some jurisdiction over some phase of electric power.

TABLE 25
Government Agencies

General Agencies:	
Federal Power Commission	Tennessee Valley Authority
Securities and Exchange Commission	Tennessee Valley Associated Cooperatives
Rural Electrification Administration	National Power Policy Committee
Electric Home & Farm Authority	National Resources Committee
Department of Interior	
Bureau of Reclamation	National Park Service
Geological Survey	Bureau of Mines
General Land Office	Petroleum Division
Bureau of Indian Affairs	
Department of War	
Corps of Engineers	General Staff, War Plans Division
Ordnance Bureau	Air Corps (U.S. Army)
Department of Agriculture	
Forestry Service	Biological Survey
Bureau of Chemistry & Soils	Soil Erosion Service
Bureau of Agricultural Economics	Bureau of Home Economics
Agricultural Adjustment Administration, Consumers Council	
Department of Commerce	
Bureau of Fisheries	Bureau of Air Commerce
Bureau of Foreign & Domestic Comm.	Bureau of Census
Bureau of Standards	Coast and Geodetic Survey
Department of State	
International Boundary Com., U.S.-Mexico	International Joint Commission (American section), U.S. - Canada
Treaty Division	
Post Office Department	
Postmaster General	Division of Bldg. Operations & Supp.
Department of Labor	
Bureau of Labor Statistics	Division of Labor Standards
U. S. Conciliation Service	
Federal Emergency Administration of Public Works (PWA)	
Power Division	Federal Projects Division
Housing Division	State offices (more than 40)
Treasury Department	
Internal Revenue Bureau	Procurement Division
Reconstruction Finance Corp.	
Miscellaneous	
Federal Trade Commission	Committee on Coordination of Power
Department of Justice	Interstate Commerce Commission
Federal Reserve Board	U.S. Board of Tax Appeals
Central Statistical Board	National Archives
Social Security Board	Bituminous Coal Commission
National Academy of Science	National Research Council
Federal Housing Corporations	Federal Board of Surveys & Maps
Veterans Administration	Works Progress Administration
Resettlement Administration	Coordinator of Industrial Cooperation
President's Com. on Econ. Security	National Labor Relations Board
Source: Public Utilities Fortnightly,	Federal Tariff Commission
March 4, 1937, p. 293.	

A leading utility executive early in 1936 complained that his company had had within a short time been called upon to furnish 12 or 15 different Federal agencies with reports, based in some instances on questionnaires of the most elaborate character. The information sought by several agencies was identical.

Lack of cooperation between government bodies is exemplified by the following occurrence.

The 308 Reports of the United States Army Engineers represent the standard authority on every navigable stream and significant body of water in the country. When a nation-wide power policy and program for flood control was proposed, a resolution was introduced into the Senate to have the Engineers condense their 308 Reports. The President vetoed this resolution on August 13, 1937, giving the following reasons: The job was to be assigned to yet another undesignated group, although the Engineers have had 113 years of experience. The president maintained that the resolution encroached on the functions of other government agencies and that the War department would report to Congress and not to him, and also that the experience and background of the engineers was not sufficient alone for the planning of the vast water and related resources of the nation. The survey had cost the Engineers some 11 million in the first place.¹

The big fields for administrative reorganization and coordination come under three general headings: administration of water-power resources; regulation of and planning the coordination of electric power facilities; and elimination of duplication in the collection and compilation of power statistics and information from the private utilities and from the constructing and operating Federal agencies.²

¹Public Utilities Fortnightly, November 25, 1937, p. 683.

²Lindweaver, G. W., Uncle Sam's Regulatory Topsy and the Power Industry, Public Utilities Fortnightly, March 4, 1937, p. 293.

To be fair it should be mentioned that several reports have been made to Congress in attempts to coordinate power activities. The president's National Power Policy Committee has recommended several plans, but it has no real authority and is merely advisory.

Determination of Rate Bases

Rate regulation has been discussed briefly at one or two points in this thesis in connection with other matters. So much publicity has been given to rate bases in 1937 that it seems wise to discuss the present controversy at this point. To repeat, utilities, because of their monopolistic nature, must be prevented from charging the customer too much; on the other hand, utilities must be allowed a fair return on the fair value of property used and useful in the public service. This formula means that someone must determine both fair return and fair value. In most cases, the utilities have turned from the regulatory commissions to the courts and this country has been treated to long-drawn out rate cases, many lasting for years. The main contention has centered around the **valuation** to be put on the fixed assets of a utility.

In the classic *Smyth v. Ames* case, (169 U.S. 466, 1898) the Supreme Court did not go on record as favoring any method of determining a rate base. It laid out a broad general list of factors to be considered. In the *O'Fallon* decision, (279 U.S. 461 at 489, 1928) the Court placed more emphasis on reproduction cost than it had ever placed on any other method, but did not declare it the only method, however.

Justice Brandeis first argued for a prudent investment theory of valuation in the *Southwestern Bell Telephone Company* case, (262 U.S. 276, 1923) and again in *United Railways and Electric Company of Baltimore v. West* (280 U.S. 234, 1930). Prudent investment in property means property used and useful, the actual money put into a plant less any

items found to have been dishonestly or uselessly included. This theory, however, while offered as a solution to long rate cases would probably not stand up under an economic test of adverse marketing conditions, because even honest mistakes cannot be allowed in what is becoming a competitive market for utility service. At the time the valuation problem arose in 1898, it was impossible to determine original cost and present value was the feasible alternative. Accounting had not yet developed to the point where original cost could be obtained. Present value was a realistic point of view at the time. With a prudent investment theory Justice Brandeis is attempting to arrive at a stable rate base. But that is economically difficult of achievement because the world served by utilities is not static. If prudent investment could be varied with well selected index numbers, it would be a dynamic method of determining rate bases.

The Uniform System of Accounts of the Federal Power Commission, which has jurisdiction over companies in interstate transmission of electricity, was adopted on June 16, 1936, and some of its provisions are interesting in the light of property valuation. State commissions had long felt the need for a more adequate recording of original cost in the records of utility companies, because all court decisions had inferred that weight should be given both to original and to reproduction cost. Strong opposition was raised to the 1932 revised edition of the Uniform System of Accounts for telephone companies, put out by the Interstate Commerce Commission, which did not prescribe original cost.

The Federal Communications Commission, succeeding the Interstate Commerce Commission in jurisdiction over telephone companies, included original cost in its uniform system issued in 1935. The ruling was taken to the courts where the Supreme Court upheld the system by a

unanimous decision. (American Telephone & Telegraph Company, et al. v. U. S., decided December 7, 1936) Original cost as defined in the uniform systems is "the cost of property to the person first devoting it to the public service". A Property Adjustment account is to contain the difference between cost to the accounting utility of acquiring units and systems and the original cost. Depreciation is likewise to be computed on the basis of original cost. The amount in the Adjustment account is to be disposed of at some time in the future. No mention is made of retirement accounting - writing off a unit the day it is retired, and not accumulating a reserve for depreciation over its service life - and depreciation is to be on a functional basis specifically applied to classes of property.

It would seem that if this trend is followed by other utility commissions, the conception of depreciation as akin to revenue will gradually disappear, and depreciation accounting on a wear and tear, or service life basis will prevail. Retirement accounting was all right when the utility industry was expanding, but its application in the railroad and street railway industries has clearly shown it is not satisfactory when an industry starts to become of age.¹

A bill is now pending in Congress, S2410, introduced by Senator Minton of Indiana, for an amendment to the Judicial Code by adding a new section (263) which proposes that rates shall be based on a return on prudent investment in the property used and useful in the public service. Rates unless confiscatory, based as indicated, would be acceptable by any court as valid from any administrative body.²

¹Smith, C. W., Uniform System of Accounts of the Federal Power Commission, Accounting Review, June, 1937, p. 153.

²McNinch, F. R., Our National Power Policy; Federal Regulation in Practice and in Prospect, Annalist, June 4, 1937, p. 892.

Federal Incorporation

One form of government control, not widely discussed until recently, is that of Federal incorporation or licensing. The history of the agitation for this type of control is a long one. In the period 1903-1914 many proposals were introduced into Congress for Federal incorporation. The outcome was the Federal Trade Commission Act and the Clayton Act. Bills have also been introduced at various times between 1919 and 1930, but the Public Utility Holding Company Act was preferred in 1935 to a Federal Incorporation Act.¹

Political Aspects of Control

The political results of government control are the moot question in any regulatory considerations. Can utility regulation avoid political control, lobbying of interests, and jockeying for favorable position? With commissions on an appointive basis, with the political necessity of finding a convenient scape-goat on which to blame people's misery, it seems that all our attempts at government control, with our hopes for sane and economic administration, are doomed to failure as long as we have politicians and not career men in important government positions. As long as business can absorb the more brilliant members of President Roosevelt's coterie of advisers, and as long as the political aspects of government offer no compensatory rewards, government control is bound to be more or less uneconomic. From 1932 to date, it has been politically expedient to hound the utilities. From 1940 on the reverse may be true. It is unfortunate that so many able business men must spend their time with one eye on Washington instead of getting a necessary service distributed to the people as promptly and efficiently as technically possible.

¹Report of FTC, No. 69-A, Compilation of Proposals and Views for and Against Federal Incorporation or Licensing of Corporations.

Of course, it may be argued that any partnership between the government and the financiers and lawyers who run the electric utilities is a difficult matter, especially since the theoretical function of government in this field is to protect outside investors, employees, and consumers from the machinations of predatory executives. Utility managements always try to make monopoly profits if they can. On the other hand, regulation has tended to involve management in too much red tape in an effort to avoid mistakes. As a result, a pulling in two directions often finds the consumers and outside stockholders caught in the middle. The feeling of both management and government that they are better able to do the other's work makes things worse.

Probably no method of valuation as a basis for rate making can possibly satisfy both management, trying to raise rates, and consumers, who want to pay less for more service. Each settlement is only temporary and is merely the basis for a later fight. Apparently, the regulatory function as it now exists is to bring these widely divergent views a little nearer together for a time at least.

State commissions were originally set up to represent the people's interest, as against high-handed methods of management, in the utility field. They have since taken on the aspects of judicial courts, weighing the evidence on both sides. Will the Federal Power Commission and the Securities and Exchange Commission follow this same trend? If regulation of utilities is to be for the good of the people, as opposed to vested interests, our commissions must return to their original function.

Of course, it may be argued that any partnership between the Government and the financiers and lawyers who run the electric utilities is a difficult matter, especially since the theoretical function of government in this field is to protect outside investors, employees, and consumers from the exorbitations of predatory executives. Utility management always try to make monopoly profits if they can. On the other hand, regulation has tended to involve management in too much red tape in an effort to avoid mistakes. As a result, a pulling in two directions often finds the consumers and outside stockholders caught in the middle. The feeling of both management and Government that they are better able to do the other's work makes things worse. Probably no method of valuation as a basis for rate making can possibly satisfy both management, trying to raise rates, and consumers, who want to pay less for more service. Each settlement is only temporary and is merely the basis for a later fight. Apparently, the regulatory function as it now exists is to bring these wholly divergent views a little nearer together for a time at least.

State commissions were originally set up to represent the people's interest, as against high-handed methods of management, in the utility field. They have since taken on the aspects of judicial courts, weighing the evidence on both sides. Will the Federal Power Commission and the Securities and Exchange Commission follow this same trend? If regulation of utilities is to be for the good of the people, as opposed to vested interests, our commissions must return to their original function.

Need for Tolerance

Above all, tolerance is the crux of the whole power issue today. Dr. Morgan of the Tennessee Valley Authority has shown his tolerance in advising more cooperation with private utilities. Tolerance was expressed by both Mr. Willkie and Mr. Carlisle when they came from their conference with the president on November 24, 1937. In the November 23 issue of the Boston Transcript, David Lawrence editorialized on a sensible compromise of utility and Rooseveltian difficulties and offered the following basis for adjustment:

1. The power industry would accept the Administration's theory about lower electric rates, and the utility companies would agree to file objective rates subject to the approval of the Federal Power Commission.

2. If satisfactory rates were established in a given territory, the Federal government would declare that there was no necessity for Federal loans to municipalities therein.

3. The Federal Government would continue the development of hydro-electric projects, but would not duplicate transmission lines or aid in the duplication of municipal distribution facilities.

4. The utilities would declare in favor of a passage of a Federal law permitting reasonable regulation of holding companies.

5. The utilities would agree to spend \$750,000,000 over and above last year's expenditures and would agree on a program for rural electrification.

6. A nation-wide appliance commission would be appointed which in view of the low objective rates would agree on the manufacturing of appliances on a wholesale plan to electrify America.

It is interesting to note that Mr. Willkie proposed much the same sort of thing in his conference with Mr. Roosevelt, as reported in the Boston Transcript for December 1, 1937. Mr. Willkie agreed to the elimination of property write-ups and a change in valuation practice for rate-making purposes to the prudent investment theory. He also proposed that power from the Tennessee Valley Authority be sold to municipalities for a price arrived at under the cost accounting methods prescribed for private utilities by the Federal Power Commission. He further suggested the retention of the regulations laid down in the Public Utility Act of 1935, but advocated modification of the death

sentence clause so as to eliminate all intermediate holding companies within three years, but otherwise to confirm existing holding companies in their present ownership of property. In return for these concessions the industry would embark on a large construction program with a considerable increase in employment.

Of course, the private companies' investment in this country is some 13 billions; the Federal government is committed to only $\frac{3}{4}$ of a billion so far. The government has applied the bulk of its power dollars to creating generating facilities and the balance to transmission lines; it has avoided local distribution almost entirely. To mention a few of the projects, Casper Alcova will do little harm to private companies, because there are none in the region. The Mississippi Valley Authority plan is too unwieldy and is not likely to be put through Congress. There probably will be no St. Lawrence treaty for a good many years to come. The Rural Electrification Administration is not particularly harmful to private industry, and may even help it.¹

However, competition in the power field, whether by government plants or other utilities, is much more costly than is monopoly. And furthermore, the government does not seem able to enforce the Sherman and Clayton Acts, although property write-ups and tiers of holding companies clearly violate the principles of these laws.

The contribution of the utilities in the matter of new construction may be viewed with skepticism if we consider that the amount proposed is too small for war purposes. Another viewpoint is that the charges on utility rates are one of the main brakes on putting everybody to work; yet those who now use these facilities would pay much more rather than go without them.

It is well to consider that franchises granted by governments

¹Welch, Francis X., The Washington Outlook for Utilities, Public Utilities Fortnightly, January 7, 1937, p. 3.

are the basis of utility value, and that these franchises are actually public gifts. Without franchises the 13 billions of investment are valueless. Apparently too many utility men have forgotten this fact. If the 13 billions are supposed to represent a "fair" valuation, which is a vague phrase on which there is no agreement, what percentage of this amount is actual investment in current use as opposed to write-ups for rate-making purposes?

Can the utilities therefore bargain with the government, when all their powers came originally from that government? Has not the industry strayed too far from the fact that it is a service industry, granted exclusive franchises in return for adequate, reasonably priced electricity, and that in effect it is clothed with the powers of government? Does this necessitate the financial set-up of holding companies? Would it not be better to return to local operating control? These are questions which must be considered in any attempt to solve the problem of the relationship which is to exist between government and utilities. In conclusion, one of the main questions seems to be: can the utilities persuade the government to maintain sane and legitimate competition in its projects, and to avoid the pitfalls of political sabotaging of the enemy?

CONCLUSIONS

State Control of Intrastate Electricity

Commission Regulation

The states should have the power to control local operating companies and local distribution of electric power. The necessity for Federal regulation does not mean that there is no longer a need for state and even for municipal control of utilities. The state commissions should be financed and staffed in such a manner that there can be more

cooperation between these bodies and the Federal government, on the one hand, and between the state commissions and the municipal authorities on the other hand. Local control of certain aspects is essential to a sound solution. The economic and business problems of the utilities are on a local, state-wide, and regional basis, and regulation of them should be on the same basis. Too little attention has been devoted to strengthening the hands of the state commissions. For instance, it is a general rule that when a depression comes along, then the funds for state regulatory bodies are cut - at just the time when the largest staffs are needed in order to secure, if possible, lower rates. Too much attention has been given to the appointment of political commissioners not familiar with the work, to training them at low salaries, and then letting them go to private companies where they can be most useful in future hearings before the commissions. Some sort of assessment charge against utilities for support of the commissions would undoubtedly eliminate a lot of needless hearings and legal obstructions to commission regulation. More attention ought to be given to marketing problems, and to efficient management policies, and less to finance and engineering. Too many commissions have combined the features of administrative and judicial bodies, along with a dash of the executive. Shall these functions be separated in the future? Regardless of this question, one of the main forward steps is to cope successfully with the increasingly complex economic and social problems involved in utility regulation. Able career men must be secured for adequately financed commissions, but this will come only when the public appreciates the need for such separation from political control. Rate-making cannot be on a Democratic or Republican basis, nor will a shift to public ownership answer the problems of efficient distribution of electrical energy at low rates, for the profit motive

may give way to a political power motive. Unsound rates, no matter who promulgates them, will not last long in our dynamic society. The public has never given state regulation a fair trial on a sound financial basis. Before rushing to so much centralized control, it would be well to buttress state regulation, for just as holding company control failed because of highly centralized management, so may Federal control fail unless local and state regulation supplement it.¹

Rate Regulation

In the matter of satisfactory rates in the future, state commissions should have authority over local rates and the character of service supplied. Some satisfactory method of valuation should be agreed upon to obviate the necessity of court action on rate changes. Utilities might accept a present day or average reproduction valuation of their properties as of some specific time, and agree to account for future expenditures at original cost. Some sort of sliding scale rate plan, modelled on the Washington Rate Plan might be worked out. In this plan, promulgated after a lengthy legal battle in 1924, if the net return on the rate base should be in excess of $7\frac{1}{2}\%$ for any one year, rates for the following year would be fixed so that the gross receipts of the company (Potomac Electric Light) would be diminished by $\frac{1}{2}$ of such excess. If the net return fell below $7\frac{1}{2}\%$, the commission would increase rates to allow $7\frac{1}{2}\%$. The valuation of the company at December 31, 1924 was set at \$32,500,000 by the Supreme Court of the District of Columbia, with additions and betterments to be added from year to year. Present residential rates in Washington are: 3.9¢ for first 50 kilowatt hours; 3.3¢ for the next 50; 2.0¢ for the next 100; 1.5¢ for any excess; and minimum charge, 75¢.²

¹Ruggles, C. O., Aspects of the Organization, Functions, and Financing of State Public Utility Commissions, Bureau of Business Research, Harvard University, Graduate School of Business Administration, April, 1937.

²Barron's January 21, 1935, p. 20.

State Compacts

Another development in state control is the possibility of state compacts as a solution to regional control. State compacts should pick up where Federal regulation leaves off. Under several recent decisions the way has been opened for more effective state regulation of labor and commodity prices. In the Nebbia case, state price fixing was upheld, and state wage regulation in the Washington minimum wage case. Undoubtedly under these rulings states can do a number of things collectively in the future along the same line, i.e., elimination of child labor, regulation of prison-made goods, etc. A recent preliminary report of the United States Chamber of Commerce gives a brief review of the already effective use of state compacts. Congress has authorized 60 of them, not one of which has been invalidated by the Supreme Court. For instance, Boulder Dam was the result of a state compact. In the electric power field, compacts have been proposed as a means of regulation on the ground that control should be coterminous with utility service. That is, for those companies which control utilities in five states, regulation should be on a joint five-state basis. The compact would fit in well with our political set-up of 48 state jurisdictions. The New England states seem to work well in harmony on matters of regional interest, and the New England Council has been vigorous in its protests against Federal interference in regional flood and power developments.¹

In conclusion, legislative strengthening of the state utility commissions' staffs, so that the United States may have 48 effective and well-functioning regulatory bodies for control of intrastate electric utilities, a satisfactory basis of rate determination, and the use of state compacts on matters of regional utility development are all to be desired and sought in any economic set-up of the future. Even apart

¹Is the State Compact Coming or Going, Public Utilities Fortnightly, May 27, 1937, p. 700.

from constitutional limitations, the Federal government cannot regulate all the aspects of the electric power business. A bureaucracy in Washington is ineffective to answer the rate complaints of a group of residents in a small town in Oklahoma. Rate regulation, service, and safety requirements, expansion needs, objective consumption promotion, appliance development and expansion, are all local problems and need local attention; first, to a certain extent by local bodies, and second, for other problems by state commissions. The state commission may be in disrepute now, but certainly the people of this country ought to try to make it work effectively with more attention to its financial needs before throwing it out the window entirely and submitting supinely to Federal domination in regulatory matters.

Federal Control of Interstate Electricity

No one can gainsay the right of the Federal government to regulate companies in interstate commerce. Certainly there has been a "no man's land" for too long a period between state regulation of operating companies and no control at all over foreign holding companies. Much has been written about the fact that transmission lines are not common carriers. It seems entirely probable that they may be adjudged so by the Supreme Court. The importance of interstate movements of energy may be seen in the following table:

TABLE 26
 Summary of Movement of Electric Energy Across State Boundaries (including those of the District of Columbia) for the United States as a Whole (excluding Alaska and outlying possessions), and Total Ratios, 1929

	Kilowatt-hours
Outward movement across state boundaries	14,505,190,623
Inward movement across state boundaries	15,906,132,127
Total electric energy generated in the U.S.	95,582,144,161
Total electric energy consumed in the U.S.	80,966,731,882
Ratio of outward movement to generated	15.18%
Ratio of inward movement to consumed	19.65%

Source: Interstate Movement of Electric Energy, Senate Document No. 238, 1931, p. 2.

The Securities and Exchange Commission has given no cause as yet to assume that its administration of the Public Utility Holding Company Act of 1935 will not be fair and equitable. Many of the utility systems have been getting their houses in order since 1935 in preparation for the jurisdiction of the act in 1938, and as a result of the tax laws which penalize holding companies. Many intermediate holding companies have been eliminated, and if some compromise may be worked out whereby no top holding companies will be liquidated, the holding company form of organization will undoubtedly continue on a much more stable financial basis. The Public Utility Act will probably not have a decision from the Supreme Court until 1938, but it is entirely probable that its provisions will be upheld, under the liberal interpretation accorded interstate commerce in the Wagner Act decision in 1937.

The effect of the punitive program of the last four years has been felt by the utilities. It is true that utilities have been able to reduce their fixed charges quite substantially by refunding operations in the low interest money market now prevailing, but these operations are only about two-thirds completed. There is no doubt at all from financial analyses that capital as a whole has steered shy of the utility industries, owing to uncertainty over the government's program. The electric power industry has given a remarkable account of itself during the depression and its prospects for future growth and earnings gains undoubtedly still exceed those of many other industries, despite political worries. However, the following table indicates that operating results as predicted for 1937 will not come up to 1936 in spite of increases in gross revenue. A composite picture was made of 109 operating companies, and the results are shown in millions of dollars.

TABLE 27
Operating Results

	12/31/35	12/31/36	6/30/37	Est. 12/31/37
Gross Operating Revenue	\$1,723	\$1,768	\$1,834	\$1,850
Available for Fixed Charges	573	583	589	555
Fixed Charges	266	247	233	225
Net Income	307	336	356	330

Source: Public Utilities Fortnightly, November 25, 1937, p. 714.

Utilities have been regulated on a depression standard. The attitude of the government has not been helpful, and the continued abuse heaped on utilities, unmindful of the many companies which have never suffered from holding company evils, has been most unjust in some cases, and has given the general public a dislike for private ownership. Of course, if the industry had not had evils waiting to be exposed, the pressure would not have been as severe, but the government should not punish the whole industry for the wrongs of a few companies. The present state of conversations between utility executives and President Roosevelt makes any definite conclusions doubtful at this point, for it is hard to predict the outcome. Private ownership under reasonable, though strict, Federal control of interstate aspects is the best solution to the utility problem, but perhaps the progress of the power industry is not so dependent upon the winds of political change as many would have us think. At least that is the opinion of one engineer who spoke as follows:

Behind the surface controversy over forms of organization and regulation lie the real determinants of the problem; the technical limitations of economic production on the one hand, and the social and industrial nature of the demand for electric power, on the other hand. It is easy to take sides in the current controversy, but taking sides is a mark of the prescientific stage of the problem. I might, on the one hand, deplore the abuses of monopoly, detail the long catalog of evils which unbound financial power have brought upon the industry. That is too easy and largely futile. I might, on the other hand, elaborate the evils of public control, and adduce examples of the dead hand of government throttling private initiative. Either of these would be in the current fashion; but neither would be to the point. The real issues lie deeper.....More important than the choice between public and private operation is the choice

between a stunted power industry and a well-developed one, economically adjusted to the society in which it operates.

In Germany, Sweden, and Switzerland, private and public operation go along hand in hand.

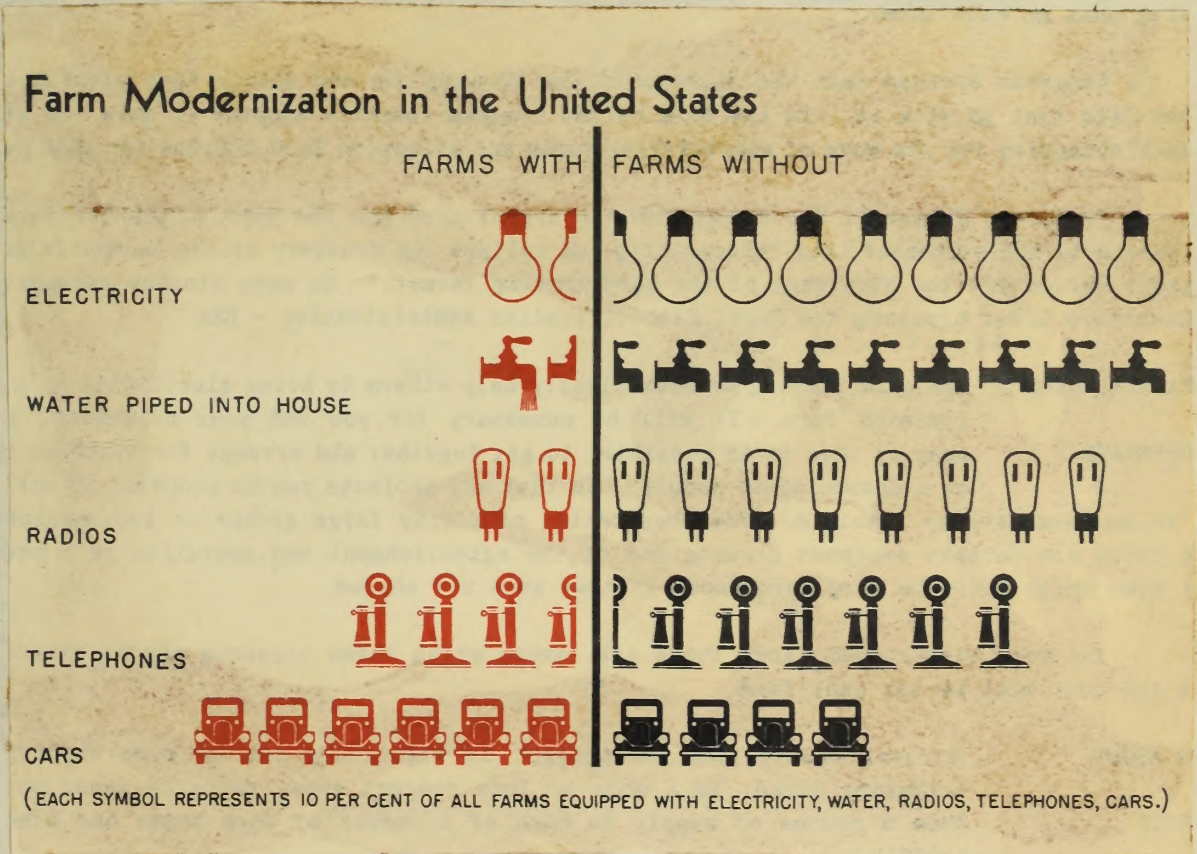
Power can be successfully distributed under a wide variety of legal and economic forms. Where there is a steady and growing demand for a service, and the technical means and the labor and capital are available, the process of production somehow gets itself organized. Whether this organization takes the form of public or private enterprise is not such a fundamental fact as one might suppose. Either form must, for survival, adapt itself to basic economic realities of the industry. In all probability, both forms will persist side by side for many years, and each will gain through the presence of the other.

The fundamental conditions of the future economic development of power demanding study, either by a supreme industrial cartel or a people's commissariat are: 1. Uniform standards; 2. Stressing of ultimate consumption rather than processing; 3. storage possibilities; 4. flexibility of investment; 5. efficiency and economy in partial curtailment or abandonment; 6. direct rather than overhead cost; 7. steady rather than uneven growth; 8. controlled progress to avoid undue obsolescence; 9. relatively stable price levels.¹

The implications of this quotation are obvious. Progress in the power field depends not on form of ownership, but upon the economics of demand for and supply of electricity. We have tried to stress this point before. The job is there - people want electricity - regulation, or form of ownership must not thwart this demand nor the supply to satisfy it. We believe that private ownership, coupled with adequate and reasonable state and Federal regulation, and perhaps with an honestly run municipal plant here and there where citizens prefer it, is the best answer for the wide distribution of electricity at low rates.

¹Thresher, B. Alden, Electric Power in Economic Perspective, Paper delivered at Pittsburgh convention of the American Society of Civil Engineers, October 14, 1936; digested in Public Utilities Fortnightly, February 4, 1937, at pp. 188-190.

EXHIBIT 1
NEED FOR RURAL ELECTRIFICATION



Source: Rural Electrification Administration, Washington, D. C.

EXHIBIT 2

FEDERAL AND NON-FEDERAL POWER PROGRAM

Federal Projects	Location	Funds Al- ready Allocated	Est. Ultimate Cost	Initial In- stalled Capa- city KW	Ultimate Capacity KW	Est. Date of Comple- tion
TVA	Tenn. V.	\$110,000,000	\$265,000,000	690,000	1,107,000*	...
Boulder	Ariz.Nev.	113,810,000	126,500,000	371,860	1,322,300	Comp.†
Seminole	Wyo.	6,563,000	8,372,000	22,400	30,000	1938
Grand Coulee	Wash.	68,550,000	206,000,000	None	1,890,000	1938†
Bonneville	Ore.	43,955,700	70,013,200	86,400	432,000	1938†
Fort Peck	Mont.	88,031,000	108,600,000	None	400,000	1939
Passama- quoddy	Me.	7,000,000	...	...	...	...
<u>Non-Federal Projects</u>						
<u>Platte</u>						
Valley	Neb.	10,165,000	10,165,000	25,000	25,000	1937
Loup River	Neb.	8,700,000	8,700,000	40,000	40,000	1937
<u>Central</u>						
Nebraska#	Neb.	10,000,000	20,000,000	...	...	...
<u>Lower Colo- rado River</u>						
Brazos	Texas	20,000,000@	20,000,000	55,700	55,700	1937†
River#	Texas	30,092,345	...	...	71,000	...
Red Bluff	Texas	2,884,000	2,884,000	10,000	10,000	1937
<u>Central</u>						
Valley	Calif.	8,100,000	170,000,000	None	325,000	...

*On basis of construction in progress or completed.

†Initial stage.

#Part of work enjoined.

@\$15,000,000 loan; \$5,000,000 allotment to Bureau of Reclamation.

Source: Moody's Public Utilities, 1937, pp. a33-a34.

EXHIBIT 3

ALLOCATIONS MADE BY PWA FOR CONSTRUCTION OF POWER FACILITIES
Temporarily Enjoined, Awaiting Supreme Court Decision (which
was given in January, 1938)

States	Number of Communities	Estimated Cost
Alabama	8	\$ 2,448,999
Arkansas	1	200,000
Delaware	1	180,000
Florida	1	468,000
Illinois	1	420,000
Iowa	2	1,014,000
Kansas	1	150,000
Michigan	2	1,005,000
Minnesota	4	1,362,764
Missouri	3	486,735
Mississippi	2	270,909
Nevada	2	622,329
New York	2	820,000
North Dakota	2	613,000
Ohio	3	2,792,000
Pennsylvania	1	152,700
South Carolina	1	37,500,000
Tennessee	11	15,580,227
Texas	10	1,440,651
Virginia	1	331,000

OTHER ALLOTMENTS BY PWA FOR POWER FACILITIES CONSTRUCTION

California	1	\$ 2,760,000*
Florida	2	81,200
Indiana	2	111,050
Iowa	2	89,545
Kansas	3	367,116
Michigan	1	46,900
Missouri	3	167,007
Nebraska	4	5,597,209
North Carolina	3	6,205,250
Ohio	2	126,718
South Dakota	2	204,770
Tennessee	1	120,000
Washington	1	7,185,000

*Injunction applied for.

Source: Moody's Public Utilities, 1937, pp. a33-a34.

EXHIBIT 4

SUMMARY OF GOVERNMENT EXPENDITURES ON POWER PROGRAM INCLUDING ASSOCIATED NAVIGATION AND RECLAMATION WORK, PWA ALLOTMENTS, AND OTHER PROJECTS

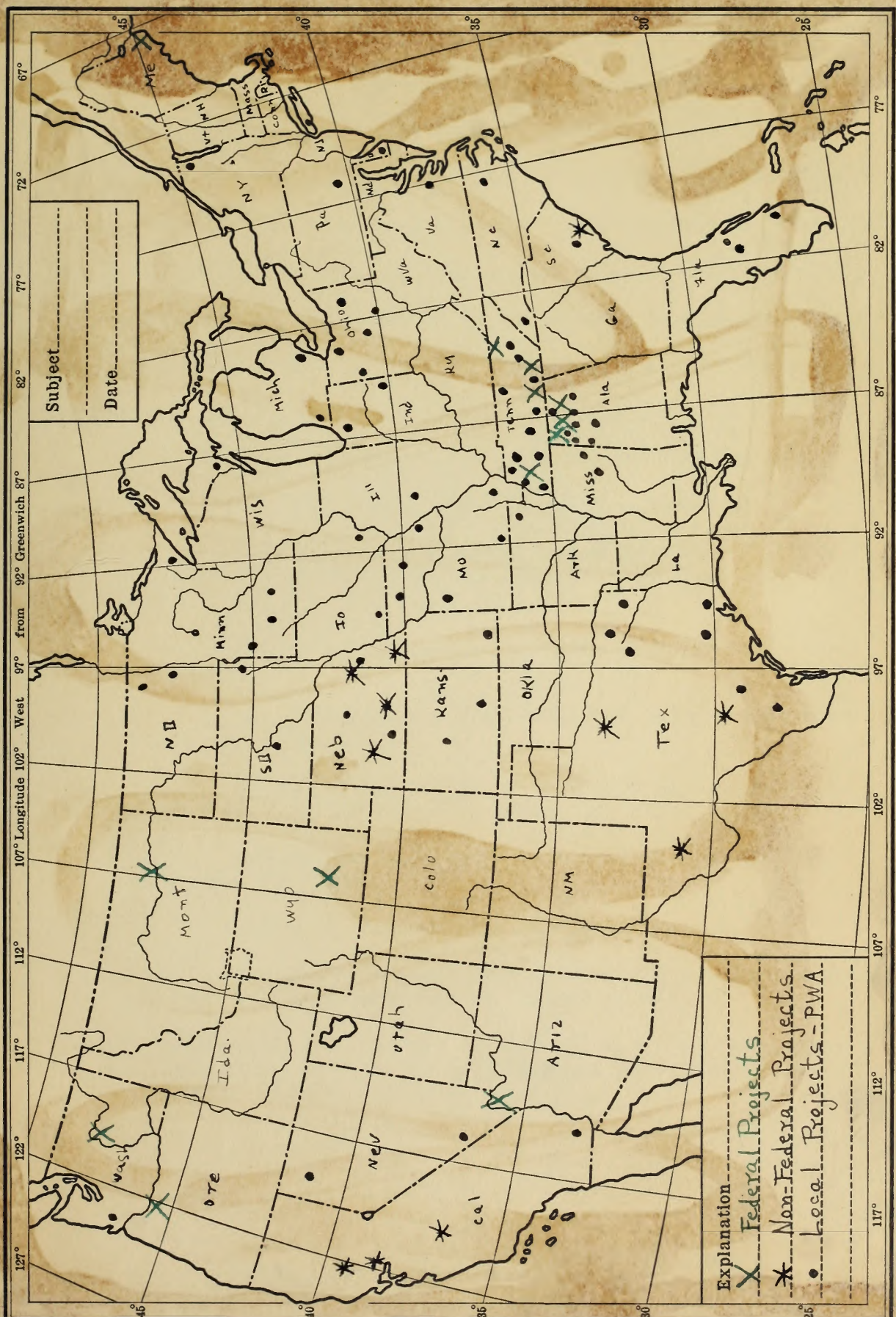
	Funds Already Allocated	Estimated Ul- timate Cost
Federal Projects	\$437,909,700	\$ 784,985,200
Non-Federal Projects	89,941,345	231,749,000
PWA Allotments Enjoined and Other Allotments	...	99,810,079
Rural Electrification	200,000,000	200,000,000
Elec. Home & Farm Authority	1,000,000	1,000,000
National Power Survey	400,000	400,000
Electric Rate Survey	425,000	425,000
National Power Policy Committee	100,000	100,000
River Utilization Surveys	1,500,000	1,500,000
GRAND TOTAL	\$731,276,045	\$1,309,969,279

Source: Moody's Public Utilities, 1937, pp. a33-a34 for first three items; Public Utilities Fortnightly, January 2, 1936, p. 3 - Uncle Sam's Stake in the Power Business, for remaining items.

EXHIBIT 5

Location of Federal and Non-Federal Power Projects

McKinley's Geographical and Historical Outline Maps, No. 176b, The United States, (State boundaries.)



Copyright, McKinley Publishing Co., Philadelphia, Pa.
 Source: Moody's Public Utilities, 1937
 Pp. a 33 - a 34.

EXHIBIT 6
Technical Note on Thyatron Tube

The thyatron tube was developed in 1931 by the General Electric Company. It is a power-rectifier tube capable of converting alternating current into direct current, or vice versa. This tube opens up to the electric power industry the possibilities of generating alternating current, transforming it into direct current for transmission, and then reducing it to alternating current again for distribution. Alternating current has been used by the industry because its voltage may be raised or lowered at will by transformers, and it is more economical to generate and transmit current at high voltages.

The sponsors of the thyatron tube claim that the general adoption of this device will have the following effects:

New design in generators will be necessary for new voltages, but generators will be smaller for a given output of energy.

Losses due to carrying of wattless current will be eliminated.

The economic transmission of power will be increased to greater distances.

Steam stations will be located near the source of fuel supply instead of near markets as they are now.

Underground transmission will be possible, by the use of trench-laid cables.

Rotary substations will be eliminated.

The growth in power demands of cities will be met without any additional investment in copper cables.

Source: Ruggles, C. O., Problems in Public Utility Economics and Management, McGraw Hill Book Company, Inc., New York and London, 1933; pp. 160-166.

BIBLIOGRAPHY

BOOKS

- Bye, R. T., Hewett, W. W., Applied Economics, 2nd Rev. Ed.; F. S. Crofts & Co., N. Y., 1934; Chapters XXV and XXVI.
- Chase, Stuart, Government in Business; The MacMillan Co., N. Y., 1935.
- Editors of The Economist (London), The New Deal-An Analysis and Appraisal; 1937, Chap. XI.
- Gruening, Ernest, The Public Pays-A Study of Power Propaganda; The Vanguard Press, 1931, N. Y.
- Keezer, D. M., May, S., The Public Control of Business; Harper & Bros., N. Y. and London, 1930; Chapters V through X.
- Lippincott, B. E., Government Control of the Economic Order, A Symposium; University of Minnesota Press, 1935.
- Ostrolenk, Bernhard, Electricity-For Use or for Profit?-Harper & Bros., N. Y. and London, 1936.
- Rauschenbush, Stephen, The Power Fight; New Republic, Inc., N. Y., 1932.
- Rohlfing, C. C., Carter, E. W., West, B. W., Hervey, J. G., Business and Government; The Foundation Press, Inc., Chicago, 1935.
- Wilson, G. L., Herring, J. M., Eutsler, R. B., Public Utility Industries; McGraw Hill Book Co., Inc., N. Y. and London, 1936; Chapters I, II, IV, and XV.

PAMPHLETS

- Alabama Power Company, Annual Report for 1935.
- Series of Advertisements, March-April, 1936.
- American Liberty League, Socialization of the Electric Power Industry; Document No. 127, June, 1936.
- American Water Works and Electric Co., Inc., Practical Effects of the Public Utility Act of 1935; Feb., 1935.
- Associated Gas and Electric Co., Annual Report for 1936.
- Bauer, John, America's Struggle for Electric Power; League for Industrial Democracy, 1935.
- Carlisle, Floyd L. National Power & Resources Policies, Paper Presented at 3rd World Power Conference, Washington, D. C., Sept. 7-12, 1936.
- Chamber of Commerce of the U. S., Public Utility Bill of 1935; March, 1935.
- Committee of Public Utility Executives, Case Against the Mississippi Valley Authority Bill; Washington, D. C., 1936.
- Effect of the Public Utility Act of 1935 upon State Regulation, March, 1936.
- Memo concerning the Economic Consequences of the Proposed Public Utility Act of 1935, Feb., 1935.
- What the Public Utility Act Means to American Business, Oct., 1935.
- What the Rayburn Bill Means to Electric Operating Companies, March, 1935.
- Commonwealth and Southern Corporation, Analysis of the Annual Report of the TVA released on Dec. 31, 1936; prepared by Commonwealth & Southern and its operating companies, Feb. 15, 1937.
- Outline of History and Development of Commonwealth and Southern and its subsidiary companies, Feb. 26, 1935.
- Release of Commonwealth & Southern Corp., May 22, 1936.
- Report to Stockholders, Dec. 31, 1935.

Congress, 73rd, TVA Act, H. R. 5081.

Congressional Record, Vol. 79, No. 116, June 6, 1935.

Edison Electric Institute, Case for Private Ownership of Electric Utilities, An Outline Prepared and Published in 1936; Pub. S.3.

----Comparison of Municipal and Company Rates, based on Electric Rate Survey of the Federal Power Commission, 1936; Pub. S7.

----Electric Light & Power Industry in 1935, Statistical Bulletin No. 3, June, 1936; Pub. No. S1.

----Electric Light & Power Industry in the U. S., Statistical Bulletin No. 4; January, 1937.

----Electric Utilities and Public Regulation, 1936; Pub. S13.

----Fallacy of Government Ownership, 1936; Pub. S2.

----Financial Crisis Faces Ontario Hydro Electric System, 1936; Pub. S11.

----Findings of the Federal Trade Commission and Statement to the Committee on Interstate Commerce of the U. S. Senate, 1936; Pub. S14.

----Government & Business, 1936; Pub. S6.

----Government Ownership of Public Utilities, 1936; Pub. S4.

----Hidden Costs at Muscle Shoals, 1936; Pub. S10a.

----Historical Survey of Ventures of State and Federal Governments into Business Prior to 1933, 1936; Pub. S5.

----Regulation of Public Utility Companies; Pub. S12.

----Taxes and the Public Utilities, 1936; Pub. S9.

----The TVA, 1936; Pub. S10.

----Three Articles from Public Utilities Fortnightly, Sept. 24, 1936, 1936; Pub. S6a.

----U. S. Leads in Rural Electrification, 1936; Pub. S8.

Federal Power Commission, National Power Survey, Interim Report; Power Series No. 1, 1935.

Federal Trade Commission, Compilation of Proposals and Views for and Against Federal Incorporation or Licensing of Corporations; No. 69-A, 70th Congress, Senate Document No. 92.

----Interstate Movement of Electric Energy, 71st Congress, Document No. 238, 1931.

----Utility Corporations, Summary Report to Senate; No. 72-A and No. 73-A, 1935.

Flynn, John T., All Lit Up and Going Places; Collier's, Aug. 24, 1935, p. 12.

Guernsey, N. T., State Regulation of Public Utilities; Address at Louisville, Ky., April 8, 1927.

Guild, Jo C., How the TVA Really Hurts Private Utilities; Public Utilities Fortnightly, July 2, 1936.

Hard, William, Our Greatest Experiment; Redbook Magazine, August, 1935.

Johnston, Forney, The Case Against Government Competition; Address Delivered before Southeastern Divisional Meeting, U. S. Chamber of Commerce, Nov. 19, 1934.

Lilienthal, David E., Advance Text of Remarks before the Cleveland Advertising Club, June 3, 1936.

----Is TVA Really Hurting Private Utilities, Public Utilities Fortnightly, June 4, 1936.

----The TVA and the Investor, National Association of Mutual Savings Banks, address on May 17, 1934.

- Mississippi Power Company, Facts Concerning the Government's Attitude toward Public Utilities not Generally Known but Frequently Disregarded where Known.
- Morgan, A. E., Bench-Marks in the Tennessee Valley; Survey Graphic, Jan., Mar., May, Nov. 1934, and March, 1935.
- Morgan, H. A., A National Program in the Tennessee Valley; Radio Address, Sept. 26, 1934.
- National Coal Association, Facts & Figures concerning Displacement of Coal by TVA Hydroelectric Power, 1937.
- National Power Policy Committee, Report to 74th Congress, House of Representatives, Document No. 137.
- Niagara Hudson Power Corp., Annual Report for 1936.
- Pacific Gas and Electric Co. Prospectus, \$35,000,000 1st & Rfd. Mtge. Bonds, Series I, 3½%, Oct. 21, 1936; p. 40.
- Platform News, Resolved: That all Electric Utilities Should Be Governmentally Owned and Operated, Affirmative and Negative, 1936.
- Ruggles, C. O., Aspects of the Organization, Functions, and Financing of State Public Utility Commissions; Bureau of Business Research, Harvard University, Graduate School of Business Administration, April, 1937.
- Rural Electrification Administration, A Message for the Farmer who Wants Electric Service.
- Electrifying your Farm and Home.
 - Light and Power for the Farm.
 - What Every Farm Leader Should Know about Rural Electrification.
- Rural Electrification News, Volume I, Nos. 5-12; Vol. 2, Nos. 12-13, 1936.
- Society for Curriculum Study, Inc., Building America, A Photographic Magazine of Modern Problems; Vol. 1, No. 6, March, 1936.
- Tennessee Valley Authority, Annual Report for the Fiscal Years Ended June 30, 1935 and June 30, 1936.
- Department of Electricity, Division of Rates, Research and Economics, Statistical Bulletin No. VIII, Economics of Electric Distribution; May, 1936.
 - Tennessee Valley Authority Electricity Rates, A Statement of Facts; reprinted from Congressional Record.
 - The Tennessee Valley Authority, U. S. Government Printing Office, 1935.
- United States Senate, Control of Flood Waters in the Mississippi Valley, Hearings before a Subcommittee of the Committee on Agriculture and Forestry; 74th Congress, S. 3524, 1936.
- Willkie, Wendell L., Address before the Bond Club of New York; Dec. 19, 1935.
- Government and Private Ownership, address at dinner meeting of American Statistical Association, Sept. 26, 1934.
 - Our Cooperation with TVA, Electrical World, Mar. 31, 1934.
 - The New Fear, address at Washington, D.C., May 1, 1935.
- Wisconsin Utilities Association, Private Ownership and Operation of Electric Utilities, A Presentation of Negative Data on the Question, Resolved: That all Electric Utilities Should be Governmentally Owned and Operated; 1936.

MAGAZINE ARTICLES

- Abrams, E. R., TVA and the Bond Market; Public Utilities Fortnightly, Jan. 7, 1937, p. 25.
----Your Stock in TVA; Saturday Evening Post, Oct. 16, 1937, p. 27.
- Adams, W. C., Rural Electric Cooperatives Expanding Rapidly under REA; Public Utilities Fortnightly, Feb. 4, 1937, p. 161.
- Babson, Roger W., Let's not Get Panic-Stricken; Public Utilities Fortnightly, Jan. 30, 1936, p. 163.
- Benton, J. E., Will the Utility Act Upset State Regulation; Public Utilities Fortnightly, Jan. 2, 1936, p. 28.
- Brayman, Harold, The FPC, the FCC, the SEC; Public Utilities Fortnightly, July 30, 1936, p. 115.
- Brooks, Jonathan, Uncle Sam as Promoter; Public Utilities Fortnightly, Feb. 4, 1937, p. 171.
- Doying, G. E., A Plan to Solve TVA Tangle; Public Utilities Fortnightly, March 18, 1937, p. 350.
----Effect of the Federal Power Act on State Regulation; Public Utilities Fortnightly, May 21, 1936, p. 681.
- Effect of the Holding Company Act on Holding Companies-So Far; Public Utilities Fortnightly, July 30, 1936, p. 152.
- Engineering News-Record, Vol. 113, No. 22, Nov. 29, 1934:
Boulder Canyon-A Fully Planned Project, p. 686.
Building Parker Dam for the Metropolitan Water District, p. 692.
Fort Peck Dam for Navigation Aid on the Missouri, p. 693.
Irrigation and Power on the North Platte, p. 698.
The TVA as an Experiment in Regional Development, p. 703.
Two Projects on the Columbia River, p. 675.
- Federal Power Commission Prescribes Uniform Accounts; Public Utilities Fortnightly, July 30, 1936, p. 150.
- Gray, Horace M., Joint Costs in Multiple-Purpose Projects; The American Economic Review, June, 1935, p. 224.
- Gruening, Ernest, Power and Propaganda; The American Economic Review, Supplement, March, 1931, p. 202.
- Hay, T. R. and W. W., Evolution of Public Utilities; Barron's, Dec. 24, 1934, p. 5.
- Healy, Robert E., Utility Holding Company Act of 1935 and its Administration, address to Annual Convention of the Section of Public Utility Law of the American Bar Association at Boston, 1936; Public Utilities Fortnightly, July 30, 1936, p. 529.
- Hoyt, K. K., Outlook for the Electric Utilities, as Affected by Federal Power Program; Annalist, Apr. 2, 1937, p. 515.
----The New Deal Power Program; Public Utilities Fortnightly, Sept. 24, 1936, p. 402.
- Is the State Compact Coming or Going? Public Utilities Fortnightly, May 27, 1937, p. 700.
- Lawrence, Herbert, Riddle of the Utility Act; Barron's, Sept. 30, 1935, p. 3.
----Shackles for the Utilities; Barron's Sept. 16, 1935, p. 3.
- Lilienthal, David E., Statement in Columbia Law Review, April, 1929.
- Lineweaver, G. W., Uncle Sam's Regulatory Topsy and the Power Industry; Public Utilities Fortnightly, Mar. 4, 1937, p. 293.
- Livingston, J. A., What is the SEC Going to Do to the Public Utilities; Public Utilities Fortnightly, Jan. 30, 1936, p. 185.

- Lockwood, Jeremiah, Some Phases of TVA Accounting; N.A.C.A. Bulletin, Vol. XVI, No. 4, Oct. 15, 1934, p. 143.
- McNinch, F. R., Our National Power Policy; Federal Regulation in Practice and in Prospect; Annalist, June 4, 1937, p. 892.
- Mason, E. S., Power Aspects of the TVA's Program; Quarterly Journal of Economics, May, 1936, p. 377.
- Mitchell, J. G., Destructive Nature of the Public Utility Act of 1935 as Finally Enacted; Annalist, Sept. 6, 1935, p. 325.
- Utility Act Repêete with Uncertainties, Obscurities, and Arbitrary Powers; Annalist, Sept. 13, 1935, p. 357.
- Morgan, A. E., Statement in New York Times of Jan. 17, 1937; reprinted in Public Utilities Fortnightly, Feb. 18, 1937, p. 246.
- Muhse, Albert C., The Sword over the Utility Holding Companies; Public Utilities Fortnightly, Feb. 13, 1936, p. 235.
- New Tax Bill Hits Holding Company Systems; Public Utilities Fortnightly, July 30, 1936, p. 151.
- Pettit, W. C., Philosophy of the Public Utility Act of 1935; Annalist, Oct. 11, 1935, p. 493.
- Public Utility Financing under the Holding Company Act; Public Utilities Fortnightly, Jan. 21, 1937, p. 89.
- Regional Integration of Gas and Electric Facilities, World Power Conference; Public Utilities Fortnightly, Oct. 8, 1936, p. 494.
- Ruggles, C. O., Some Aspects of Public Utility Management and Regulation; Harvard Business Review, Autumn, 1935, p. 59.
- Seavey, C. L., The Federal Power Act and Kindred Legislation with Reference to State Regulation; Public Utilities Fortnightly, Oct. 8, 1936, p. 539.
- Securities and Exchange Commission Orders Uniform Accounting; Public Utilities Fortnightly, Oct. 8, 1936, p. 498.
- Smith, C. W., Uniform System of Accounts of the FPC; Accounting Review, June, 1937, p. 153.
- Thresher, Alden, Electric Power in Economic Perspective; Public Utilities Fortnightly, Feb. 4, 1937, p. 188.
- Uncle Sam's Stake in the Power Business; Public Utilities Fortnightly, Jan. 2, 1936, p. 3.
- Weadock, B. F., FTC Findings Reflect Prejudice and Bias; Public Service Magazine, Nov. 1936, p. 157.
- Welch, F. X., The Washington Outlook for Utilities; Public Utilities Fortnightly, Jan. 7, 1937, p. 3.
- Wherry, W. M., Does the Holding Company Law Violate the Constitution; Public Utilities Fortnightly, Jan. 16, 1936, p. 106.
- World Power Conference, Regulation of Privately Owned Utilities; Public Utilities Fortnightly, Oct. 8, 1936, p. 492.

NEWSPAPERS

- Barron's, Jan. 21, 1935, p. 20 - Washington Rate Plan.
- Boston Transcript, June 3, 1937 - President Roosevelt's Message on Conservation.
Nov. 24, 1937 - Lawrence Editorial.
Dec. 1, 1937 - Wendell L. Willkie statement.
- Boston Traveler, Jan. 6, 1937 - Advertisement of Commonwealth & Southern.
- New York Times, Feb. 23, 1936, E3 and E4 - TVA Supreme Court Decision.

MISCELLANEOUS

Briefs - Securities and Exchange Commission v. Electric Bond and Share Co. et al., District Court of the U. S. for Southern District of N. Y. - Briefs for the Plaintiff, Cross-Defendants, and Defendants, No. E81-378.

Commercial and Financial Chronicle:

Sept. 24, 1932, p. 2091.	Sept. 26, 1936, p. 1972.
Oct. 8, 1932, p. 2427.	Jan. 23, 1937, p. 543.
Apr. 15, 1933, p. 2528.	Feb. 27, 1937, p. 1364.
June 17, 1933, p. 4191.	June 5, 1937, p. 3762.
July 21, 1934, p. 371.	June 5, 1937, p. 3767.
Aug. 17, 1935, p. 1035.	Oct. 16, 1937, p. 2484.
Oct. 5, 1935, p. 2208.	Oct. 30, 1937, p. 2774.
Mar. 7, 1936, p. 1567.	Nov. 13, 1937, p. 3131.
Aug. 17, 1936, p. 1035.	Nov. 20, 1937, p. 3273.
Sept. 12, 1936, p. 1650.	Nov. 20, 1937, p. 3281.
Sept. 19, 1936, p. 1796.	

Commercial and Financial Chronicle, Bank and Quotation Record; January issues, 1934-1937, Stock and Bond Quotations.

Edison Electric Institute Bulletin, December, 1937, inside front cover.

Electrical World:

Aug. 17, 1935, pp. 52-54. Sept. 11, 1937, p. 87.

Moody's Public Utilities, 1937:

PP. a33-a34; a40-a41; 1108-1155; 1118-1151; 1193-1195.

Poor's Public Utilities, 1937:

PP. 54, 1405, 1407, and 2256.

Public Utilities Fortnightly:

Mar. 4, 1937, p. 293.

Nov. 25, 1937, pp. 683 and 714.

BOSTON UNIVERSITY



1 1719 02556 8629

