

FIFTH ANNUAL REPORT

OF THE

Board of

Public Utility Commissioners

FOR THE

STATE OF NEW JERSEY

FOR THE YEAR 1914

TRENTON, N. J.
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1915

COMMISSIONERS

RALPH W. E. DONGES, President,

THOMAS J. HILLERY,

JOHN J. TREACY,*

WINTHROP MORE DANIELS.*

* By appointment of Governor James F. Fielder, Mr. Treacy qualified April 14th, 1914, as the successor of Mr. Daniels, who resigned following his appointment as a member of the Interstate Commerce Commission.

REPORT.

To the Honorable James F. Fielder, Governor of the State of New Jersey:

The Board of Public Utility Commissioners respectfully submits its report for the year ending December 31st, 1914.

REPORTS OF UTILITIES.

Among the powers of the Board of Public Utility Commissioners as prescribed by Chapter 195, P. L. 1911, is that of requiring all public utilities of the same class to adopt a uniform system of accounting, and to keep their books, records and accounts so as to afford an intelligent understanding of the conduct of their business. The Board has power, also, to require public utilities to furnish annually detailed reports of their finances and operations

“in such form and containing such matters as the Board may from time to time by order prescribe.”

Uniform systems of accounting have been prescribed, in accordance with the above, and during the past year reports of finances and operations were made to the Board by five hundred and forty utilities, of which three hundred and eighty are operating companies. The remainder are non-operating companies under the control of the operating companies. Abstracts from the reports are compiled under the direction of the Board and are published in a separate volume.

APPROVAL OF ISSUES OF SECURITIES.

As a result of adoption by the utilities of uniform systems of accounting and of the filing of reports with the Board the records of the Board are becoming progressively more valuable. Intimate knowledge of the financial conditions of utilities subject to the jurisdiction of the Board is essential in order that applications for approvals of issues of securities may be acted on intelli-

gently. During the past year the Board approved issues of stock, bonds and other securities in fifty-nine cases, the par value of the issues totaling the sum of \$88,106,750.00. Issues of securities are not approved by the Board except after investigation by the Board's legal, accounting and engineering departments. The Board obtains assurances that the proposed issues are to be made strictly in conformity with the laws of the State; that the purposes for which the issues are proposed are proper, and that the expenditures for these purposes will bear a fair relation to the actual value of the securities to be issued.

Utilities, during the period of the unregulated past, in some cases issued stocks and bonds in excess of the actual values of the properties owned by them. Issues so made tend to make less secure as investments stocks and bonds which represent subsequent additions to capital. To refuse in all cases approval of proposed issues of stocks and bonds, the proceeds of which are to be used properly in needed extensions and improvements legitimately chargeable to capital account, because in the past securities were issued beyond conservative limits, would mean that the service the public is entitled to expect and receive would not be afforded, and the progressive development of utilities to meet the needs of growing communities would be restricted.

STOCK AND BONDS.

It is the policy of the Board to insist that stock shall be issued instead of bonds, where the securities of the utility, as related to property values, appear to exceed what from a conservative investment standpoint would be desirable. This meets objection not infrequently on the ground that stock will not be so readily saleable as bonds.

In view of the fact that bonds are secured by mortgages on the properties of the issuing utilities, and that purchasers regard them as more secure as investments because of this, it undoubtedly often is easier to dispose of bonds than stock. If, however, the property of the utility is covered by liens of prior issue, or the par value of the bonds materially exceeds the value of the property, the bonds in reality carry little if any greater security

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than attaches to the stock. The Board, therefore, does not regard the plea of easier sale as one which would justify approval of bonds rather than stock.

In no case does approval by the Board of either stocks or bonds carry with it any guarantee to the investor. The Board has at times found it necessary to warn public utilities, which were directing attention to the fact that the Board had approved certain proposed issues of their securities in such a way as to create an impression that the Board's approval guarantees their investment worth, that this practice was wrong and would not be tolerated.

SALES OF LAND.

During the past year the Board has approved forty-nine applications of public utilities for permission to sell property. Permission of this Board is not required for a public utility to sell its property in the ordinary course of its business, and the applications made to the Board deal, almost always, with proposed dispositions of land belonging to the utilities.

The Board causes investigations to be made when such applications are received, to determine whether the property is of such a character that the utility may not need it for public use. Applications for permission to sell property usually come from railroad companies which, owing to some change of location of track or in a proposed plan of operation, find that property previously purchased will not be needed for railroad purposes. The Board requires that the proceeds from sales of property approved by it must be applied to the reduction of capitalization or used by the utility in construction or other work properly chargeable to capital account.

LEASES AND MERGERS.

Eight leases and mergers of public utilities have been approved by the Board during the year. Early in the year the Board refused to approve the application of the American Malt Corporation and the American Malting Company for approval of agreement of merger and consolidation. This application was made under Chapter 19, Laws of 1913. In the report made by

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the Board, which accompanied its order dismissing the application, the Board stated that in its judgment when a merger was proposed, the company resulting from the merger may be properly required to show at the time of merger

"(1) assets beyond its securities in amount sufficient to conform with the requirements imposed by the State upon companies newly incorporating under its laws; (2) that such a merger must not by any of its terms subject any security holder in any of the consolidating or merging companies to an unfair or inequitable condition or arrangement; (3) that in the carrying out of such merger it must be affirmatively shown that each and every statutory requirement applicable in the premises has been complied with."

The Board, after hearing and consideration of the testimony submitted thereat, was unable to find that the above requirements had been complied with and the application was denied. This proceeding was made the subject of an appeal to the Supreme Court, which upheld the action of the Board. The Court, in an opinion by Justice Swayze, stated:

* * * "The case was argued as if it involved the constitutionality of Chapter 19 of the Laws of 1913, which requires that corporations intending to merge shall first secure the approval in writing of the Board of Public Utility Commissioners. It is said that this involves a delegation of legislative power. No statute is pointed to which becomes a law or ceases to be a law as the result of any act of the Commissioners. There is none. It seems to be thought that the Commissioners would legislate if they adopted any rules for their own guidance in granting or withholding their approval of a proposed merger of corporations; but such rules would have no binding force even upon the Commissioners themselves since they could rescind them at pleasure; they lack all semblance of legislation and surely could not render unconstitutional an act of the Legislature." * * * "The right to merge is purely statutory and there is no constitutional objection to the Legislature fixing such terms as it chooses, including, since that is its pleasure, the written consent of the Commissioners. The Legislature is under no compulsion to authorize a merger." * * * "No doubt the action of the Board must be reasonable and not arbitrary, but that is because we will not attribute to the Legislature an intent to exercise or permit the exercise of arbitrary power. The action of the Commissioners must have a foundation in reason; it has such foundation when it is based upon the requirements of the corporation act, or upon settled legal principles, and not upon the mere whim of the Commissioners." * * * "I do not regard the case as one where judicial power is conferred upon an administrative body. The Legislature has seen fit to require the approval of the

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Commissioners as a condition precedent to a merger. I see no reason why their refusal to approve may not properly be based upon the fact that the scheme is such, that upon recourse to a proper tribunal, it would be enjoined. Surely it is not for this court to say that their refusal to approve in such a case should be set aside. Their approval would not prevent action by the Court of Chancery. In short the action of the Commissioners is no adjudication of the right of the parties, but a mere step in administrative procedure which is subject to control by the courts."

The decision of the Supreme Court was appealed to the Court of Errors and Appeals and was affirmed by the latter.

THE NEWARK ORDINANCES.

During the year the Board has approved eighty-two grants of privileges by municipalities to public utilities. Among the important petitions brought under the law requiring the Board's approval of grants of privileges by municipalities to public utilities, was that submitted by the Public Service Railway Company asking for the approval of twenty-nine ordinances adopted by the Board of Street and Water Commissioners of the city of Newark. The purpose of these ordinances was to admit of putting into effect a plan adopted by the railway company for the improvement of street railway transportation facilities in Newark. This application was submitted to the Board last year. On January 13th, 1914, the Board filed a preliminary report. In this the Board directed attention to the fact that, in reaching a determination whether a franchise or franchises granted to public utilities by a political subdivision of the State should be approved, it should first consider

* * * "whether the privilege or franchise granted is necessary and proper for the public convenience.

"Where, as here, the privileges granted are not to be employed as instruments of local transportation alone; but also in the transportation of passengers from and to communities lying without the borders of the municipality making the grant, the public convenience to be considered is not merely that of the people of the municipality making the grant, but that of all the communities to be served.

"If the Board determines that the grants are, on this broad view, necessary and proper to the public convenience, it is next required to consider whether the grants properly conserve the public interests."

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The Board directed attention to the fact that it was not the intent of the governing body of the municipality to grant the consents provided for by the ordinances without imposing conditions and that

"the ordinances submitted to this Board, other than those relating to the construction of subways, are unqualified grants of consent by the municipality and were formally accepted as such by the company. * * * The ordinances submitted for the Board's information but not for its approval authorize the execution of a so-called 'blanket agreement' between the city and the utility, which purports to annex certain conditions to the grant made. The ordinances submitted contain no reference to this agreement. As stated, the ordinances make unconditional grants. The agreement itself has not been executed either on behalf of the city or the utility. The statement made is that this 'agreement is to be executed by the city and the company in the event of the ordinances becoming effective.'"

The Board directed attention to certain complications existing with respect to the use of transfers on the lines under consideration in the ordinances, and stated that its study of the situation

"indicates that under the existing ordinances transfers are on the one hand not required to be granted where their issuance might be reasonably demanded and on the other hand they are in certain instances required to be issued where they may be improperly employed by passengers in making round trips to their destinations and in return therefrom. This situation is perpetuated by the proposed agreement, except as it may be affected by future agreement under the provisions of the agreement to attempt to agree upon a comprehensive system of transfers. The form in which the proposed agreement is cast also raises a question as to whether the city does not thereby surrender a power of regulation over the issuance of transfers which it now possesses."

The Board therefore expressed the opinion that

"since it is apparent the city did not contemplate that the grants made should be without condition, the city should, before action by the Board, in appropriate form and with binding force definitely express its intent as to the conditions to which the grants made by it are to be subject. Upon acceptance by the company of the grants so conditioned, the question as to the adequacy of the conditions will be before the Board."

The Board's objections as expressed in its preliminary report were met satisfactorily by subsequent action on the part of the company and the municipality, and on March 17th, 1914, the ordinances were approved, the Board filing a report with its cer-

tificates of approval, which reviewed at some length the conditions involved. This report stated *inter alia*,

"The city is the traffic center of a metropolitan area, which in 1910 had a population of seven hundred and ninety thousand. Lines of street railway radiate from a common center in the city into and throughout this area. Of the twenty-one lines of cars operated within the limits of the city eight are local and thirteen are suburban or interurban lines. The problem, therefore, is the problem of this metropolitan district. The lines operating wholly within the city or partly within the city and partly beyond its limits carried an aggregate of one hundred and twenty-five millions of 'fare passengers' in 1911. In great part this traffic was concentrated in a comparatively restricted area about the intersection of Broad and Market streets in the city, in which area the business activities of the city are in the main centralized."

The concentration of traffic in this limited area, it was pointed out, had resulted in a condition of congestion inconsistent with "safe, adequate and proper service."

While objection was made with respect to certain details, and it was urged that the Board should withhold its approval, the plan appeared to be, in the judgment of the Board, as good a one as could be worked out practicably, and the Board's approval of the ordinances was given. The ordinances contemplated numerous changes and a large amount of construction work. Some of the changes have been made, and the work of construction has been partially finished.

STREET RAILWAY SERVICE IN CAMDEN.

During the year the Board has investigated the service afforded by the Public Service Railway Company on the lines operated by it in the city of Camden. This investigation involved numerous hearings. As a result of action taken by the Board the headway upon most of the lines of the railway company in the city has been materially shortened and substantial improvements in service afforded. Headways have been reduced from fifteen to ten minutes, from ten to seven minutes, from seven to five minutes, and from five to three minutes upon the lines to and from the ferries, these lines being the most important in the city.

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STREET RAILWAY SERVICE IN JERSEY CITY.

Changes at Jersey City, put into effect by an order of the Board as the result of its investigation in the year 1913, have resulted in improved service. It appeared, however, that dissatisfaction still existed with respect to some details of service in Jersey City. This has been the subject of further investigation by the Board this year. Inspections have been made of traffic conditions. A large amount of data has been accumulated, and the Board now has under consideration the record of the hearings at which this data was introduced as testimony. It is anticipated that a further finding with respect to the street railway conditions in Jersey City will be filed at an early date.

COMPLAINTS.

Six hundred and six complaints were submitted to the Board during the year. These complaints involved many matters affecting both rates and service afforded by public utilities. Not all of the above were treated formally, but many of them were referred to the Board's inspectors with the view of determining whether just cause for complaint existed, and, if so, whether the cause could be removed without formal hearing and order.

RAILROAD RATES.

There has been a considerable increase in the number of complaints alleging excessive charges by utilities engaged in the transportation of freight. With few exceptions these complaints have been informal in nature and have been referred to the Board's inspector, detailed for such work, to take the matters up with the proper officials of the railroad companies. This has resulted, in a number of cases, in the railroads agreeing to reduce rates, where the investigation disclosed the existence of charges which, *prima facie*, were inequitable. Rates have been reduced with respect to certain commodities in a number of cases as the result of investigations and recommendations by the Board's inspector. The old rates complained of, the commodities and the stations (for transportation between which it

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was alleged the charge was excessive), and the new rates adopted as the result of the investigations and recommendations are as follows:

<i>Reduction of Rates.</i>	<i>Old Rate.</i>	<i>New Rate.</i>
Clementon to Williamstown Jct., inc. (feed and grain), ...	.07 per cwt.	.05 per cwt.
Florence to Winslow Jct., inc. (feed and grain), ...	.08 " "	.06 " "
Rosedale (feed and grain), ...	.08 " "	.07 " "
Hammonton to Colwell, inc. (feed and grain), ...	.09 " "	.07 " "
Elwood to Egg Harbor, inc. (feed and grain), ...	.09 " "	.08 " "
Atco to Sicklerville, inc. (feed and grain),...	.06 " "	.05 " "
Camden to Wrightstown (cinders), ...	.08 " "	.06 " "
		carload minimum
		50,000 lbs.
Columbus to Kinkora (cinders), ...	.06 " "	.55 per ton.
Camden to Columbus (cinders), ...	.06 " "	.65 " "
Soho to Newark (scrap iron), ...	2.24 gr. ton.	1.00 gr. ton.
Alloway to Atlantic City (express rate), ...	.57 per cwt.	.50 " "
Alloway to Ocean City (express rate), ...	.57 " "	.50 " "
Alloway to Wildwood (express rate), ...	.64 " "	.50 " "
Alloway to Cape May (express rate), ...	.64 " "	.50 " "
Belmar to Phillipsburg (potatoes), ...	.18 " "	.10 " "
Newark to Greensville (manure), ...	2.60 per ton.	1.50 per ton.
Harrison to Newark (scrap iron), ...	.60 " "	.40 " "
East Orange to Riveredge (manure), ...	1.60 " "	.60 " "
Paterson to Passaic (scrap iron), ...	1.20 " "	.60 " "
Gloucester to Nordhoff (concrete blocks), ..	2.40 " "	1.70 " "

Applications frequently are made to the Board for orders requiring railroad companies to make refunds of alleged overcharges. The law does not vest the Board with authority to issue such orders. Where, however, circumstances appear to be such that a refund should be made, the Board, though not acting strictly within the limits of the statute, takes the matter up with the railroad, and, as a result, in many cases the companies adopt recommendations of the Board and make refunds in accordance therewith.

The railroad companies apply, not infrequently, for the Board's approval of refunds where, upon complaint having been made directly to them, their investigation has led to the belief that such refunds are equitably warranted.

The refunds made with the approval or upon the recommendation of the Board range from comparatively small to material amounts, the largest being a refund to one shipper of a sum in excess of seven hundred dollars.

All approvals of refunds, or recommendations that they be made, are preceded by such investigations as are necessary to determine that the refunds may be made without resulting in improper and unlawful discriminations.

Complaint was made to the Board by the Mountain Ice Company that the Delaware, Lackawanna and Western Railroad Company's charges for shipments of ice are excessive. This complaint formed the basis of a formal proceeding upon which the complainants and the railroad company are at issue. The proceeding in this matter has required a somewhat prolonged investigation, to enable the parties in interest to submit testimony regarded as material and pertinent to the issue. Twenty-eight hearing days have been taken up with this case, and the submission of testimony is not yet completed.

Railroads operating in New Jersey, notably in the southern part of the State, have filed, recently, schedules which show marked increases in passenger rates. The Board issued orders suspending the proposed increases as well as proposed withdrawals of certain existing commutation tickets, and has fixed January 12th, 1915, as a day for hearing upon the question of the reasonableness of the increases proposed. Following the adoption of the Board's orders of suspension, applications were received from the Pennsylvania, West Jersey and Seashore, Atlantic City Railroad and Philadelphia and Reading Railway Companies for a vacation of the Board's order of suspension. Hearing was held recently on this application. The Board did not feel justified in vacating the orders of suspension, and the same, in so far as they apply to intrastate traffic between stations in New Jersey, are still in effect. The Board, in announcing that it would not vacate its orders, stated that the carriers could renew their applications for vacation of the orders upon the completion of the submission of their testimony at the time of final hearing.

MISCELLANEOUS COMPLAINTS.

Numerous informal complaints were made to the Board, as to the methods of deducting discounts for prompt payments, practiced by the Elizabethtown, Cranford, Rahway, Perth Amboy and Metuchen Gas Light Companies. These companies are under common control and serve Cranford, Rahway, Elizabeth, Perth Amboy, Metuchen and a number of other municipalities. The complaints directed against these companies did not challenge the reasonableness of the base rate, but did complain that the method of applying discounts led to discrimination. The Board, on its own motion, investigated the justice and reasonableness of the rules and practices of the several companies. This resulted in the Board recommending that revised schedules be filed. The recommendations were adopted by the companies and led to the removal of the inequalities complained of.

Formal complaint was made to the Board that the Hillcrest Water Company required applicants for supply of water under the metered system to agree that "the real estate to which water is supplied shall be bound and liable for the use of the same."

It appeared that the company was reasonably protected by other provisions of its contract with the consumer, and the Board ordered the company to supply water under the metered system upon the execution of application with the provision complained of eliminated.

The City of Hoboken complained of the refusal of the Public Service Railway Company to honor transfers at its terminal building in Hoboken between its various surface lines, and complained also of the inadequacy of waiting sheds at certain points upon the respondent's elevated structures. The Board did not find that conditions existing with respect to transfers warranted it in requiring the company to make any changes, but did find that the waiting sheds on the elevated road running along Ferry Street did not furnish suitable and proper accommodation and protection from the weather, and issued an order to the Company to construct suitable sheds.

Following complaints, received from citizens of Newton, as

to service afforded by the Newton Gas and Electric Company, the Board caused an investigation to be made which disclosed that conditions were such as to give ground for reasonable complaint, and orders have been issued requiring the company to improve its service.

Among complaints heard by the Board was one which challenged the reasonableness of the practice of the Public Service Gas Company in discontinuing service to a customer for failing to pay a bill for gas within the time limited by the company's rule, when the customer has a deposit with the company amounting to more than the unpaid bill. The Board expressed the opinion, after hearing, that one day's notice of a purpose to discontinue service in a situation of this kind was not reasonable; that while the company might have recourse to the guarantee deposited, and might be justified in regarding the customer as of doubtful responsibility, and be entitled to protect itself from the danger of future nonpayment, yet while it had in hand more of the customer's money than was required to meet current accounts, summary discontinuance of service was unwarranted. The Board found that the company would be warranted in giving notice to the customer to restore the deposit to the original amount within a reasonable time; that in case of failure to so renew the deposit the account would be closed and the deposit returned, after deducting all service charges to that date. A new rule was filed by the company consistent with the above.

FORMAL PROCEEDINGS.

Four hundred and fifty-six proceedings have been the subject of hearings by the Board during the year. These include many complaints pressed to formal hearing, and also applications for approval of issues of securities, of municipal grants to public utilities and approval of leases and mergers, all of which are made subjects of hearings by the Board before action is taken, the hearings with respect to some of the above extending over a number of days.

Under that provision of the law which directs the Board to

"furnish its Secretary such of its findings and decisions as in its judgment may be of general public interest * * * which shall be

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published in such form and manner as may be best adapted for public information and use"

the Board will, during the coming year, publish the second volume of its reports of decisions. This will include decisions upon hearings of complaints, which decisions are believed to deal with matters of general interest, as well as decisions following hearings in proceedings other than formal complaints. In view of the forthcoming publication the Board does not deem it necessary nor advisable to publish, with this report copies of all its decisions filed during the year. In another part of this report the Board submits a record of its action with respect to applications for approval of securities. In certain cases reports of the Board's decisions have been filed at the time the certificates of approval were granted or withheld. Copies of these decisions are submitted with this report for printing in the section which deals with the applications for approval referred to.

BRIDGES AND GRADE CROSSINGS.

Inspections are made by the Engineering Department of the bridges and crossings spanning openings under the tracks of railroads and street railways. That this is a task of considerable magnitude may be inferred from the fact that there are in New Jersey classified by the Board's Engineering Department, and exclusive of street railways, over three thousand bridges carrying railroads over highways or other railroads, or carrying highways over railroad tracks. In addition to these, there are over two thousand crossings of shorter spans, not classified, but which come within the observation of the inspectors engaged in examining the physical conditions of the railroads and bridges. A law enacted at the last session of the Legislature has placed under the jurisdiction of the Board highway toll bridges. There are three intrastate toll bridges in New Jersey and sixteen interstate bridges over the Delaware river. With respect to the latter it has been difficult to obtain records and data as to their construction, the bridges having been built a number of years ago, and complete records and drawings not having been, in most cases, kept on file. Inspections are made of the condition of these as

well as other bridges, and such recommendations for repairs are made as conditions appear to warrant.

During the year soundings have been made and plotted throughout the New Brunswick basin of the Delaware and Raritan Canal. Recommendations for improvements of navigation have been made and adopted and repairs suggested by the Board's Engineering Department are now under way.

INSPECTIONS.

The practice of having annual inspections made of the track and roadbed of railroads has been continued and extended to include street railways. This work is done by experienced men, and their recommendations for corrections of defects observed are accepted usually without question. Where exception is taken to recommendations hearing is held. The objections are heard and considered, and the Board takes such action as in its judgment is required.

Inspections are made systematically to determine whether gas and electric utilities comply with the standards, rules and regulations adopted by the Board. Particular attention is given to appliances used to test meters. These appliances are tested by apparatus which makes certain detection of defects, and the Board insists in the maintenance of accuracy in all testing apparatus.

ELIMINATION OF GRADE CROSSINGS.

Plans with estimates of cost involving the elimination of thirty crossings in five municipalities have been prepared. Hearings have been held with respect to twenty-one of these crossings. The testimony taken thereat and the plans and estimates of cost relating to the same are now under consideration. Petitions with respect to six other crossings have been filed. The cost of the work called for by these plans would amount, in round figures, to four million dollars. The proceedings in the grade crossing elimination cases are necessarily prolonged. In order that interested parties may have the notice, which it appears the law contemplates shall be given to them, of hearings held by the Board upon the proposed elimination of grade crossings, the site of the

proposed elimination must be surveyed and records searched to obtain the names of the owners.

During the year the Pennsylvania Railroad Company has made material progress in the elevation of its tracks through Rahway. Two additional tracks have been elevated and placed in service. The track elevation extends for about two miles and has resulted in the elimination of thirteen grade crossings. The expense of this work to date has been approximately \$1,600,000.

Work has been resumed by the West Jersey and Seashore Railroad in eliminating grade crossings on its Atlantic City Division in Camden, approximately \$168,000 having been spent since May 1st on this work. The work will be continued during the coming year and when completed will result in eliminating eleven crossings in a distance of about 1 85/100ths miles.

The Delaware, Lackawanna and Western Railroad Company has eliminated during the year seven crossings in the borough of Chatham, and now has in progress elimination of the grade crossing at River Road, which is part of the general Chatham scheme. The cost of eliminating the seven crossings and of the work done up to December 1st, 1914, on the River Road is approximately \$336,000, this sum not including any expenditures on account of new stations and grounds which form part of the general plan.

The Lackawanna has also under way crossing eliminations as follows: Convent Station, (Morris Township), Normandy Parkway at an estimated cost of \$93,500. At South Orange, crossings at Montrose Avenue, South Orange Avenue and Third Street are to be eliminated at an estimated cost (exclusive of new passenger and freight stations and yard) of \$397,829.

At Madison, New Jersey, ten crossings are to be eliminated at an estimated cost, exclusive of new passenger and freight stations and grounds, of \$428,000.

The work mentioned above is being done as a result of agreements reached as to plans between the municipalities and the railroads.

PROTECTION OF GRADE CROSSINGS.

Exclusive of private crossings over industrial tracks, three thousand two hundred and sixty-three grade crossings have been examined by the Board's inspectors. This work has been done systematically and the crossings have been classified with respect to the ratio of danger to the public, considering the physical conditions at each crossing and the extent of travel over the same.

The statute, which gives the Board power to require a railroad company to furnish provision for the protection of the traveling public at grade crossings, contemplates the selection by the Board of one of a number of methods of warning which have been adopted in railroad practice. In many cases the conditions of travel are such that no less a degree of protection than the operation of gates at all hours of the day and night can be regarded as reasonably adequate. With respect to some other crossings, where but few trains are operated on the railroad, or the travel upon the highway is occasional and the view is good, the installation of gates or the maintenance of a flagman does not seem to be reasonably required in the contemplation of the statute. The Board, has in some such cases required the installation of automatic alarm bells and has also required the railroad companies to install warning signs of standard pattern approved by the Board. These signs are to be located particularly at the crossings where gates and flagmen are not now maintained, and it is intended that finally every grade crossing in the State, except those where flagmen are stationed at all times and gates are operated continuously, will be so marked.

During the year a conference was held with representatives of different railroad companies on a plan proposed by the Central Railroad Company of New Jersey to put in the hands of the flagmen stationed at grade crossings warning discs, for use in the day time, upon which the word "Stop" is painted in large letters, and lanterns to show red against the highway to be used at night. The matter of recommending or ordering the adoption of this method of warning was discussed, but considerable opposition developed from railroad representatives, who feared

that some misunderstanding on the part of engineers operating the trains might result from displays of the stop signals. The Board decided that the Central Railroad Company of New Jersey might place these signs in the hands of its crossing watchmen and record and report the result thereof to the Board. The company has recently reported to the Board that the practice has proven to be very satisfactory; that the signs have been obeyed without question by users of the highway, when displayed against them, and that they have not resulted in any misunderstanding or confusion on the part of the engine drivers.

VALUATIONS.

The Board caused the properties of a number of public utilities to be valued during the year prior to acting on applications for approvals of issues of securities.

There is now under way an investigation of the reasonableness of the rates charged by the Hackensack Water Company, which company supplies service to the municipalities in the northern part of Hudson and the greater part of Bergen counties. The investigation involves taking an inventory of the company's properties. This is practically completed and will be introduced at a hearing to be held in the near future.

The valuation of the properties of the New Jersey Gas Company, operating in Camden, Cumberland, Gloucester and Salem counties, has been completed.

The above valuations were made under the direction of the Board's Chief Inspector of its Utilities Division, who was authorized to make necessary additions to his force for the purpose.

The Board has begun, and has fairly under way, a valuation of the properties of the Public Service Electric Company. To assist in this work the Board has made special arrangements with the engineering firm of D. C. and William B. Jackson, who employ and direct the force necessary to inventory the company's properties. The extent and nature of these properties are such that the work of inventorying them is a task of great magnitude and one which must be conducted with due regard to the funds available at given times for the purpose. It is the desire of the

Board to have the work completed during the year 1915. The funds which may be used by the Board for the purpose, while sufficient to make very material progress, it is feared will not be sufficient to carry the work to completion. Any additional sum to do this need not be very large, and the Board hopes the Legislature will appropriate such amount as may be necessary for completing this very important work.

THE BASIS FOR RATES.

The valuations specifically referred to above have been undertaken with a view of determining the reasonableness of the rates charged by the utilities mentioned, and of fixing new rates to be charged if the existing rates should be found unjust and unreasonable. Such determination and fixation by a Board, exercising powers of the nature conferred on this Board, necessarily involve valuations of the utilities' properties.

The value fairly determined must be the base on which the utility shall be allowed a reasonable return, and this governs the rate to the public.

It is the opinion of the Board that this base should not be merely the value of the company's physical property used in supplying service to the public. To hold this would require elimination from consideration of expenditures, legitimately incurred in developing the business of the utility to a state of efficiency commensurate with the requirements of the community in which it operates. The management of a utility which develops the utility's business in a thorough and efficient way; which seeks to obtain and is successful in getting and holding as its customers those who, except for the effort of the utility to make its service attractive would not take it, should not be penalized. Expenses reasonably incurred in this way, sometimes called "going concern value," sometimes "development cost," in the opinion of the Board, should be considered in determining the base on which a return should be allowed. This is a rule uniformly applied by other commissions and the courts in rate proceedings.

The utility furthermore should be allowed a return on ex-

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penses legitimately incurred in obtaining the franchise under which it operates.

THE PASSAIC GAS RATE CASE.

On the theory outlined above the Board determined the base on which, in its opinion, the Public Service Gas Company was reasonably entitled to a return in its Passaic district. Allowing on the base so determined a return of eight per cent., the Board found the rate charged by the company to be excessive, and ordered it reduced to ninety cents per thousand cubic feet.

An appeal was taken from the decision of the Board to the Supreme Court, and the Board's decision was there upheld. The decision of the Supreme Court was carried by the company to the Court of Errors and Appeals, and the latter has decided recently that the decision of the Supreme Court should be reversed.

The decision of the higher court is on the ground that the Board did not allow to the company such valuation for its franchise as, under the policy of the State, it is entitled to.

LIMITATION OF BOARD'S POWER.

The Board can exercise such powers only as the Legislature delegates to it. The law delegating these powers must be, in the first instance, construed by the Board. The Legislature has provided for appeals to be taken from orders of the Board to the court. If an order of the Board is issued, based on what the court regards as an erroneous construction of the law, the Board's order will be set aside.

In the Passaic Gas Rate case, the Legislature not having specifically referred to the value to be placed on the franchise in fixing a rate, the Board did not apply the rule apparently laid down by the Court of Errors and Appeals.

So long as the decision of the court is in effect, and the law is unchanged, the action of the Board must conform to the decision. The Board does not understand that the decision of the court questions the right of the Legislature to declare a State policy different from that now held to be in effect.

RECOMMENDATIONS.

In accordance with the provision of the Public Utility Act which directs the Board in reporting to the Governor to make "such recommendations as it may deem proper," the Board, in view of the foregoing, respectfully recommends that consideration be given to the advisability of amending the public utility act so that it shall clearly appear, as the legislative intent, and as an authoritative declaration of State policy, that the Board, in fixing just and reasonable rates to be charged by a public utility, shall not value the franchise of such utility in excess of the amount the Board finds to have been legitimately spent in procuring it. Such is the policy of the State, as specifically declared in the public utility act with respect to the capitalization of franchises.

The Board would recommend also that a law be enacted by virtue of which a contract made by the Board with engineers for valuing the property of a public utility may continue beyond the end of the fiscal year in which the contract was made.

As the law is now construed, if engineers have been employed by the Board to value properties, and the work is not completed by October 31st (the end of the fiscal year), the contract is dead. Any balance of its appropriation which the Board had is not available for the work in hand and cannot be used for its completion.

The Board further recommends legislation clearly conferring on it power to put into effect classifications and classes of rates, so that it cannot be contended that the Board's power is limited to the regulation of existing rates and classifications of rates.

The Board in its report of last year made certain recommendations of which some were enacted into law, while others did not obtain legislative action.

The Board is of the opinion that the recommendations which were not adopted at the last session of the Legislature may be properly given further consideration, and, therefore, again respectfully recommends adoption of the following:

First: An act specifically empowering the Commission to re-

quire proof when its approval of proposed security issues is asked that there has been an adequate attempt on the part of the petitioners to ascertain and to obtain the highest price at which such securities may be sold, and in default of satisfactory proof thereof to impose as a condition of granting such approval the advertising for sealed competitive bids for such securities accompanied by certified checks guaranteeing the responsibility of the bidders.

Second: An act amending the present law under which the Board's approval of the purpose of proposed security issues is made pre-requisite to such approval, whereby said clause shall be defined by a prescribed rule indicating in general terms in what respects the purpose of the issue may be scrutinized by the Board with a view to approval or disapproval thereof.

Third: An act making void all security issues by public utilities, whether put out by way of sale or by way of pledge or hypothecation, and making such unauthorized issue a misdemeanor, unless the prior approval of the Board thereof has been granted.

Fourth: An amendment of the General Railroad Act, and in particular Section 70 thereof, whereby the limitations to be imposed upon the bonded debt that may be incurred by a railroad company incorporated in this State by a foreign corporation as regards its property situate in this State, may be made uniform, whether said company is operated independently or under lease, or by virtue of merger or consolidation with another railroad company.

Fifth: Legislation prescribing more precisely the terms under which railroad companies or other public utilities may lease or be leased to railroads or other public utilities, such legislation to fix the maximum term of the lease and to make mandatory the requirement that the property of the lessor company shall be at all times capable of identification either physically or by the fixing

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the value thereof upon the books of said lessor company and lessee company respectively.

Dated December 31st, 1914.

Respectfully submitted,

(Signed) RALPH W. E. DONGES,

President,

(Signed) THOMAS J. HILLERY,

(Signed) JOHN J. TREACY,

Commissioners.

(Signed) ALFRED N. BARBER,

Secretary.

Applications for Approval of Mortgages and Issues of Stocks and Bonds.

The following is a list of applications for approvals of issues of stocks, bonds, etc., with the action of the Board thereon from January 1st, 1914, to December 31st, 1914.

COMMONWEALTH WATER AND LIGHT COMPANY—\$150,000 NOTES.

Application was made by the Commonwealth Water and Light Company for approval of an issue of \$150,000 five-year six per cent. collateral notes. With respect to this the following was ordered filed:

MEMORANDUM.

This petition was formally filed with this Board on October 15th, 1913. Hearings thereon were held at Trenton, at the State House, on October 28th, 1913, and on November 11th, 1913; after the matter had first gone to conference the case was reopened, and on December 12th, 1913, a final hearing thereon was held at the Court House in Newark.

The petitioner is organized under the general corporation act. It is both a holding and an operating company. It operates electric plants in different sections of the State. It also does a water supply business, in some places, acting through companies having local franchises; in some places delivering a supply to water main systems; in other places, such as Millburn Township, apparently operating water works and doing business as a water company, with what statutory warrant this Board is not advised.

It appears that at a stockholders' meeting, held January 23d, 1907, it was resolved to declare and pay thereafter, from the net earnings of the company, dividends of five per cent. on the preferred stock outstanding; four per cent. on the common stock outstanding, and to apply all surplus earnings to surplus account as working capital.

This procedure appears to have been followed, so that after the stockholders, in July of this year, authorized the transfer of \$30,000 out of the corporate net earnings of the first six months of 1913 to surplus, the amount of the surplus, as of August 31st, 1913, was \$153,427.38. This surplus for the most part was represented by and embodied in extensions and additions to the physical property of the petitioner.

The company proceeded to convert the surplus, or the greater part thereof, into liquid assets by contracting a short-time loan, for \$135,000, of H. M.

Payson & Company. In accordance with a vote of the stockholders passed July 8th, 1913, the company proceeded to utilize the proceeds of said loan by purchasing therewith bonds of the Point Pleasant Traction Company in the amount of \$175,000 par value. This purchase the petitioner justifies as a temporary investment of surplus permissible under Chapter 18, P. L. of 1913.

The pending petition asks for the Board's approval of \$150,000 five-year six per cent. notes to fund the \$135,000 of notes issued as above recited, and to capitalize expenditure to the approximate amount of \$15,000, properly chargeable to capital account.

The admitted object of the purchase of the Point Pleasant Traction bonds was to secure control of the property of the Point Pleasant Light, Heat and Power Company. All the stock of the latter company is held by the Point Pleasant Traction Company. The petitioner's object in securing control of the Point Pleasant electric property is to amalgamate it into a single system with the electric property at Lakewood, already owned by the petitioner.

The essential matter to be determined is whether Chapter 18 of the Laws of 1913, whose primary object is to curtail or annul powers exercised hitherto by so-called holding companies, permits such a purchase as has been accomplished in the first instance by the petitioner through a loan which converted its surplus into liquid assets.

Chapter 18, P. L. 1913, after laying down the general rule whereby companies incorporated under the general corporation act are forbidden hereafter to

"purchase, hold, sell, assign, transfer, mortgage, pledge or otherwise dispose of the shares of the corporate stock of any other corporation or corporations of this or any other State, or of any bonds, securities or other evidences of indebtedness created by any other corporation or corporations of this or any other State, etc."

provides that nothing in the act shall operate

"to prevent any corporation or corporations created under the laws of this State from purchasing as a temporary investment out of its surplus earnings, reserved under the provisions of this act, as a working capital, bonds, securities or evidences of indebtedness created by any noncompeting corporation or corporations of this or any other State * * *."

It is quite clear that unless this purchase of the traction company's bonds can be justified on the ground that it is a temporary investment, the Board's approval of said investment should be withheld. Chapter 14, P. L. 1913, provides that a company organized under the General Corporation Act, if it is to purchase either property of another corporation or the stock of another corporation, may do so only when

"the property purchased or the property owned by the corporation whose stock is purchased shall be cognate in character and use to the property used or contemplated to be used by the purchasing corporation in the direct conduct of its own proper business."

Clearly the roadway and equipment of the Point Pleasant Traction Company are not cognate in character and use with the water or electric property used by the petitioner.

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The petitioner herein may therefore, we believe, be required, as a condition precedent to the Board's approval of the note issue sought, to enter into a stipulation to dispose of said traction bonds at or before a date to be named by this Board.

The Board is of opinion that with such a stipulation guarding and guaranteeing the *bona fide* character of the investment as a temporary investment, and with other necessary provisos, approval may properly be given to the security issue sought.

In reaching this determination the Board is influenced by the petitioner's avowal that it seeks to effect a disintegration of various utility properties now held together by means of the holding company's control; and that it purposes to effect a complete corporate segregation of the various properties now under petitioner's control. In the northern end of the State all the water properties controlled by the petitioner will be consolidated into one water company. Similarly, all the electric companies in the same section will be consolidated into a single electric company. In the Lakewood section it is the petitioner's intention to bring under the ownership of the Lakewood Water Company the water and sewer properties, and under the ownership of the Lakewood Electric Company the electric properties in Lakewood and Point Pleasant. The electric company's power plant at Lakewood will furnish current for that vicinity and for Point Pleasant. This arrangement whereby economies will be effected by reason of power generated from the Lakewood power house will afford a supply for the heavy summer load at the shore at Point Pleasant, and a similar supply for the heavy winter load inland at Lakewood and vicinity. The Commonwealth Water and Light Company as such will cease to exist, and the traction property at Point Pleasant will be entirely detached from each of the companies above mentioned.

On condition, therefore, that the petitioner herein stipulates to part with all ownership or control of the Point Pleasant Traction Company's bonds on or before January 1st, 1916, and further agrees to issue, sell and deliver proposed 6 per cent. notes at not less than 99, and to amortize the discount thereon out of net earnings within twelve months from the issue thereof; and agrees that it will, with all possible dispatch seek to conclude the separation of its properties into separate and distinct corporations, such as indicated *supra*, at the earliest practicable date, and within five years from this date at latest, unless said term is expressly extended by order of this Board, approval to the issue of said six per cent. five-year notes in the amount of \$150,000 will be granted to fund the short time loan for \$135,000, now outstanding, and to capitalize the \$15,000 expenditure cited in petition and properly chargeable to capital account.

Dated January 6th, 1914.

WOOLWICH WATER COMPANY—\$8,500 BONDS.

Application was made by the Woolwich Water Company for approval of an issue of bonds to the amount of \$8,500, the proceeds to be used for the liquidation of floating debt and for construction work.

Approved January 6th, 1914, after hearing.

WOOLWICH WATER COMPANY—MORTGAGE \$50,000.

Application was made by the Woolwich Water Company for approval of a mortgage in the sum of \$50,000 between the said company and the Woodbury Trust Company.

Approved January 6th, 1914, after hearing.

**WILDWOOD, ANGLESEA AND HOLLY BEACH GAS COMPANY—
\$97,500 BONDS.**

The following certificate was granted in this matter:

CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the Wildwood, Anglesea and Holly Beach Gas Company for approval of an issue of the bonds of said company to the amount of thirty-one thousand two hundred dollars, of which amount thirty thousand nine hundred dollars are first and refunding mortgage bonds and three hundred dollars are general mortgage bonds (said bonds being originally issued before May first, nineteen hundred and eleven, and being sold and delivered subsequent to that date); and application having been further made for the approval of an issue of general mortgage bonds to the amount of sixty-six thousand three hundred dollars; and the said Board being satisfied, after investigation and due hearing, that the proposed issues of bonds are to be made in accordance with law and the purposes of such issues being approved by the Board,

The said Board HEREBY GRANTS SAID APPLICATION (subject to Conference Order Number Seven), and approves the issues of bonds herein referred to, upon the following conditions, and with the express understanding, that the issues of thirty-one thousand, two hundred dollars bonds and sixty-six thousand three hundred dollars general mortgage bonds, herein referred to, shall cover all capital outlay properly chargeable to capital account between January 1st, 1912, and January 1st, 1913, and that out of and included in this issue the proceeds of the sale of bonds to the amount of ten thousand dollars shall be used as working capital; and upon the further condition that the bonds hereby approved shall in no wise affect or prejudice the company's right to bonds by virtue of capital outlay prior to January 1st, 1912, and also upon the condition that entry be so made upon the books of account that the bonds issued shall be charged against the outlay as indicated herein.

Dated January 20th, 1914.

THE JERSEY POWER COMPANY—\$75,000 CAPITAL STOCK.

In the above matter the following was ordered filed:

REPORT.

Culver & Whittlesey, for the petitioner.

Lindabury, Depue & Faulks, by *Kinsley Twining*, for the Morris & Somerset Electric Company, Intervenor.

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S. N. Borden, for the Commonwealth Water & Light Company.

L. D. H. Gilmour, for the Public Service Electric Company.

This petition was filed with this Board on December 8th, 1913. Said petition asks this Board's authorization of the issue and sale of stock in the amount of seventy-five thousand dollars at par. The proceeds of the stock issue are intended to defray the cost of rights of way and construction of certain lines for the transmission of electric current. The route of said lines is roughly as follows: Westward from Boonton through Fox Hill and Denville to Millbrook to a point south of Dover; also from said line southward to a point on the eastern boundary of Morristown; also from Millbrook to and through Dover and Wharton.

An itemized estimate of the cost was submitted by George B. Cornell. Said estimate amounts to \$65,438, and includes an allowance of 15 per cent. for engineering and contingencies.

The hearing on the petition was held on January 9th, 1914, at Chancery Chambers, Jersey City. Briefs were submitted by the petitioner and by the Morris and Somerset Electric Company, Intervenor.

From the evidence it appears that the petitioner designs to obtain electric current from the Jersey Corporation at Boonton, and to transmit the same over the lines above described. The power transmitted is to be generated by the Jersey Corporation situated in Boonton. Said Jersey Corporation is not a "public utility," as defined by the act regulating public utilities. Further its certificate of incorporation expressly subjects its powers to the limitation that none of the properties be devoted to a public use. The interests in control of the Jersey Corporation, the Jersey Power Company, and the Eastern Pennsylvania Power Company of New Jersey, are to a large extent the same. The same individual is president of the three concerns. The officers of the Jersey Corporation and the Jersey Power Company are the same. The three concerns have one and the same individual as their respective treasurers; the same is true of their respective secretaries. Their directorates are comprised for the most part of the same individuals. The same group with a slight interchange of offices appear in the list of officers of the Atlantic Gas and Electric Company. The latter, a Connecticut corporation, controls the Jersey Corporation, and is intended to construct the transmission lines for the petitioner herein. (Record, p. 58.)

The principal intervenor bases its objection chiefly on the ground that the petitioner designs the construction of transmission lines and the location of a sub-station within territory now adequately served by the intervenor.

The petitioner avers that the construction of said lines and the location of said sub-station are warranted by reason of its contract to afford power to the Morris County Traction Company.

The evidence does not disclose the precise location of the sub-station in question. The petitioner has secured rights of way towards Morristown only as far as Malapardis. (Record, p. 47.) This is approximately two and one-half miles from Morristown.

The engineer acting for the Morris County Traction Company testifies that sub-stations are to be located at Wharton, at Morristown and Millburn "as near as it could possibly be arranged." (Record, p. 42.)

A. B. Cheadle, a witness for petitioner, being asked if a sub-station is to be located in the vicinity of Elizabeth, replied it would depend entirely on what service Morris County Traction Company will desire. (Record, p. 22.)

From the above it is clear that the location of sub-stations to be built by the petitioner, while not as yet absolutely fixed, will involve in all probability building some of them in territory now supplied by other electric companies. It is also in evidence that the proceeds of the \$75,000 stock (approval of whose issue is now asked), will not suffice to cover the entire construction of transmission lines and sub-stations necessary to comply with the requirements of the Morris County Traction Company. (Record, p. 64.) It is in evidence that the rights of way secured by the petitioner for the transmission line to Morristown cross territory in which the principal intervenor has franchise rights and in which the principal intervenor has lines under construction. (Record, p. 101.) It is also in evidence that it is impossible to carry a transmission line from the eastern part of Morristown to Millburn on the line of the traction company without passing through territory now served by the Morris and Somerset Electric Company. (Record, p. 102.)

The petitioner's contention we understand to be that even though its transmission lines may in part invade a territory locally supplied by other electric companies, and though its sub-stations may have to be located in such territory, the furnishing of electric energy in large quantity to a traction company traversing a number of districts locally supplied with electricity is warranted generally where the price offered by the intruding company is lower than could otherwise be afforded, and where a local company has been remiss in offering to such traction company a comparable service or price. The petitioner also offers to agree that these extensions it designs shall be employed, in territory otherwise pre-empted, only for supplying energy to the traction company. A decision warranting such an arrangement is cited in Massachusetts where the Connecticut River Transmission Company was permitted to enter Worcester and Fitchburg, and sell power despite the opposition of the local companies. (Vol. 25, Annual Report of Mass. Board of Gas and Electric Light Commissioners.)

The Public Utility act, so-called (Chap. 195, P. L. 1911), provides that no public utility shall

"hereafter issue any stock, stock certificates, bonds or other evidences of indebtedness payable in more than one year from the date thereof until it shall have first obtained authority from the board for such proposed issue."

and that

"It shall be the duty of the board, after hearing, to approve of any such proposed issue maturing in more than one year from the date thereof, when satisfied that the same is to be made in accordance with law and the purpose of such issue be approved by said board."

The Public Utility act (P. L. 1911, Chap. 195, I, 15), also provides that

"The board shall have general supervision and regulation of, jurisdiction and control over, all public utilities, and also over their property, property rights, equipment, facilities and franchises so far

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as may be necessary for the purpose of carrying out the provisions of this act."

The first question arising is whether the stock for whose issue and sale approval is asked is to be used for objects in accordance with the law. The Jersey Power Company is not to generate but to transmit current to the Morris County Traction Company, and the Eastern Pennsylvania Power Company of New Jersey. The current so transmitted is to be generated by the Jersey Corporation, and by it to be sold and delivered to the Jersey Power Company. In case the current so generated fails in any wise to comply with the requirements of adequate service, or in case the price exacted by the generating company makes it commercially impossible for the transmission company to sell it at a just and reasonable price, how is the Board to exercise its lawful power of control and regulation? The generating company (a Jersey corporation), as above stated, is not a public utility. It is not by law subject to the Board's regulation and control. It is, however, true that the contract between the Jersey Corporation and the Jersey Power Company, submitted by the petitioner along with its brief, recites that "the character of the service shall be such as they (the distributing company) may direct and desire so as to meet the requirements of all its customers and any regulations or demands made by the Public Utility Commission of the State of New Jersey or any other public body."

But it is doubtful whether such a contractual stipulation could confer jurisdiction on this Board over the character of service arising from the operation of the generating company.

If said contract were modified or rescinded by the parties thereto, it is evident that any control and regulation by this Board over the petitioner would be impaired or destroyed.

Without in anywise impugning the good faith of the petitioner, it appears clear that the arrangement in the furtherance of which they desire to use the proceeds of this stock is one that lends itself admirably to the purpose of those who might be bent on escaping the control which the law of this State seeks to throw around public utilities generally. Where the generating company is not a public utility, and therefore is exempt from the regulation designed for public utilities, and when the electric current transmitted by the transmission company is generated by a concern not under public regulation and control, how can this Board exercise the power conferred upon it by statute?

"After hearing, by order in writing, to ascertain and fix adequate and serviceable standards for the measurement of quantity, quality, pressure, initial voltage or other condition pertaining to the supply of the product or service rendered by any public utility as herein defined * * *." (P. L. 1911, Chap. 195, II, 16, (f).)

It appears to this Board that a security issue cannot be said in the language of the statute "to be made in accordance with law," when said issue contemplates a purpose which, if consummated, renders the law regulating public utilities inoperative.

The objection chiefly urged by the Morris and Somerset Electric Company, that the petitioner seeks to invade with transmission lines and a sub-

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station a district already adequately and properly served, must next be considered.

The general position of this Board with reference to local competition of public utilities was originally set forth *In the Matter of the Application of the Atlantic Highlands Gas Company for the Approval of an Ordinance Passed by the Township Committee of the Township of Shrewsbury, Nov. 17th, 1910.* (Case No. 3 in Vol. I, Reports.)

The principles there laid down have been followed *In the Matter of the Application of the Consumers' Gas Company of Millville for the Approval of Ordinance No. 115 of the City of Millville* (Case No. 95 in Vol. I, Reports); and *In the Matter of the Application of the Eastern Telephone and Telegraph Company for Approval of Two Ordinances Passed Respectively by the Freeholders of Cape May County and by the Borough of Avalon.* (Case No. 107, in Vol. I, Reports.)

It is true that in all of these cases the action of this Board was taken upon franchises submitted for the Board's approval in accordance with the statute requiring such approval. The language of the section of the statute now applicable is that the Board's approval shall be given to an ordinance

"when, after hearing, said Board determines that such privilege or franchise is necessary and proper for the public convenience and properly conserves the public interests * * *."

The statutory provision making the Board's approval necessary for the issue and sale of securities is quoted above. While couched in somewhat different language from that used in reference to franchises the requirement that "the purpose of such issue be approved by the Board" seems analogous to the provision made by the law as the pre-condition of the Board's approval of franchises granted to public utilities by municipalities. The same grounds that would warrant the Board in withholding its approval of a franchise which should create competition locally between public utilities might be cited as grounds for the disapproval of the purpose of a security issue which would result in similar local competition between public utilities.

It is to be noted in all of the three decisions quoted above that the immunity from competition of the company in possession is rested upon its rendering adequate service at a reasonable price.

Do the circumstances in the petitioner's case render its position so exceptional as to justify a departure from the Board's rule as regards utility competition locally?

The Board is unable so to find. For first, the petitioner is physically able to transmit current to the Morris County Traction Company without entering with transmission lines and sub-stations into territory already locally supplied with electric current. This could be brought about, for example, by the traction company's running a line to some point where the petitioner could deliver current without invading territory already supplied. There is nothing in the record to indicate that the traction company could not continue to generate its own current, or obtain current from plants within the territory traversed. Despite the contract adduced between the petitioner and the traction company, the traction company does not seem to manifest any very great solicitude over the situation; and it is perhaps not a far-

fetches conclusion that the traction company feels confident of not going without current, whatever the outcome of this application.

Moreover, there is force in the position that if the petitioner once enters the territory adjacent to Morristown, the petitioner may be solicited to take on local business without the legal right to refuse. Evidence was introduced to show that a written offer had been made within a month and a half by the Jersey Corporation to the Morristown and Erie Railroad Company, agreeing if the railroad company would grant rights of way for the transmission lines along the railroad, the Jersey Corporation (which here is but the petitioner's other half) would sell electric energy for power to the mills along the railroad and also to the railroad itself. (Record, p. 121.)

This is a form of competition to which the Morris and Somerset Electric Company may reasonably object. The intervenor, it appears, is giving adequate service throughout the district it serves. There is no complaint either of its service or its prices. It replaced the inadequate electric lighting service formerly given in Morristown. It experienced for a time local competition therein to its own and to the public's detriment. It has paid dividends on its stock only for the past two years. Its physical equipment and its financial ability are adequate to cope with a considerable extension of electric business; and, if required, to take on the supply of this traction company. In this respect it clearly differs from the Fitchburg and Worcester companies cited in Mass. Pub. Doc. No. 35, Jan. 1910. When, and if a case arises that shall disclose a public utility, a would-be invader of territory locally supplied, not legally disqualified from affording service in such territory, and capable of according service that cannot be matched in character or price by public utilities already affording the local supply of such service, this Board will consider whether the circumstances warrant a departure from the precedents already established by it in reference to competing service locally by public utilities. The present petitioner's case does not seem to come within the exceptional character indicated.

The Board, on the evidence adduced before it, is not satisfied that the securities, approval of whose proposed issue and sale is sought by the petitioner herein, are, in the language of the statute, "to be made in accordance with law"; nor is the Board, upon the evidence adduced before it, satisfied that "the purpose of such issue be approved by said board," as required by the statute; nor in the judgment of the Board, on the matters adduced before it, can it approve either such proposed issue or the purpose thereof. The petition will be dismissed. An order will so enter.

Dated January 27th, 1914.

OCEAN CITY ELECTRIC LIGHT COMPANY—TRANSFER OF CAPITAL STOCK.

Application was made by the Ocean City Electric Light Company for authorization of transfer of eleven hundred and ninety-three shares of capital stock of Ocean City Electric Light Company to the Atlantic City Electric Company.

Approved January 27th, 1914, after hearing.

HUNTERDON ELECTRIC AND POWER COMPANY—\$8,000 CAPITAL STOCK.

The following report was ordered filed.

REPORT.

On March 25th, 1912, the Chief Inspector of Utilities reported to this Board that the annual report filed by the Hunterdon Electric and Power Company of High Bridge, New Jersey, showed an issue of stock by said company to have been made on April 11th, 1912. Inasmuch as Chapter 195, Laws of 1911, required every public utility to obtain the permission of this Board before issuing securities maturing in more than one year from the date of issue, an inquiry was instituted with respect to the stock issue indicated in the company's annual report aforementioned.

It appears that this company contracted for its distribution system in 1910; and at that time the issue of stock for the cost of this distribution system was determined upon, although for various reasons the stock was not actually issued until 1912. This circumstance undoubtedly led to the company's failure to obtain formal permission for the issue of stock.

The generating company is the Taylor Iron and Steel Company, and the Hunterdon Electric and Power Company is primarily designed to afford lighting and power current in the general locality where the generating company is located.

The cost of plant on December 31st, 1911, was reported as \$7,438.68, and the stock issued at \$8,000. The disparity would not indicate that stock was issued below par, if the balance represents working capital. The balance sheet submitted by the company under date of December 31st, 1911, shows in addition to cost of property, among the assets a cash balance of \$543.28 and accounts receivable of \$663.20. The same balance sheet shows on the liability side a surplus of \$645.16. On this showing, as well as on inspection of the revenue and expense account, the Board is satisfied that the stock issue conforms to the requirement of law in not being issued below par, and for a purpose approved by the Board.

Some considerable delay has been occasioned by reason of the apparent absence of any franchise held by the company. The company has put in evidence what is termed by the company a "franchise" granted by the borough of High Bridge. But on careful examination this so-called franchise proves to be nothing other than a contract or agreement between the borough and the company. It lacks almost all of the specific requirements imposed by the Limited Franchise Act upon the grant of franchises by municipalities to public utilities.

However, it further transpires that an electric power and light company does not, under the law, require, in order to operate in a borough, a franchise other than a general permit by resolution for the location of poles. This is an anomalous situation, but its result in the present case is to exempt the company from showing compliance with the Limited Franchise Act as

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regards its authority to operate within the borough. By its State charter the company has a general franchise to furnish electric light and power. As it operates only in territory where it complies with all legal requirements, there is no reason why formal approval of its said issue of stock should not be made by this Board.

Dated February 10th, 1914.

A certificate of approval for the above issue of stock was granted by the Board February 10th, 1914.

**KEANSBURG WATER COMPANY—\$9,000 CAPITAL STOCK;
\$31,000 BONDS.**

Application was made by the Keansburg Water Company for approval of a proposed issue of capital stock to the amount of \$9,000 and bonds to the amount of \$31,000 for the purpose of perfecting the organization of the company.

Approved February 10th, 1914, after hearing.

KEANSBURG WATER COMPANY—\$1,000,000 MORTGAGE.

Application was made by the Keansburg Water Company for approval of mortgage in the sum of \$1,000,000 to Clinton B. Loshen, John L. T. Webster and Christian Henser.

Approved February 10th, 1914, after hearing.

MORRIS AND SOMERSET ELECTRIC COMPANY—\$50,000 BONDS.

Application was made by Morris and Somerset Electric Company for approval of proposed issue of \$50,000 bonds, the proceeds to be used for the purpose of payment for additions and extensions.

Approved February 25th, 1914, after hearing.

**NEW YORK CENTRAL AND HUDSON RIVER RAILROAD COMPANY—
\$70,000,000 BONDS.**

In this matter the following certificate was granted:

CERTIFICATE.

The New York Central and Hudson River Railroad Company on February 17th, 1914, filed with this Board its petition praying that the Board give its consent and approval to the issuance by the company of its Refunding and Improvement Mortgage Bonds, "Series A" or "Series B," to the amount of \$70,000,000, bearing 4½% interest and redeemable on any interest day at the election of the company at 110% of par and accrued interest for the

purpose of refunding its outstanding notes which mature during the year 1914, a part of which notes consists of three-year 4½% notes amounting to \$30,000,000, which become due on March 1st, 1914, and this Board, at its office in the city of Trenton, on February 25th, 1914, having taken proof of the facts set forth in the petition and after having heard Mr. Albert H. Harris and Albert Wall on behalf of the petitioner upon the aforesaid petition, the papers and schedules which accompanied it, and upon the evidence taken at such hearing,

Now, therefore, after due deliberation, it is

ORDERED (1), That the New York Central and Hudson River Railroad Company be and it hereby is authorized to issue its Refunding and Improvement Mortgage Bonds "Series A" or "Series B" to the amount of \$70,000,000 par value bearing 4½% interest and redeemable at the election of the company on any interest day at 110% of par and accrued interest; such bonds to be secured by such company's Refunding and Improvement Mortgage to the Guaranty Trust Company of New York, as Trustee, dated October 1st, 1913, the execution of which has heretofore been approved by the Board and said bonds to be sold by said company at not less than 92½% of their par value and accrued interest.

ORDERED (2), That the proceeds to be secured by the issue and sale of said bonds shall be applied to the following purposes and no others, to wit:

To the payment of the New York Central and Hudson River Railroad Company's outstanding notes, as follows:

(a) 4½%, 3-year notes, maturing March 1st, 1914,.....	\$30,000,000
(b) 4½%, 1-year notes, maturing February 28th, 1914,.....	1,000,000
(c) 5½%, 1-year discount notes, maturing April 21st, 1914—2,000,000, ...	9,732,000
(d) 5%, 1-year notes, maturing April 21st, 1914,.....	10,000,000
(e) 5½%, 1-year discount notes, maturing May 15th, 1914, Fcs. 10,000,000, ...	1,930,000
(f) 5%, 1-year notes, maturing September 15th, 1914,...	5,000,000
(g) 5%, 1-year notes, maturing November 5th, 1914,....	12,000,000
	\$69,662,000

ORDERED (3), That if the said bonds of a total par value of \$70,000,000 herein authorized shall be sold at such price as will enable the company to realize net proceeds of more than \$69,662,000 no portion of the proceeds of such sale in excess of the last aforesaid sum shall be used for any purpose or purposes whatsoever without the further order of the Board.

ORDERED (4), That none of the said bonds herein authorized shall be hypothecated or pledged as collateral by the New York Central and Hudson River Railroad Company without the further order of the Board.

ORDERED (5), That the company shall for each three months' period ending March 31st, June 30th, September 30th and December 31st, file not more than fifteen days from the end of such periods, respectively, a verified report showing:

- (a) What, if any, bonds have been sold or disposed of during such periods in accordance with the authority contained herein, and the date of such sale or disposition;

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- (b) To whom such bonds were sold;
- (c) What proceeds were realized from such sale;
- (d) Any other terms and conditions of such sale;
- (e) The amount expended during such periods of the proceeds of the bonds herein authorized for each of the purposes specified herein.

Such reports shall continue to be filed until all of said bonds shall have been sold or disposed of in accordance with the authority contained herein.

ORDERED (6), That in the opinion of the Board the money to be procured by the issue of said bonds herein authorized is reasonably required for the purposes specified herein and that such purposes are not in whole or in part reasonably chargeable to operating expenses or to income.

ORDERED (7), That this proceeding shall be, and hereby is, continued for the purposes of further examination as to the uses made by the petitioner of moneys realized from the sale of said notes, including the \$30,000,000 4½% three-year notes maturing March 1st, 1914, and the accounting therefor shall be subject to such readjustment, if any, as the Board may by subsequent order herein direct, and the schedules filed by the petitioner in connection with this application and the items of expenditure therein set forth shall be subject to such changes and substitutions as shall be made with the approval of, or by the direction of, the Board.

ORDERED (8), That the authority to issue securities contained in this order is upon the strict condition that the company accepts and complies in good faith with the provisions hereof, and before any securities are issued pursuant hereto, and within ten days of the service hereof, the said company shall file with the Board a satisfactory acceptance of this order with all its terms and conditions.

Dated February 25th, 1914.

PUBLIC SERVICE RAILWAY COMPANY—CHATTEL MORTGAGE AND BONDS.

Application was made by Public Service Railway Company for approval of a chattel mortgage to be made by the company to Fidelity Trust Company, Trustee, to secure car equipment bonds to the par value of \$200,000, to be known as series "D." Application was made at the same time for approval of issue and sale of the entire issue of bonds secured by the mortgage, the bonds to be taken at par by Public Service Building Company in part payment for the cars to be mortgaged. With respect to the above, the following was ordered filed:

REPORT.

Application is made by Public Service Railway Company for approval by this Board of a mortgage proposed to be made by the company to Fidelity Trust Company covering some thirty-five cars, and of the issuance thereunder of bonds for two hundred thousand dollars (\$200,000) to be denominated Car Trust Equipment Bonds, Series "D"; the bonds to be in denomination of one thousand dollars (\$1,000) each; to bear date December 1st,

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1913, twenty thereof to be payable in each year commencing December 1st, 1914, and to bear interest at five per cent. per annum payable semi-annually; both principal and interest to be payable in gold coin free and clear of all taxes whatsoever, national, State or municipal.

The resolution of the Board of Directors determining to issue the bonds provides that they shall be secured by "*a purchase-money mortgage to be made by this company to the Fidelity Trust Company, as Trustee, upon thirty-five (35) street railway cars about to be purchased and acquired by this company. Said bonds and said mortgage are to recite that the same are given to secure part of said purchase money.*"

In accordance with this resolution the proposed form of bond recites that "the said bonds are given to secure the payment of a part of the *purchase money* for thirty-five (35) certain cars *purchased* by the said Public Service Railway Company."

The proposed form of mortgage recites that the company in order to further its business and to extend its operation has found it necessary to acquire thirty-five additional street railway cars, and to that end has made and entered into certain contracts and agreements with divers persons to build, equip and furnish to it said additional thirty-five new cars and that in order to raise and secure the purchase money for said cars, it is necessary to raise and borrow the same and to secure the payment thereof by a *purchase-money mortgage* of and upon the said cars and equipment.

The mortgage purports to grant "thirty-five (35) street railway cars *purchased* by the said company *on the day of the date hereof*; the purchase money whereof is advanced and paid in large measure upon the above-recited bonds, to secure which the same and these presents are given and intended."

The mortgage further provides that the "said bonds shall by the said Trustee be *delivered only in payment of said cars* so to be delivered to said company, and shall only be delivered upon the receipt by said company of said cars. A written statement or receipt signed by any officer of said company, acknowledging receipt by and delivery to said company of said cars at the date therein named, shall be good, conclusive evidence to said Trustee of the fact and date of the receipt of such cars by said company."

The affidavit attached to the mortgage recites that the true consideration of the mortgage "is to secure the sum of two hundred thousand dollars (\$200,000) which is forthwith to be advanced for the purchase and acquisition of the said two hundred (200) bonds in said indenture of mortgage recited, the amount thereof being a portion of the *purchase money* for the thirty-five (35) cars therein named."

These several recitals indicate an intent to give to the mortgage the effect of a purchase-money mortgage. They constitute a representation by the company to the purchasers of the bonds that the payment thereof is secured by a purchase-money mortgage. Such a mortgage possesses distinct elements of advantage to those entitled to its security which do not attach to a mortgage not given for purchase money.

Such a mortgage is superior to all claims or liens impending over the mortgagor at the time of his acquirement of the legal title to the property mortgaged. It is, for instance, superior to an encumbrance of the same prop-

erty which the mortgagor may have attempted to create before he acquired legal title. So it is paramount to a mortgage theretofore given by the mortgagor which contains a general provision extending its operation to property which might later be acquired by the mortgagor. So, too, it is superior to the lien of a judgment that may previously have been recovered against the mortgagor and of a recognizance that may theretofore have been entered into by him.

To indicate this characteristic of the purchase-money mortgage, it suffices to cite four of the many cases in which it has been pointed out.

(1870) *United States v. New Orleans R. R.*, 12 Wall. 362.

(1880) *Clark v. Butler*, 32 N. J. E. 664.

(1896) *Protection B. & L. Assn. v. Knowles*, 54 N. J. E. 519.

(1897) *Daly v. N. Y. & Greenwood Lake Rly. Co.*, 55 N. J. E. 595.

57 N. J. E. 347, in *Clark v. Butler*, the basis upon which this characteristic of the purchase-money mortgage rests was tersely stated as follows: "The justice of the doctrine * * * is obvious. No man should be permitted to acquire title to the property of another without first paying for it; nor should the creditors of a vendee be allowed to acquire against the vendor a more advantageous position than that held by the vendee."

Since the Board's approval of the proposed mortgage may well be taken as an approval of the recitals therein of existing facts, it would seem important that the Board, before granting its approval, should make certain that the proposed mortgage is a purchase-money mortgage, and that the representations made thereby and by the bonds to that effect accord with the fact.

This, then, requires a determination of the circumstances under which a mortgage constitutes a purchase-money mortgage.

A study of the cases cited by counsel for the applicant, and an independent examination of the authorities, leads the Board to the conclusion that a mortgage cannot have the characteristics of a purchase-money mortgage except as it secures payment of purchase money for the property mortgaged and except as the vesting of the legal title to the property in the mortgagee and the delivery of the mortgage to secure the purchase money are contemporaneous, in the sense of constituting part of one continuous transaction.

The Board recognizes, of course, that with these conditions present the mortgage is a purchase-money mortgage irrespective of whether it is executed to the vendor or to a third person who advances the purchase money.

(1880) *Wallace v. Silsby*, 42 N. J. L. 1, 9.

(1880) *Clark v. Butler*, 32 N. J. E. 664.

(1887) *Bradley v. Bryan*, 43 N. J. E. 396.

(1896) *Hopler v. Culler*, 34 Atl. 746.

(1896) *N. J. B., L. & I. Co. v. Bachelor*, 54 N. J. E. 600.

(1899) *McShane Mfg. Co. v. Kolb*, 59 N. J. E. 146.

The record before the Board makes it clear that the various recitals in the resolution of the Board of Directors of the company, the proposed mortgage and proposed bonds have no foundation of fact to rest upon.

It further makes it clear that the conditions which we have concluded must

exist in order that a mortgage may be a purchase-money mortgage are not present. The facts are these. The thirty-five (35) cars proposed to be subjected to the mortgage are *now* the property of the company. They were not purchased by the company.

The motor equipment of the cars was purchased by the company from the Cincinnati Car Company. The cars, however, were constructed by the company in its own shops by men engaged in general repair work and through use of the same plant and equipment which the company maintains for the repair of its cars.

The cost of material, work and labor involved in such construction has been met by the company out of available funds. It is now indebted to no one on account thereof. The purpose of the proposed mortgage and issue of bonds thereunder is to capitalize the expenditures so made and in such capitalization to create a debt which does not now exist. Clearly a mortgage cannot under such circumstances be said to be a purchase-money mortgage, nor have the effect of such a mortgage. Some other method of capitalizing the expenditures made in the construction of these cars must therefore be devised by the company. The application must therefore be denied.

To avoid misunderstanding, the Board adds the following comment: Investigation shows that the company has, through the construction of the cars in its own shops, effected a material saving. Investigation further shows that the cars in question considerably exceed in value the sum of two hundred thousand dollars. This sum the company is entitled to capitalize.

The objections of the Board, therefore, go only to the plan proposed, including as it does a purchase-money mortgage when the prerequisites of such a mortgage do not exist, and the inclusion in the mortgage and the bonds issued thereunder of recitals which are at variance with the facts.

Dated March 3d, 1914.

JERSEY CENTRAL TRACTION COMPANY—\$5,000,000 MORTGAGE.

Application was made by the Jersey Central Traction Company for approval of a general refunding, improvement and extension mortgage in the sum of \$5,000,000.

Approved March 24th, 1914, after hearing.

JERSEY CENTRAL TRACTION COMPANY—\$246,000 BONDS.

Application was made by the Jersey Central Traction Company for approval of a proposed issue of bonds to the amount of \$246,000, the proceeds to be used for extensions and betterments.

Approved March 24th, 1914, after hearing.

JERSEY CENTRAL TRACTION COMPANY—\$520,000 BONDS.

Application was made by Jersey Central Traction Company for approval of a proposed issue of general mortgage bonds to the amount of \$520,000, the proceeds to be used for retiring a like amount of first mortgage bonds.

Approved March 24th, 1914, after hearing.

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ENGLEWOOD SEWERAGE COMPANY—\$50,000 CAPITAL STOCK.

Application was made by Englewood Sewerage Company for approval of a proposed issue of \$50,000 capital stock, the proceeds to be used for payment for improvements and extensions.

Approved March 24th, 1914, after hearing.

FORT MERCER GAS COMPANY—\$1,000 CAPITAL STOCK.

Application was made by the Fort Mercer Gas Company for approval of issue of capital stock to the amount of \$1,000 for the purpose of completing the organization of the company.

Approved March 27th, 1914, after hearing.

FORT MERCER WATER COMPANY—\$1,000 CAPITAL STOCK.

Application was made by Fort Mercer Water Company for approval of a proposed issue of \$1,000 capital stock for purpose of completing the organization of the company.

Approved March 27th, 1914, after hearing.

NEW YORK BAY RAILROAD COMPANY—\$56,000 BONDS.

Application was made by New York Bay Railroad Company for approval of a proposed issue of first mortgage bonds to the amount of \$56,000, the proceeds to be used for the purpose of payment for construction advances made to the company by the Pennsylvania Railroad Company during 1913.

Approved April 7th, 1914, after hearing.

FLEMINGTON WATER COMPANY—\$10,000 CAPITAL STOCK.

Application was made by the Flemington Water Company for approval of a proposed issue of \$10,000 capital stock, the proceeds to be used for the purpose of payment for extension and improvements.

Approved April 21st, 1914, after hearing.

BRIDGEPORT WATER COMPANY—\$11,500 CAPITAL STOCK.

Application was made by the Bridgeport Water Company for approval of an issue made prior to the application of \$11,500 capital stock, the proceeds of which were used for payment for improvements and extensions to the company's plant.

Approved April 21st, 1914, after hearing.

JERSEY POWER COMPANY—\$40,000 CAPITAL STOCK.

In this matter the following report was ordered filed:

REPORT.

The Jersey Power Company, by petition received February 24th, 1914, asked this Board's approval of an issue of capital stock in the amount of fifty thousand dollars. Said issue of stock was to enable the petitioner to pay for the construction of a transmission line running from Boonton, via Fox Hill, to Millbrook, from Millbrook to Dover, from Dover to Wharton, including a branch to Rockaway. The total length of said transmission line was approximately 15.25 miles. Said issue of stock was also to cover cost of obtaining the rights of way. The first hearing on the petition was held on March 10th, 1914, at the State House, in Trenton; and the second hearing thereon was held at the Court House, in Newark, on March 13th, 1914.

The petitioner contemplates taking a lease of the power plant of the Jersey Corporation in Boonton. Current there developed, the petitioner proposes to carry over the above described transmission line for distribution mainly over the distribution system of the Eastern Pennsylvania Power Company of New Jersey. At the hearing petitioner indicated that it might by means of said transmission line take on some new large customers directly. The evidence disclosed that it is intended to discontinue the power plants at Dover and Bernardsville, now operated by the Eastern Pennsylvania Power Company of New Jersey. The interests in control of the petitioner and the Eastern Pennsylvania Power Company are substantially the same.

Question was raised by the Board at the hearing why the petitioner did not enlarge the existing power plant at Dover, instead of running a transmission line to another and distant source of generating current. The Board is, however, satisfied that petitioner demonstrated that the situation in Boonton affords sufficient water for condensing purposes, whereas at Dover an adequate supply is lacking. The purpose, therefore, as qualified herein, for which this stock issue is asked is approved, subject to the limitations hereinafter set forth.

First, the approval of this application as hereinafter set forth is given with the explicit understanding that the petitioner has declared the intention of taking out all property of the Eastern Pennsylvania Power Company of New Jersey from under the mortgage executed by the Pennsylvania Corporation of the same name.

Second, the approval herein granted is to be inoperative unless formally accepted by the petitioner in writing within thirty days from the date hereof, subject to the following conditions:

The petitioner by means of this distribution line undertakes not to furnish electric service locally in Boonton township and Hanover township, except as specifically permitted by the Board to afford service in this territory. The ground for this limitation is that this is territory already supplied locally with electric current. The power plant to be utilized by petitioner stands in

the center of a region already supplied locally with electric current. The Board's general policy of excluding unnecessary duplication of apparatus in the same locality induces the Board to insist upon this particular restriction. If in this territory there are found large wholesale consumers of electric current who could not be as economically and adequately supplied with current from the local company, the petitioner is at liberty to ask the Board for a permit to connect with such customers, and in exceptional cases of this kind with a fair presumption that such permission would be granted. It is understood that this approval does not imply approval of the proposed lease by the Jersey Corporation of its power plant to the petitioner. Separate application must be made for the approval of said lease.

Nor does this approval imply the Board's approval of the contract for the sale of power which petitioner proposes to enter into with the Eastern Pennsylvania Power Company of New Jersey.

In giving this approval the Board hereby puts on record its recognition that the Eastern Pennsylvania Power Company of New Jersey, which, as above recited, is controlled by the same interests as the petitioner, must immediately undertake the amortization of its power stations that are to be discarded, as well as the amortization of the displaced circuit between Millbrook and Dover.

Finally, the Board approves the pending petition to the extent that of the \$50,000 asked for, only \$40,000 may issue by the company at this time. The reasons for this reduction are as follows:

First of all, the petitioner, by counsel, admitted that the cost of the projected construction was approximately \$4,000 less than the \$50,000 asked for. (Record, pp. 6 and 146.)

It is apparent that the estimate made by George B. Cornell, and appended to the petition, is not based upon a reasonably specific knowledge of quantities required. For instance, said George B. Cornell computed that between Boonton and Millbrook five hundred and thirty poles would be required. It was later demonstrated by testimony of Frank Y. Lowe that the actual number of poles required for said stretch of the route was exactly four hundred and six. (Record, pp. 82-83.) Mr. Cornell's estimate was also based upon a line of four three-phase circuits between Boonton and Fox Hill. This was afterwards changed to a line carrying but two three-phase circuits, and the amount of copper and the cost of stringing it is greatly reduced. Mr. George B. Cornell testified that a forty-five-foot pole, delivered, will cost between eight and nine dollars, and that a forty-foot pole will cost about seven dollars. (Record, p. 8.) The pole contract put in evidence by the company showed the price of forty-five-foot poles, f. o. b. at destination, to be five dollars and fifty cents. From these facts it is quite evident that the Board cannot safely adopt the estimate of George B. Cornell as the basis of cost for this transmission line.

We recast the estimate of cost as follows:

The contract with the Hopatcong Mountain Lake Land Development Company for five hundred and sixteen poles, with price, is as follows, showing the average price per pole to be about seven dollars and fifty cents:

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<i>Height.</i>	<i>No.</i>	<i>Price Each.</i>	<i>Total.</i>
70'	6	\$18 50	\$111 00
65'	10	15 00	150 00
60'	50	11 50	575 00
55'	80	8 75	700 00
50'	120	8 00	960 00
45'	250	5 50	1,375 00
516 avg.		\$7 50	\$3,871 00

Average height per contract:

70' x 6 =	420
65' x 10 =	650
60' x 50 =	3,000
55' x 80 =	4,400
50' x 120 =	6,000
45' x 250 =	11,250
Avg. 49'	516 25,270

The cost of poles from Boonton to Millbrook (Record, p. 83) would be:

<i>Height.</i>	<i>No.</i>	<i>Total Feet.</i>	<i>Price Each.</i>	<i>Total.</i>
40'	30	1,200	\$4 90 (est.)	\$147 00
45'	240	10,800	5 50	1,320 00
50'	70	3,500	8 00	560 00
55'	42	2,310	8 75	357 50
60'	24	1,440	11 50	276 00
Avg. 47.3'	406	19,250	Avg. \$6 55	\$2,660 50

Our estimate is based on an average number of forty-five poles per mile. The record, page 84, shows forty poles per mile for very high poles, as between Dover and Wharton. The record, page 84, gives forty-five poles per mile for high poles. And the record, page 83, gives about forty-five poles per mile covering the stretch between Millbrook and Dover. A fair estimate per mile, therefore, is forty-five.

It was testified by the company's engineer, Mr. Lowe, that the cost of unloading and hauling poles averaged about one dollar and fifty cents each. (Record, pp. 81-85.) The same witness estimated cost of digging poles from two dollars to two dollars and fifty cents each. The same witness estimated the cost of setting poles at five dollars each. (Record, p. 85.) His testimony shows that this five-dollar estimate is based on setting poles which, on the average, were higher than those here to be used. (Record, p. 86.) The Commission's engineer, H. E. Carver, testified that in his judgment four dollars and ten cents was an adequate price for setting poles. (Record, p. 95.)

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The petitioner showed its wire contract, making the price per copper 15.57 cents per pound. The company's engineer, Mr. Lowe, testified the cost of stringing wire would average about twenty-five dollars per mile of wire. (Record, p. 89.) From Millbrook to Dover, in our estimate, we have allowed forty-five dollars per mile for stringing wire, owing to the conditions under which this wire must be strung.

But, in general, on the company's own figures we estimate average price of poles, delivered on the cars, at seven dollars and fifty cents each. We allow on the basis of the evidence, seven dollars and fifty cents as the average cost for unloading, teaming, hauling, digging, locating, framing, setting, tree trimming, including necessary guys and anchors per pole.

We allow for wire five per cent. more than the company's estimate, inasmuch as their estimate allows nothing for sag. For braces, insulators and crossarms on poles we allow but seven dollars between Boonton and Millbrook. Clearly the preliminary estimate which made a common figure of ten dollars for such work irrespective of whether the poles carried twelve wires or six, cannot be correct.

Our aggregate estimate will be as follows:

Boonton to Fox Hill and Fox Hill to Millbrook—2-3 phase circuit, 6 wires, 3.6+7.—10.6 mi.

*406 chestnut poles, @ \$15.00 erected, ...	\$6,090 00
406 sets insulators, crossarms, etc., @ \$7.00 erected, ...	2,842 00
6 wires, #4, 10.6 miles long, @ 700# per wire mile, including 5% sag and waste, 44,520#, @ \$0.19† erected, ...	8,458 80
10.6 miles of ground wire, @ \$150, ...	1,590 00
	\$18,980 80

Branch Circuit to Rockaway, 1 circuit, 3 wires, 1.25 miles.

56 chestnut poles (est. 40' @ \$11), ...	\$616 00
56 sets of insulators, arms, fixtures, etc., @ \$2, ...	112 00
3 #4 wires, each 1.25 miles long, 2,625# @ \$0.19, ...	498 75
1.25 miles of ground wire, @ \$150, ...	187 50
	\$1,414 25

Millbrook to Dover, 1 circuit, 3 wires, 1.7 miles.

77 chestnut poles, @ \$15, ...	\$1,155 00
Insulators, arms and fixtures, @ \$3.50, ...	269 50
(Taken at same rate as item in company's estimate for "Changing Poles.")	
3 wires, #4, 1.7 miles long, 3570#, @ \$0.22,†	785 40
1.7 miles of ground wire, @ \$150, ...	255 00
	\$2,464 90

* Record, pp. 82-83.

† Contract price is \$15.57 per lb. plus \$3.43, or \$24.01 per mile for erection.

‡ Cost of erection is taken at \$6.43, or \$45.00 per mile account of extra difficulty due to line already in place.

Dover to Wharton, 4 circuits, 12 wires, 17 miles.

77 chestnut poles, @ \$15, ...	\$1,155 00
77 sets of insulators, arms, fixtures, etc., @ \$10, ...	770 00
12 wires, #4, 1.7 miles long, 14.280#, @ \$6.19, ...	2,713 20
1.7 miles of ground wire, @ \$150, ...	255 00
	\$4,893 20

Total net cost, ...	\$27,753 15
Engineering and contingencies, 13%, ...	4,162 97

Cost to reproduce, ... \$31,916 12

This gives a total of \$31,916.12; or, roughly, \$32,000 even. Testimony as to the cost of right of way showed an outlay of, roughly, \$8,000 therefor. (Record, pp. 3-4.)

Accordingly, as above recited, the petition will be approved to the amount of forty thousand dollars, subject to the petitioner's written acceptance of the conditions outlined herein.

Dated March 31st, 1914.

The following certificate was granted:

CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Jersey Power Company, by petition in writing, for approval of the proposed issue of capital stock to the amount of fifty thousand dollars, the proceeds to be used for the purpose of payment for new construction work, etc., the Board (in accordance with its report dated March 31st, 1914, which by reference thereto herein is made part hereof), in lieu of approval of issue of capital stock as prayed for in said petition, being satisfied, after investigation and due hearing, that the proposed issue of said capital stock to the amount of forty thousand dollars is to be made in accordance with law, and the purpose of such issue being approved by the Board, the said Board

HEREBY GRANTS said application (subject to Conference Order Number Seven), and APPROVES said proposed issue of said capital stock to the amount of forty thousand dollars by said company.

Dated April 28th, 1914.

MORRIS AQUEDUCT COMPANY—\$30,000 CAPITAL STOCK.

Application was made by proprietors of the Morris Aqueduct for approval of a proposed issue of capital stock to the amount of \$30,000, the proceeds to be used for the purpose of payment for changes and installations.

Approved May 1st, 1914, after hearing.

HACKENSACK WATER COMPANY—\$1,000,000 STOCK AND \$250,000 BONDS.

In this matter the following report was ordered filed:

REPORT.

The petition herein asks approval of the issue by Hackensack Water Company of its bonds in the aggregate sum of \$250,000 and of shares of its capital stock in the aggregate amount of \$1,000,000.

First: As to the issue of \$250,000 in bonds.

Inquiries made by the accountant of the Board early in 1913, and a report made by him as the result of his inquiries, indicated that apparently the Hackensack Water Company had issued its bonds to the face value of \$250,000, since the organization of the Board, without obtaining the approval of the Board.

Further inquiry made by the Board developed that forty-seven of these bonds had been sold and delivered by the company on June 10th, 1912, at eighty-seven and accrued interest, and that two hundred and three had been sold and delivered by the company on December 31st, 1912, at eighty-five and one-half and accrued interest.

It further appeared that these bonds had, at various times prior to January 31st, 1907, been certified by the Trustee under the mortgage securing their payment, and been delivered to the company. They were not, however, sold by the company, until the date stated, because of the condition of the financial market which existed in 1907 and the low rate of interest (4%) which the bonds bear, which made it difficult to dispose of them at eighty, the minimum fixed by the statute. They were subsequently sold and delivered at the times stated without first obtaining the approval of the Board, on the theory that their certification and delivery by the Trustee to the Company prior to the enactment of the statute creating the Board constituted an issue which rendered the statute inapplicable to their subsequent sale and delivery by the company. The Board signified to the company its dissent from this view.

Application is therefore now made for the Board's approval, *nunc pro tunc*, of the issue, sale and delivery of the bonds of the company.

Investigation satisfies the Board that the bonds were certified and delivered by the Trustee under the mortgage to the company on the basis of construction work actually done by the company in the amount thereof and the expenditures for which had not theretofore in anywise been capitalized. It further satisfies the Board that the prices at which the bonds were issued, sold and delivered by the company, which were in excess of the statutory minimum, were the best then obtainable. The approval now sought will, therefore be granted.

Second: As to the proposed issue of \$1,000,000 capital stock.

The Hackensack Water Company was organized by special act of the Legislature in 1869. It constructed a small plant at Cherry Hill, some two miles above Hackensack, from which it supplied the village of Hackensack alone.

The company was reorganized shortly after it commenced business. Later, in 1881, it was again reorganized. Since the latter reorganization it has extended its system so that it now covers substantially the whole of the county of Bergen and parts of the county of Hudson, extending as far south as Hoboken. It furnishes water to the city of Hoboken, which city owns its own mains. In the rest of its territory it distributes water through its own mains to customers directly.

On December 31st, 1912, its customers numbered upwards of 34,000. Parts of the territory supplied by the company have grown so rapidly in recent years as to make extensions of plant and system necessary. Accordingly the company has entered upon the execution of a plan which involves increasing largely the capacity of its plant.

The plan includes:

(1) The construction of a large reservoir lying north and east of Oradell, the completion of which it is estimated will take some ten years. Three years of the estimated construction period have already passed.

(2) An addition to the pumping plant, consisting of an extensive addition to the main building occupied by the pumping station, and the addition of a 20,000,000-gallon pump.

(3) An addition to the filter plant, doubling the capacity of the whole plant.

(4) Additional boilers, yard connections, accessories to the filter plant and other incidentals used in connection with the pumping and filtration plants located at New Milford.

(5) Extensions to the distribution system in many parts of Bergen and Hudson counties.

Inspections of the work in execution of this plan have from time to time been made by the Chief Inspector of the Board's Utility Division and an inspection has been specially made by him in connection with this application.

The purposes of the proposed issue of capital stock are as follows:

(1) Repayments of loans amounting on March 31st, 1914, to	\$620,000 00
(2) Toward the completion of reservoir at Oradell, ...	150,000 00
(3) Extension of distribution system next two years,*	230,000 00
	\$1,000,000 00

The company reports that between November 1st, 1910, and December 31st, 1913, the expenditures made by it and properly chargeable to capital account aggregated \$1,527,851.31, made up as follows:

* Estimate based on average actual expenditures during past three years, which have exceeded \$115,000 per year.

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Extensions to distribution system, ...	\$384,136 89
Storage reservoir, Oradell, ...	458,536 34
Real estate (chiefly for Oradell reservoir site), ..	207,224 74
Filtration plant, ...	111,304 89
Additions to pumping plants, ...	252,637 99
Mains, ...	91,996 18
Office buildings, furniture, miscellaneous, etc., at Weehawken, ...	22,014 28
	\$1,527,851 31

These items have, to the extent of \$1,360,874, been checked by the Accountant of the Board. In view of the fact that the application is for the approval of an issue of shares of stock limited to \$1,000,000, a check by the accountant beyond the sum stated has not, at this time, been deemed necessary.

The items so checked by the Board's Accountant are reported by him as follows:

Capital Expenditures—November 1st, 1910, to December 31st, 1913, checked from books.

Mains and hydrants, ...	\$384,137 00
Storage reservoir at Oradell, ...	458,536 00
Real estate for reservoir site, ...	204,242 00
Addition to filtering plant, ...	111,305 00
New 20,000,000-gals. pump at New Milford, complete, ...	108,411 00
Engine House No. 4, at New Milford, ...	94,243 00
	\$1,360,874 00

The capital expenditures claimed have been further checked by the Board's engineering staff under the supervision of its Chief Inspector of the Utilities Division with the following result:

(1) Extensions are reported by the Board's Accountant as having cost \$384,136.89.

The total additions during the period November 1st, 1910, to December 31st, 1913, appear in the following table.

The unit prices used are those heretofore employed by the Board in its appraisal of the plant of the Butler Water Company.

These unit prices are thought to be fair for the purposes of comparison since the territory of the Hackensack Water Company in great part does not materially differ from that served by the Butler Water Company.

TABLE.

<i>Length.</i>	<i>Size.</i>	<i>Price per foot.</i>	<i>Total.</i>
955', ...	4"	\$0 70	\$668 50
221,201', ...	6"	90	198,980 90
18,961', ...	8"	1 14	21,615 54
24,818' (Est.), ...	12"	1 95	48,395 00
			\$269,659 94

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The company's records show that during the calendar year 1913, 76,102 of mains of various sizes were laid at a cost of \$95,127.50.

The average price per foot was \$1.25.

The average price for the period covered by the table above was \$1.02.

In the year 1913, however, some 2,000 feet of 24" pipe was laid. This raised the average for the year.

In the appraisal of the property of the Butler Water Company it was found that the cost of hydrants and their connections was approximately 8% of the cost of mains, 12 inches and under.

For hydrants with their connections the Hackensack Water Company claims to have expended some \$20,000.

This would amount to between 7 and 8% of the cost of mains of 12 inches and under, and is consistent by comparison with other available figures.

Adding together the amounts so found the following result is reached:

Mains laid during period from November 1st,	
1910, to December 31st, 1912, ...	\$269,659 94
Mains laid in 1913, ...	95,127 50
Hydrants with their connections, ...	20,000 00
	\$384,787 44

As before stated, the amount reported by the company as covering these items, checked as correct by the Accountant of the Board, is \$384,136.89. It therefore appears that the item of extensions to mains properly checks.

(2) The item, Storage Reservoir at Oradell, is reported by the company as totaling \$458,536.34, and is checked as correct by the Board's Accountant.

An analysis of the charges making this total shows the following results:

Since the inception of the work up to December 31st, 1913, the total number of cubic yards removed amounts to 1,532,706. Within the amount charged are included:

One 12" dredge, ...	\$20,000	} Approximate Figures.
One 20" dredge, ...	60,000	

Total, ...\$80,000

Estimated cost of grubbing and slashing 50 to 60
acres, at \$50 per acre, ... \$2,500 00

Total charges, ... \$458,536 34

Deducting the cost of dredges and clearing leaves
a balance of, ... \$376,036 34

Dividing this amount by the number of cu. yds.
removed gives us an average price of, ..24.6c. per cu. yd.

This is reported by the Chief Inspector of the Board's Utility Division to be a fairly low price for work of this kind. To ascertain the actual cost there must be added the interest and depreciation on the cost of the dredges. It is expected that the work of excavation will require about ten years, of

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which three years have already elapsed. It would be proper therefore to charge off the cost of the dredges within the ten-year period.

Taking the cost of the dredges at, ...	\$80,000 00
Salvage value, ...	8,000 00
Balance to be depreciated, ...	<u>\$72,000 00</u>
Or on a basis of 10 years' use, ...	7,200 00 per year
Interest on \$80,000 at 6%, ...	<u>4,800 00</u>
Total interest and depreciation per annum, ...	\$12,000 00

The excavation so far accomplished has required the operation of the dredges for about three years. If the total amount excavated is averaged over this period, the average excavation per annum has been approximately 500,000 cu. yds. On this basis the charge for interest and depreciation amounts to 2.4c. per cu. yd. Adding this to the charge shown above, 24.6c., a round figure of 27c. per cu. yd. is obtained. This, too, is reported as a reasonable figure for work of this kind. In most contracts the cost is found to range between 30 and 45c.

(3) The next item, Real Estate (\$207,224.74), cannot readily be checked. The Accountant of the Board, however, reports that the amount stated corresponds to the amount shown by the ledger of the company to have been paid.

(4) The same statement applies to the item, Filtration Plant. The cost of the work done up to December 31st, 1913, was \$111,304.

(5) The additions to the pumping plant total \$252,637.99, made up as follows:

20,000,000-gal. pump installed complete, ...	\$108,411 17
Additions to building itself, Engine House No. 4, ...	94,243 26
Estimated cost of the boilers, steam piping, yard connections, new tank for coagulant and other similar items, ...	<u>50,000 00</u>
	\$252,654 43

(6) The total charges to Meters from November 1st, 1910, to December 31st, 1913, were found from the ledgers to amount to \$91,996.18. The charges for meters in the year 1913 have been checked and a comparison has been made between the charges found and an estimate of cost made up from available figures for the cost of meters. The meters in 1913 cost approximately \$30,175.00.

It will thus be seen that total expenditures for Meters in 1913, of which an exact record of the number and size purchased exists, is approximately one-third of the total amount found charged for the period of three years and two months from November 1st, 1910, to December 31st, 1913.

(7) The remaining item amounts to \$22,014.28, and represents extensive additions to the office building in Weehawken, together with fireproof file cases and other furniture installed at that place.

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The total expenditures during the period referred to as claimed appear to amount to \$1,527,851.31. It is possible that some portion of the item charged against the office building should have been charged for replacements, but this would involve a comparatively minor deduction.

The application of the company, as before noted, is for the approval of an issue of stock to the amount of \$1,000,000. As considerably more than this sum is shown to have been expended for proper capital purposes by the Hackensack Water Company, approval will be given to the proposed issue of stock in accordance with the application.

Dated May 5th, 1914.

Following adoption of the above report certificates of approval were issued for the issues of \$1,000,000 capital stock and \$250,000 bonds.

PLAINFIELD-UNION WATER COMPANY—\$100,000 BONDS.

Application was made by Plainfield-Union Water Company for approval of \$100,000.00 bonds, the proceeds to be used for improvements and extensions.

Approved May 5th, 1914, after hearing.

ATLANTIC CITY ELECTRIC COMPANY—\$103,000 BONDS.

In this matter the following certificate was entered:

CERTIFICATE.

Application being made to the Board of Public Utility Commissioners, by the Atlantic City Electric Company, by petition in writing, for approval of the proposed issue of its five per cent. sinking fund gold bonds in the amount of one hundred and three thousand dollars (\$103,000), the proceeds to be used for part payment of indebtedness incurred by the company on account of its fixed capital expenditures from February 1st, 1912, to March 31st, 1914, amounting to one hundred seventy-three thousand seven hundred and twenty-five dollars (\$173,725), and the said Board being satisfied, after investigation and due hearing, that the proposed issue of said bonds is to be made in accordance with law, and the purpose of such issue being approved by the Board, the said Board

HEREBY GRANTS said application (subject to Conference Order Number Seven), and APPROVES said proposed issue of said bonds by said company.

Dated May 26th, 1914.

EGG HARBOR CITY TELEPHONE COMPANY—\$1,500 STOCK.

Application was made by Egg Harbor City Telephone Company for approval of a proposed issue of \$3,000.00 capital stock, the proceeds to be used for the purpose of rebuilding and additional construction. The Board issued a certificate of approval of an issue of \$1,500.00 stock instead of the \$3,000.00 asked for.

Approved June 9th, 1914, after hearing.

**PATERSON STATE LINE TRACTION COMPANY—\$150,000 BONDS;
\$94,000 STOCK.**

Application was made by Paterson State Line Traction Company for approval of a proposed issue of bonds to the amount of \$150,000.00, and capital stock to the amount of \$94,000, the proceeds to be used for construction work and extensions.

Approved June 9th, 1914, after hearing.

**PATERSON STATE LINE TRACTION COMPANY—\$300,000
MORTGAGE.**

Application was made by Paterson State Line Traction Company for approval of its mortgage dated June 1st, 1914, in the sum of \$300,000 to the Fidelity Trust Company, Trustee.

Approved June 9th, 1914, after hearing.

BOONTON ELECTRIC COMPANY—\$15,000 BONDS.

Application was made by Boonton Electric Company for approval of a proposed issue of \$15,000 five per cent. bonds, the proceeds to be used for extension to plant of the Boonton Electric Company.

Approved June 16th, 1914, after hearing.

**BOUND BROOK WATER COMPANY—\$50,000 MORTGAGE AND ISSUE
OF BONDS.**

Application was made by the Bound Brook Water Company for approval of mortgage in the sum of \$50,000.00. Application was made also for approval of a proposed issue of \$50,000.00 bonds, the proceeds to be used for the purpose of payment for extensions and improvements.

Approved June 16th, 1914, after hearing.

**FLEMINGTON WATER COMPANY—MORTGAGE \$50,000 AND ISSUE
OF BONDS, PAR VALUE \$15,000.**

Application was made by Flemington Water Company for approval of its mortgage in the sum of \$50,000 and for approval of a proposed issue of bonds to the amount of \$15,000.

Approved June 19th, 1914, after hearing.

COAST GAS COMPANY—\$134,000 BONDS.

Application was made by Coast Gas Company for approval of a proposed issue of bonds to the amount of \$150,000. The Board decided to approve in lieu of the amount \$134,000.

Approved June 23d, 1914, after hearing.

**PUBLIC SERVICE RAILWAY COMPANY—\$300,000 BONDS OF
PATERSON RAILWAY COMPANY.**

Application was made by Public Service Railway Company for approval of extension of time of payment for a term of thirty years from October 1st, 1914, of \$300,000.00 of bonds of the Paterson Railway Company. The interest rate was changed from six per cent. to five per cent., the bonds to be issued at not less than par.

Approved June 23d, 1914, after hearing.

**PENNSYLVANIA RAILROAD COMPANY—TRANSFER BY WEST
JERSEY AND SEASHORE RAILROAD COMPANY OF STOCK.**

Application was made by the Pennsylvania Railroad Company for approval of the transfer by the West Jersey and Seashore Railroad Company of certain shares of its special guaranteed capital stock.

Approved June 23d, 1914, after hearing.

**LEHIGH VALLEY RAILROAD COMPANY OF NEW JERSEY—\$809,000
PAR VALUE DEBENTURE BONDS.**

In this matter the following report was made by the Board:

REPORT.

This application was filed with the Board June 11th, 1913. Action upon it has been deferred pending the adjustment of the intercorporate relationship between the Lehigh Valley Railroad Company of New Jersey and the Lehigh Valley Railroad Company, a corporation of the State of Pennsylvania. The unsatisfactory nature of the existing relationship between the two companies was pointed out by the Board in a report filed September 16th, 1913, withholding approval of a proposed lease of the railroad of the New Jersey corporation to the Pennsylvania corporation.

The approval by the Board in a report made June 2d, 1914, of a lease of the road revised to meet the objections made to the lease as originally proposed now makes it possible to adjust the relationship of the two companies and place it upon a clear footing.

If the companies avail themselves of the approval of the revised lease, the ground for delay by the Board in action upon the pending application will be removed.

THE APPLICATION.

The application asks approval of a proposed issue by the Lehigh Valley Railroad Company of New Jersey to the Lehigh Valley Railroad Company of Pennsylvania of its debenture bond or bonds in the total sum of \$809,000, registered as to principal and interest, payable to the registered owner thereof, dated the thirtieth day of June, 1913, payable July 1st, 1963, if not

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redeemed prior thereto, bearing interest at the rate of five per cent. per annum, payable semi-annually on the first day of January and July in each year.

THE STATUTE.

The application for approval is made under Chapter 195 of the Laws of 1911 (P. L. 1911, p. 374), which created the Board, and section 18 (e) of which provides: "No public utility as herein defined shall * * * hereafter issue any stocks, stock certificates, bonds or other evidences of indebtedness payable in more than one year from the date thereof until it shall have first obtained authority from the Board for such proposed issue. It shall be the duty of the Board, after hearing, to approve of any such proposed issue maturing in more than one year from the date thereof when satisfied that the same is to be made in accordance with the law, and the purpose of such issue be approved by said board."

The scope of this section has in numerous cases been the subject of consideration by the Board. Its conclusions are grouped in a memorandum adopted July 8th, 1912, and published under the caption "General principles regulating action by the Board of Public Utility Commissioners upon petitions asking approval of proposed issues of securities."

In connection with this application it suffices to indicate that as a condition precedent to the grant of its approval the Board must be satisfied (1) that the proposed issue is to be made in accordance with the law and (2) that the "purpose" of issue is such as should be approved.

The Board has several times considered and announced its judgment as to the effect to be given to the word "purpose" as contained in this section.

In a memorandum dated July 7th, 1911, filed "In the matter of the application of the Riverside Traction Company for leave to issue, sell and deliver bonds, etc.," the Board said: "The term 'purpose,' in the opinion of the Board, cannot and ought not, narrowly, to be confined merely to the corporations' intention to procure or pay for property, materials and services with the proceeds of the securities intended to be issued. The powers and responsibilities of the Board in this respect are no less ample than may fairly be inferred from the spacious term 'purpose' advisedly incorporated in the statute."

In the memorandum dated July 9th, 1912, filed "In the matter of the application of Interstate Telephone and Telegraph Company of New Jersey to issue its five per cent. thirty-year first and refunding mortgage bonds, the Board, said: "The 'purpose' of the bond issue must be construed to be as broad as its necessary and certain effects."

In reviewing and sustaining the action of the Board in the proceeding just referred to the Supreme Court, in *Interstate Telephone and Telegraph Company v. Board of Public Utility Commissioners*, — *Atl Rep.* —, said: * * * "the word 'purpose' in this connection must be accorded a meaning which will enable the Board to investigate not only the object of the proposed bond issue, but the conditions under which it is to be made, and the entire environment of the company with its antecedents, and the prospective

opportunities it may encounter in view of its past history to meet the financial demands that the proposed burden is likely to impose upon it."

With this preliminary statement, the definite consideration of the present application may be taken up.

Is the proposed issue to be made in accordance with the law and is its purpose such as should be approved?

THE CORPORATE HISTORY OF THE APPLICANT.

The Lehigh Valley Railroad Company of New Jersey was formed by an agreement of consolidation entered into July 29th, 1903. The companies consolidated comprised (1) Easton & Amboy Railroad Company; (2) Lehigh Valley Terminal Railway Company; (3) Greenville and Hudson Railway Company; (4) Perth Amboy and Raritan Railway Company; (5) Pittstown Branch Railway Company; (6) Middlesex Railway Company.

Later there were merged with it (1) National Docks Railway Company and (2) Irvington Railroad Company.

These consolidations and mergers were effected under the authority of section 64 of the General Railroad Act.

THE ROAD.

Its main line extends from Phillipsburg to Jersey City, with branches between South Plainfield and Perth Amboy, between Landsdown and Pittstown, between Flemington Junction and Flemington, and with various other minor branches, all in this State.

CAPITAL STOCK.

The company reports that its capital stock "issued and outstanding" consists of 204,330 shares of common stock of the par value of \$100, each making a total par value of \$20,433,000.

It further reports that of its capital stock so "issued and outstanding," stock of the par value of \$12,506,000 is not held by it, and stock of the par value of \$7,927,000 is held by it and "pledged as collateral."

BONDS.

It has issued and outstanding mortgage bonds and debentures as follows:

<i>Class of Bond or Obligation.</i>	<i>When Due.</i>	<i>Rate of Interest.</i>	<i>Amount Outstanding.</i>
First Mortgage bonds Easton and Amboy			
R. R. Co., ...	May 1, 1920	5%	\$6,000,000 00
Lehigh Valley Terminal Ry. Co., ...	Oct. 1, 1941	5%	10,000,000 00
Greenville & Hudson Ry. Co., ...	Apr. 1, 1997	5%	350,000 00
Irvington R. R. Co., ...	Feb. 1, 1956	4%	125,000 00
Debenture bonds, ...	July 1, 1960	5%	1,200,500 00
" "	July 1, 1961	5%	139,000 00
" "	July 1, 1962	5%	61,500 00
			\$17,876,000 00

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INVESTMENT AND VALUE.

The investment of the company in road and equipment as set out in its report to the Board for the year ending June 30th, 1912, was \$29,108,813.68.

The value of its property as found by the "Report on Revaluation of Railroads and Canals, New Jersey, 1911, by Charles Hansel, Expert in charge" was:

	<i>Value New.</i>	<i>Present Value.</i>
Total value of tangible property, ...	\$33,402,912 00	\$26,011,367 00
Value of subdivision IV.—"The value of remaining property, including the franchise,"..		7,103,700 00
		\$33,115,067 00
Value of materials and supplies in New Jersey for use in maintenance of railroad property,	\$218,424 00	

THE LEHIGH VALLEY RAILROAD COMPANY AND ITS RELATION TO THE LEHIGH VALLEY RAILROAD COMPANY OF NEW JERSEY.

The Lehigh Valley Railroad Company, to which it is proposed to issue the debenture bonds, approval of the issuance of which is applied for, is a corporation of the State of Pennsylvania, engaged in operating a railroad running from Buffalo, in the State of New York, to Easton, in the State of Pennsylvania, with various branches extending through the States of New York and Pennsylvania. Its line connects with the line of the Lehigh Valley Railroad Company of New Jersey by means of a bridge across the Delaware river, between Easton, Pennsylvania, and Phillipsburg, in this State.

It is the owner of 125,060 shares of capital stock of the New Jersey corporation and so controls it. It holds of the debenture bonds of the New Jersey corporation \$1,401,000.

It likewise holds \$350,000 of the first mortgage bonds of the Greenville and Hudson Railway Company and \$125,000 of the first mortgage bonds of the Irvington Railway Company. Both of these companies were as before stated merged with the New Jersey corporation.

By a report filed June 2d, 1914, the Board as noted above has given its approval to the leasing to the Lehigh Valley Railroad Company of the road of the New Jersey corporation.

PURPOSE OF PROPOSED ISSUE.

The purpose of the proposed issue is stated in the affidavit of L. D. Smith, Vice-President of the New Jersey corporation, to be "to utilize such increase of indebtedness in repayment to the Lehigh Valley Railroad Company for advances made or to be made by it to the Lehigh Valley Railroad Company of New Jersey, in the net amount of \$810,412.46, and expended or to be expended for additions and betterments chargeable to 'Property Account' along the line of the Lehigh Valley Railroad Company of New Jersey in the State of New Jersey and not yet repaid by the issue of capital stock, bonds, or any other evidences of indebtedness or in any manner."

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The line of the New Jersey corporation has for some years past been operated as a continuous line of railroad in connection with the railroad of the Lehigh Valley Railroad Company. From time to time as money has been required for the improvements and extensions of the railroad of the New Jersey corporation, the Pennsylvania corporation has advanced and loaned funds and has accepted in re-imbursement the debenture bonds of the New Jersey corporation.

In addition to the advances reimbursed, the Pennsylvania corporation had up to and including April 30th, 1913, advanced the sum of \$845,874.01 less current credits of \$23,627.87, leaving the total advances not reimbursed \$822,246.14.

The Pennsylvania corporation had at that time further agreed with the New Jersey corporation to advance the estimated cost of certain improvements then under way, and in contemplation during the month of June, 1913, approximating \$216,876.37, making a total of \$1,062,750.38 expended or to be expended in the acquisition of property, and the construction, completion, extension and improvement of the facilities of the New Jersey corporation, and chargeable to "Property Account."

From this total of \$1,062,750.38 should be deducted \$228,710.05, account of expenditures made in prior years for additions and betterments on property at National Stores, Jersey City, in this State, then charged to the New Jersey corporation, and now transferred to the National Storage Company.

Making this deduction, the net amount expended and to be expended and remaining to be reimbursed will stand \$810,412.46.

An examination of the schedules attached to the application, and the testimony taken thereon that the expenditures made and to be made as above stated represent in each case either a direct addition to the property of the New Jersey corporation, or in the case of betterments or replacements, the excess cost over and above the value of the property or facility renewed or replaced.

The testimony of J. I. Morrison, the general auditor of both the New Jersey and Pennsylvania corporations, establishes that in each instance the expenditures made or to be made as set out in the schedule attached to the application, are those expenditures which are properly chargeable to "Property Account" under the terms of the effective Accounting Circular and rules of the Interstate Commerce Commission.

The expenditures made and to be made as so set out are therefore neither in whole or in part reasonably chargeable to operating expenses or to income.

In repayment, in so far as the same can be applied, of the amount remaining due on account of the advances made and to be made as stated, it is now proposed to issue to the Pennsylvania corporation the debenture bond or bonds of the New Jersey corporation in the sum of \$809,000 par value to which this application relates.

Statutory authority exists for the issuance of the bonds by the New Jersey corporation and for the taking of the same by the Pennsylvania corporation.

The bonds are to be taken at par.

On this record the Board is satisfied that the proposed issue is to be made in accordance with the law and that the purpose thereof is such as should

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have its approval. A certificate of approval will accordingly issue upon notification to the Board that the revised lease approved by it as stated above has been formally executed by the companies.

Dated June 2d, 1914.

The company complying with the condition set forth in the report, the application was granted.

Approved June 29th, 1914, after hearing.

MORRIS AND SOMERSET ELECTRIC COMPANY—\$50,000 BONDS.

Application was made by the Morris and Somerset Electric Company for approval of a proposed issue of bonds to the amount of \$50,000, the proceeds to be used for payment for extensions and additions to plant and property,

Approved June 30th, 1914, after hearing.

VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY—\$10,000 BONDS.

Application was made by Vulcan Electric Light, Heat and Power Company for approval of an issue of bonds to the amount of \$45,000, the proceeds to be used for the purpose of payment for extensions and improvements. The Board decided to approve an issue of bonds to the amount of \$10,000 in lieu of the amount asked for.

Approved July 1st, 1914, after hearing.

**VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY—
\$5,000 BONDS.**

Application was made by Vulcan Electric Light, Heat and Power Company for approval of a proposed issue of bonds to the amount of \$5,000, the proceeds to be used for the purpose of payment for extensions and improvements.

Approved July 1st, 1914, after hearing.

**TRENTON AND MERCER COUNTY TRACTION CORPORATION—
\$45,000 NOTES.**

Application was made by the Trenton and Mercer County Traction Corporation for approval of the issuance of five per cent. notes to the amount of \$45,000, and the execution of an equipment trust agreement with the Wilmington Trust Company for the purchase of ten electric passenger cars.

Approved July 1st, 1914, after hearing.

**VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY—
\$300,000 MORTGAGE.**

Application was made by the Vulcan Electric Light, Heat and Power Company for approval of its mortgage in the sum of \$300,000 to the Colonial Trust Company.

Approved July 1st, 1914, after hearing.

LEHIGH VALLEY RAILROAD COMPANY—\$275,000 BONDS.

Application was made by Lehigh Valley Railroad Company of New Jersey for approval of a proposed issue of debenture bonds to the amount of \$275,000 to the Lehigh Valley Railroad Company to repay the latter for advances made to the Lehigh Valley Railroad Company of New Jersey.

Approved July 6th, 1914, after hearing.

ATLANTIC COAST ELECTRIC LIGHT COMPANY—PURCHASE OF STOCK OF NEW JERSEY WATER AND LIGHT COMPANY.

Application was made by Samuel Ludlow, Jr., and the Atlantic Coast Electric Light Company for approval of the purchase by said Atlantic Coast Electric Light Company from Samuel Ludlow, Jr., of the stock of the New Jersey Water and Light Company. The application was granted on condition that steps be taken to dispose of the property used in the business of water supply.

Approved July 7th, 1914, after hearing.

HUDSON AND MANHATTAN RAILROAD COMPANY—\$154,000 BONDS.

Application was made by the Hudson and Manhattan Railroad Company for an order authorizing the issuance of \$154,000 face value of first lien and refunding mortgage bonds. This was approved July 14th, 1914. Subsequently application was made for a modification of the Board's order granting the approval. It appearing that no bonds had been disposed of under the order of July 14th, an amended order was adopted on December 22d, 1914, the amended order reading as follows:

Section 1. Application having been heretofore made to the Board of Public Utility Commissioners by Hudson and Manhattan Railroad Company, by its duly verified petition, for the approval by the Board of the issuance by said company of \$154,000 face value of first lien and refunding mortgage bonds under its first lien and refunding mortgage to Central Trust Company of New York as trustee, dated February 1st, 1913, and a hearing having been duly had upon said application before the Board and it being now the opinion of the Board:

1. That the money to be procured by the issue of \$154,000 face value of first lien and refunding mortgage bonds of the Hudson and Manhattan Railroad Company, payable at a period of more than twelve months after the date thereof, is necessary to and reasonably required by said company for the reimbursement of moneys actually expended from income or from other moneys in the treasury not secured by or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness for the discharge of its obligations, and particularly for the purposes which are hereinafter stated in this order, and

2. That, except as to the following specified amounts of said first lien and refunding mortgage bonds authorized to be issued hereunder for the purposes following, to wit, thirty thousand eight hundred dollars (\$30,800), or so

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much thereof as may be necessary to pay expenses of sale of the bonds hereby authorized and to make up discount, said purposes are not in whole or in part reasonably chargeable to operating expenses or to income.

Section 2. It IS ORDERED, that the Board of Public Utility Commissioners does hereby approve the issue by the said Hudson and Manhattan Railroad Company of one hundred and fifty-four thousand dollars (\$154,000) face value of principal of first lien and refunding mortgage bonds of said company dated as of February 1st, 1913, or as of the date of issue, due February 1st, 1957, redeemable at 105 per cent. of the face value thereof, besides accrued interest on any interest day and bearing interest at 5 per cent. per annum, payable semi-annually under and in pursuance of the terms of the said first lien and refunding mortgage dated February 1st, 1913, to Central Trust Company of New York as trustee.

Section 3. It IS ORDERED, that said issue of bonds is authorized upon the conditions following and not otherwise, to wit:

First. That so many of the bonds as shall be sold shall be sold by the said Hudson and Manhattan Railroad Company so as to net the said company not less than eighty per cent. of the par or face value of the principal thereof besides interest accrued thereon, and the proceeds thereof shall be applied only to the following purposes, that is to say:

1. Toward reimbursement of moneys to be expended from income, or other moneys in the treasury of said corporation not secured by or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness and used to pay obligations described below not less than \$123,200

Said obligations being described as follows—

a. A certain mortgage for the principal sum of \$42,000 to John H. Lockman due January 2d, 1914, ...	\$42,000
b. A payment under agreement for the conditional sale of rolling stock dated March 1st, 1909, due September 1st, 1913, ...	46,000
c. Payment under agreement for the conditional sale of rolling stock dated October 1st, 1910, due October 1st, 1913, ...	25,000
d. Payment under agreement for the conditional sale of rolling stock dated August 1st, 1911, due February 1st, 1914, ...	21,000
	\$134,000

2. For expenses of sale of bonds hereby authorized and to make up the discount or deficiency, if any, in the amount realized from the sale to net not less than eighty per cent. of par of the bonds sold for the purposes specified in subdivision 1 to be applied pro rata for the purposes therein stated not to exceed the sum of.. \$30,800

Second. That the said \$30,800 face value of said first lien and refunding mortgage bonds authorized to be issued as aforesaid for expenses of sale and to make up discount shall be amortized prior to the maturity of the said bonds out of the income of the company by the establishment and maintenance of an amortization fund, and that the said Hudson and Manhattan Railroad Company shall pay in cash into said fund out of the income of said company

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in each calendar year, beginning with the year 1914, an amount of money which shall not be less than one per cent. of the amount of said discount and expense not exceeding \$30,800 plus four and one-half per cent. upon all prior payments into said fund until said fund shall amount to \$30,800. Said fund shall be used only for the purchase and retirement of first lien and refunding mortgage bonds of said company, or for the acquisition of property for capital or investment purposes, and may be administered in conjunction with the similar amortization fund established by the company pursuant to the order of the Board heretofore made, authorizing the issue of bonds under said mortgage.

Third. That the said company shall keep separate, true and accurate accounts showing the receipt and application in detail of the proceeds of the sale or disposal of the bonds hereby authorized to be issued, and on or before the 10th day of each month the company shall make verified reports to the Board stating the sale or sales of said bonds during the previous month, the terms and conditions of sale, the moneys realized therefrom and the use and application of said moneys, and said accounts, vouchers and records shall be open to audit, and may be audited from time to time by accountants and examiners designated for such purpose by the Board.

Fourth. That the authority hereby given to issue such bonds shall apply only to bonds issued by the said company on or before the 30th day of June, 1915.

IT IS FURTHER ORDERED that this order take effect on the day of the date hereof and continue in force until otherwise ordered by the Board, and that within ten days after service upon it of a copy of this order said company notify the Board whether the terms of this order are accepted and will be obeyed.

**VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY—
\$5,000 STOCK.**

Application was made by the Vulcan Electric Light, Heat and Power Company for approval of a proposed issue of capital stock to the amount of \$5,000, the proceeds to be used for the purpose of payment for extensions and improvements.

Approved July 21st, 1914, after hearing.

**VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY—
\$17,000 BONDS.**

Application was made by the Vulcan Electric Light, Heat and Power Company for approval of a proposed issue of bonds to the amount of \$17,000, the proceeds to be used for the purpose of payment for extensions, improvements and refunding of \$5,000 mortgage.

Approved July 21st, 1914, after hearing.

**MORRIS COUNTY TRACTION COMPANY—\$44,000 CAR TRUST
CERTIFICATES.**

Application was made by the Morris County Traction Company for approval of an issue of car trust certificates to the value of \$44,000, for the purpose of part payment for ten modern steel trolley cars.

Approved July 21st, 1914, after hearing.

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PRINCETON WATER COMPANY—\$60,000 BONDS.

Application was made by the Princeton Water Company for approval of proposed issue of bonds to the amount of \$60,000, the proceeds to be used for the purpose of additions and improvements to plant.

Approved September 8th, 1914, after hearing.

ROCKLAND ELECTRIC COMPANY—TRANSFER OF \$12,000 STOCK.

Application was made by the Rockland Electric Company for authority to transfer upon its books 120 shares of the capital stock of said Rockland Electric Company to the par value of \$12,000 to the Rockland Light and Power Company.

Approved September 15th, 1914, after hearing.

ROCKLAND ELECTRIC COMPANY—\$70,000 STOCK.

Application was made by the Rockland Electric Company for approval of proposed issue of \$70,000 stock, the proceeds to be used for the purpose of purchasing certain property and equipment of the Rockland Light and Power Company.

Approved September 15th, 1914, after hearing.

**ATLANTIC CITY ELECTRIC COMPANY—\$70,200 STOCK;
\$218,000 BONDS.**

Application was made by the Atlantic City Electric Company for approval of a proposed issue of preferred stock to the amount of \$70,200, and the proposed issue of bonds to the amount of \$218,000; the proceeds to be used for the purpose of paying the indebtedness of the Atlantic City Electric Company incurred by the purchase of the property, franchises and assets of the Ocean City Electric Light Company. The Board granted the application subject to the condition that there would be no redemption, at a premium, of the bonds issued under the certificate without the approval of the Board.

Approved September 15th, 1914, after hearing.

Subsequently the company made application for an amendment of this certificate and the matter is now awaiting decision by the Board.

FARMERS TELEPHONE COMPANY—\$9,750 CAPITAL STOCK.

Application was made by the Farmers Telephone Company for approval of an issue of \$12,300 capital stock; the proceeds to be used for the purpose of adding to the existing system of the company. The Board in lieu of the approval of the capital stock prayed for approved a proposed issue to the amount of \$9,750.

Approved September 15th, 1914, after hearing.

**HUDSON AND MANHATTAN RAILROAD COMPANY—\$202,500 FACE
VALUE, FIRST LIEN AND REFUNDING MORTGAGE BONDS.**

With respect to this application the following order was entered.

"Section 1. Application having been made to the Board of Public Utility Commissioners by Hudson and Manhattan Railroad Company by its petition duly verified, for the approval by the Board of the issuance by said company of \$202,500 face value of first lien and refunding mortgage bonds under its first lien and refunding mort-

gage to Central Trust Company of New York as trustee, dated February 1st, 1913, and a hearing having been duly had upon said application, and it being now the opinion of the Board that the said proposed issue is to be made in accordance with law and that the purpose thereof is such as should be approved by the Board and

"(1) That the money to be procured by the issue of \$202,500 face value of first lien and refunding mortgage bonds of the Hudson and Manhattan Railroad Company payable at a period of more than twelve months after the date thereof is necessary to and reasonably required by said company for the reimbursement of moneys actually expended from income, or from other moneys in the treasury of said company not secured by or obtained from the issue of stocks, bonds, notes or other evidences of indebtedness, for the construction, completion, extension or improvement of its facilities, and particularly for the purposes which are hereinafter stated in this order, and

"(2) That except as to the following specified amounts of said first lien and refunding mortgage bonds authorized to be issued hereunder for the purposes following, to wit, \$40,500 or so much thereof as may be necessary, to pay the expenses of sale of the bonds hereby authorized and to make up discount;

"Said purposes are not in whole or in part reasonably chargeable to operating expenses or to income.

"Section 2. It is ORDERED that the Board of Public Utility Commissioners does hereby approve the issue by the said Hudson and Manhattan Railroad Company of two hundred and two thousand and five hundred dollars face value of the principal of first lien and refunding mortgage bonds of said company dated as of February 1st, 1913, or as of the date of issue, due February 1st, 1957, redeemable at 105 per cent. of the face value thereof besides accrued interest, or any interest day and bearing interest at 5 per cent. per annum payable semi-annually under and in pursuance of the terms of the said first lien and refunding mortgage dated February 1st, 1913, to Central Trust Company of New York as trustee.

"Section 3. It is ORDERED that said issue of bonds is authorized upon the conditions following and not otherwise, to wit:

"First: That so many of the bonds as shall be sold shall be sold by the said Hudson and Manhattan Railroad Company so as to net the said company not less than 80 per cent. of the par or face value of the principal thereof besides interest accrued thereon and that the proceeds thereof shall be applied only to the following purposes, that is to say:

"1. Toward reimbursement of moneys expended from income or other moneys in the treasury of the said corporation not secured by or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness and applied to construction, completion, extension or improvement of the facilities of the said company during the periods specified below, not less than.....\$162,000
said expenditures being in amounts and for periods reported heretofore as follows:

To September 30th, 1913, less \$150,000 allowed heretofore	
in Case 1680, an amount not to exceed.....	\$26,020 70
October, 1913, ...	25,067 55
November, 1913, ...	32,195 92
December, 1913, ...	27,106 26
January, 1914, ...	24,118 29
February, 1914, ...	19,842 03
March, 1914	22,329 00
April, 1914, ...	14,881 16
May, 1914, ...	12,587 26
Total, ...	\$204,148 17

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"2. For expenses of sale of bonds hereby authorized and to make up the discount of deficiency, if any, in the amount realized from the sale to net not less than 80 per cent. of par of the bonds sold for the purposes specified in sub-division 1, to be applied for the purposes therein stated not exceeding the sum of \$40,500.

"Second. That the amount of discount and expenses sustained in the sale of the bonds hereby authorized not exceeding \$40,500 shall be amortized out of the income of the company by the establishment and maintenance of an amortization fund, and that the said Hudson and Manhattan Railroad Company shall pay in cash into said fund out of the income of said company in each calendar year beginning with the year 1914 an amount of money which shall not be less than one per cent. of the amount of said discount and expense not exceeding \$40,500 plus $4\frac{1}{2}$ per cent. upon all prior payments into said fund until said fund shall equal the amount of said discount and expense. Said fund shall be used only for the purchase and retirement of first lien and refunding mortgage bonds of said company or for the acquisition of property for capital or investment purposes, and may be administered in conjunction with the similar amortization funds established by the company pursuant to the orders of the Commission, heretofore made authorizing the issue of bonds under said mortgage.

"Third. That the said company shall keep separate, true and accurate accounts showing the receipt and application in detail of the proceeds of the sale or disposal of the bonds hereby authorized to be issued and on or before the 10th day of each month the company should make verified reports to the Commission stating the sale or sales of said bonds during the previous month, the terms and conditions of sale, the moneys realized therefrom, and the use and application of said moneys, and said accounts, vouchers and records shall be open to audit and may be audited from time to time by accountants and examiners designated for such purpose by the Board.

"Fourth. That the approval hereby given to issue such bonds shall apply only to the bonds issued by the said company on or before the 30th day of June 1915.

"Section 4. IT IS HEREBY ORDERED that this order take effect on the fifteenth day of September, 1914, and, except as provided in the Fourth subdivision of Section 3 limiting the duration of the authority to issue such bonds herein granted, continue in force until otherwise ordered by the Board, and that within ten days after service upon it of a copy of this order said company notify the commission whether the terms of this order are accepted and will be obeyed.

"Dated September 15th, 1914."

SEWELL WATER COMPANY—\$22,500 CAPITAL STOCK.

Application was made by the Sewell Water Company for approval of a proposed issue of \$22,500 capital stock; the proceeds to be used in payment for the purchase of lands, construction and installation of water plant.

Approved September 29th, 1914, after hearing.

**PUBLIC SERVICE ELECTRIC COMPANY—\$3,000,000
CAPITAL STOCK.**

Application was made by the Public Service Electric Company for the approval of proposed issue of capital stock to the amount of \$3,000,000, on account of expenditures chargeable to capital account, which expenditures are set forth in detail in the application of the company.

Approved October 6th, 1914, after hearing.

PATRONS TELEPHONE COMPANY—\$2,400 STOCK.

Application was made by the Patrons Telephone Company for approval of an issue heretofore made of its capital stock to the amount of \$2,400; the proceeds of which were used for the purpose of payment of building and maintaining and operating telephone plant.

Approved October 6th, 1914, after hearing.

**LEHIGH AND NEW ENGLAND RAILROAD COMPANY—
\$4,000,000 BONDS.**

Application was made by the Lehigh and New England Railroad Company for the approval of the proposed issue of bonds to the amount of \$4,000,000, to be used for the payment, cancelation and retirement of certain bonds, liquidation of notes and certain construction work as set forth in the petition of the company.

Approved October 13th, 1914, after hearing.

**LEHIGH AND NEW ENGLAND RAILROAD COMPANY—
\$3,645,000 STOCK.**

Application was made by the Lehigh and New England Railroad Company for approval of an issue of stock to the amount of \$3,645,000, heretofore issued and used for the purchase and retirement of bonds, payment of notes, purchases of property and in payment for expenditures on account of construction work.

Approved October 13th, 1914, after hearing.

**LEHIGH AND NEW ENGLAND RAILROAD COMPANY—
\$15,000,000 MORTGAGE.**

Application was made by the Lehigh and New England Railroad Company for approval of mortgage in the sum of \$15,000,000, said mortgage being dated July 1st, 1914, and made to the Guaranty Trust and Safe Deposit Company, a corporation of the State of Pennsylvania.

Approved October 13th, 1914, after hearing.

PUBLIC SERVICE GAS COMPANY—\$750,000 STOCK.

Application was made by the Public Service Gas Company for approval of a proposed issue of capital stock to the amount of \$750,000, the proceeds to be used for extensions and improvements as set forth in the petition.

Approved November 10th, 1914, after hearing.

RIVERSIDE TRACTION COMPANY—\$62,000 BONDS.

Application was made by the Riverside Traction Company for approval of the proposed issue of mortgage bonds to the amount of \$132,000, the proceeds to be applied to the construction of the company's generating station. After investigation the Board concluded that bonds to the amount of \$62,000 should be approved for this purpose, and its approval was granted, it being the

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opinion of the Board that certain items proposed to be covered by the issue of bonds should be gradually charged off to operating expenses.

Approved November 24th, 1914, after hearing.

MONMOUTH COUNTY WATER COMPANY—\$2,000,000 MORTGAGE.

Application was made by the Monmouth County Water Company for approval of its First and Refunding Mortgage in the sum of \$2,000,000, to the Columbia Avenue Trust Company, Trustee.

Approved November 30th, 1914, after hearing.

MONMOUTH COUNTY WATER COMPANY—\$258,000 BONDS.

Application was made by the Monmouth County Water Company for the approval of the proposed issue of its bonds to the amount of \$258,000, the proceeds to be used for the purpose of refunding outstanding bonds of a like amount.

Approved November 30th, 1914, after hearing.

EGG HARBOR CITY WATER COMPANY—\$600 STOCK.

Application was made by the Egg Harbor City Water Company for the approval of the proposed issue of its capital stock to the amount of \$5,000, the proceeds to be used in payment for construction work. It was decided by the Board to approve an issue to the amount of \$600, with the understanding that the Board would approve the issue of the balance upon submission to it by the Chief Inspector of its Utilities Division of a report to the effect that expenditures covering such balance have actually been made.

Approved December 1st, 1914, after hearing.

STONE HARBOR TERMINAL RAILROAD COMPANY—\$30,000 STOCK; \$30,000 BONDS.

Application was made by the Stone Harbor Terminal Railroad Company for the approval of a proposed issue of \$30,000 in stock and \$30,000 in bonds, the proceeds to be used for the purpose of discharging the indebtedness of said company to the South Jersey Realty Company for the right of way of the railroad of the company and for the construction of the railroad by the South Jersey Realty Company as contractor.

Approved December 1st, 1914, after hearing.

MARCONI TELEGRAPH-CABLE COMPANY, INC.—TRANSFER OF STOCK.

Application was made by the Marconi Telegraph-Cable Company, Inc., for approval of transfer of thirteen shares of its capital stock to the Marconi Wireless Telegraph Company of America.

Approved December 8th, 1914, after hearing.

MARCONI TELEGRAPH-CABLE COMPANY, INC.—\$48,000 STOCK.

Application was made by the Marconi Telegraph-Cable Company, Inc., for the approval of a proposed issue of \$48,000 stock, the proceeds to be applied in payment for construction work.

Approved December 8th, 1914, after hearing.

LEHIGH AND NEW ENGLAND RAILROAD COMPANY—\$1,364,000 STOCK.

Application was made by the Lehigh and New England Railroad Company for the approval of a proposed issue of capital stock to the amount of \$1,364,000, the proceeds to be used for the liquidation of note issued by the petitioner for the extinguishment and discharge of a yearly rent charge of \$109,123.28 of the Panther Creek Railroad Company, a corporation of the State of Pennsylvania, acquired by the Lehigh and New England Railroad Company.

Approved December 14th, 1914, after hearing.

MONMOUTH COUNTY WATER COMPANY—\$81,000 BONDS.

Application was made by the Monmouth County Water Company for approval of a proposed issue of \$81,000 bonds, the proceeds to be used for the purpose of refunding unsecured indebtedness of the Monmouth County Water Company.

Approved December 14th, 1914, after hearing.

FARMINGDALE LIGHTING COMPANY—\$5,800 STOCK.

Application was made by the Farmingdale Lighting Company for the approval of a proposed issue of capital stock to the amount of \$5,800.00, the proceeds to be used for the purpose of making extensions to the distribution system of the company.

Approved December 21st, 1914, after hearing.

WILDWOOD GAS COMPANY—\$40,000 BONDS.

Application was made by the Wildwood Gas Company for approval of the proposed issue of \$40,000.00 bonds, the proceeds to be used for the payment for extensions and additions.

Approved December 22d, 1914, after hearing.

MONMOUTH LIGHTING COMPANY—\$5,000 STOCK.

Application was made by the Monmouth Lighting Company for approval of the proposed issue of capital stock to the amount of \$5,000.00, the proceeds to be used in payment for construction work.

Approved December 22d, 1914, after hearing.

Ordinances Granting Privileges to Public Utilities and Submitted to the Board for Approval.

ORDINANCE—TOWNSHIP OF HANOVER—BROOKLAWN FARMS WATER COMPANY.

The Brooklawn Farms Water Company applied for approval of an ordinance of the Township of Hanover, Morris County, granting permission to said company to lay and maintain pipes and conduits in portions of the Township of Hanover to supply water for domestic and public use. The privilege was granted for a period of fifty years.

Approved January 6th, 1914, after hearing.

ORDINANCE—CITY OF TRENTON—RIVERSIDE TRACTION COMPANY, PUBLIC SERVICE RAILWAY COMPANY, LESSEE.

Application was made by the Riverside Traction Company, and Public Service Railway Company, its lessee, for approval of an ordinance of the City of Trenton granting to them permission to construct and maintain a connecting track between the single track in Adeline Street, northwest of Liberty Street, and the single track in Liberty Street, southwest of Adeline Street in the City of Trenton.

Approved January 13th, 1914, after hearing.

ORDINANCE—COUNTY OF CAPE MAY—TUCKAHOE LIGHT AND FUEL COMPANY.

The Tuckahoe Light and Fuel Company applied for approval of an ordinance of the Board of Chosen Freeholders of Cape May County, granting said company permission to use certain roads, streets and public places in the county for the purpose of laying and maintaining pipes, mains and conduits to supply gas for public and private use. The privilege was granted for a term of fifty years.

Approved January 13th, 1914, after hearing.

ORDINANCE—TOWN OF PHILLIPSBURG—PHILLIPSBURG LIGHT, HEAT AND POWER COMPANY.

The Phillipsburg Light, Heat and Power Company applied to the Board for approval of an ordinance of the Town of Phillipsburg granting said company the right to construct and operate the overhead electric lighting system on the streets, roads, etc., of the town. Objection to the approval of the ordinance being made by the Eastern Pennsylvania Power Company the matter was heard and a report made by the Board, as follows:

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REPORT.

W. H. Walters, for the petitioner.

J. I. B. Reiley, for the town of Phillipsburg.

A. B. Cheadle, for the Eastern Pennsylvania Power Company of New Jersey, objector.

This ordinance was passed by the common council of Phillipsburg on March 3d, 1913, and approved on March 6th, 1913. The petition asking this Board's approval was filed on May 26th, 1913. On December 3d, 1912, there was received by the Board an application by this company for the approval of an issue of \$125,000 stock for constructing a generating plant and distribution system in Phillipsburg. Action on the petition for the stock issue was deferred until after an ordinance should be duly approved, granting permission to the company to do business in Phillipsburg.

Hearings upon the petition for this Board's approval of the ordinance of March 6th, 1913, were held as follows:

At Trenton, at the State House, on June 17th, 1913.

At Trenton, at the State House, on September 23d, 1913.

At Trenton, at the State House, on November 11th, 1913.

At Jersey City, at Chancery Chambers, on November 21st, 1913.

At Trenton, at the State House, on December 9th, 1913.

At Jersey City, at Chancery Chambers, on January 6th, 1914.

Electric current is now supplied in Phillipsburg by the Eastern Pennsylvania Power Company of New Jersey. For this Board to approve this franchise, and by separate action, the issue and sale of stock by the petitioner would involve competitive electric service in Phillipsburg.

The position of the Board in this matter of utility competition locally is of record (see Atlantic Highlands case, No. 3 in Vol. I Reports; Consumers Gas Company of Millville, No. 95 in Vol. I Reports; Eastern Telephone and Telegraph case, No. 107 in Vol. I Reports). Following the same line is the Board's decision of recent date *In the Matter of the Petition of the Jersey Power Company for Authority to Issue Stock, etc.*

Common to all these cases is the principle that a public utility affording safe, adequate and proper service at reasonable rates will not be exposed to competition in the same locality through this Board's approval of the franchise of a competing company.

The Board has been careful to safeguard its stand in this matter by an explicit denial of the right of any public utility to count on this exemption from local competition except where the utility first in the field affords safe, adequate and proper service at reasonable rates. In case No. 3, Vol. I Reports, the Board said:

"These general propositions would seem to require strong counter-vailing considerations in the particular case under review if the Board is to approve the ordinance passed by the Shrewsbury Township Committee on November 17th, 1910. It is true that conditions may exist in particular cases which might warrant such action. If the Consolidated Gas Company had been shown to be totally devoid of enterprise, and were now reluctant to extend the supply of gas into the parts of Shrewsbury township which the Atlantic Highlands Gas

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Company stands ready to supply, or if the service of the Consolidated Gas Company had been shown in the past, or in the present, to be inadequate; or if there was such disparity in prices and quality of service offered by the two companies that the exclusion of the Atlantic Highlands Gas Company must result in subjecting possible consumers in Shrewsbury township to hardship, extortion or poor service; or if the Atlantic Highlands Gas Company could demonstrate that it alone of the two companies commanded processes or methods which promised pronouncedly better service or lower prices than the Consolidated Gas Company, there might be ground to question the applicability of the general principle of regulated monopoly to the case at issue."

It was made clear to the petitioners in the case at bar that they must establish affirmatively that the service in Phillipsburg fails to conform to the standard of being safe, adequate and proper.

On careful consideration of the record, the Board is of opinion that the petitioners have established this fact.

It appears to us proved that the Eastern Pennsylvania Power Company of New Jersey has not provided in Phillipsburg a service equal in quality to that furnished by their predecessors, the Easton Gas and Electric Company; that the street-lighting service furnished by the objector has been uncertain, inadequate and improper; that the outages of lamps have been excessive; that despite complaint the street-lighting service has not been appreciably bettered; that the deductions in payment claimed by the town for large outages have not been disputed by the company; and that the inadequacy of street-lighting service has been allowed to continue, and as recently as October, November and December, 1913, has been as poor as in April, 1913, and poorer than the service in the intervening period.

The Board finds established by the record unquestionable inadequacy of service as regards house lighting, and power for factories and other industrial concerns. Very considerable losses to proprietors of business establishments in Phillipsburg and to their employees due to forced inactivity on account of inadequate electric power have been well attested by uncontradicted evidence. Especially is this true for trolley operation in Phillipsburg. Power therefor has frequently been inadequate or wholly lacking, resulting in stoppage of cars or their movement at a tardy pace.

The Board is not unmindful that in the early part of last year the generating plants in Easton were crippled for a time by a strike. Nor is the Board unmindful that some of the petitioner's witnesses have admitted subscribing to stock in the newly-projected company.

The newly-organized company was organized as the outcome of a movement which centered in the local board of trade, but whose organization was effected by a group all of whom belonged to said Board, but outside of the regular activities exercised by the said Board. Much of the irritation with the inadequate service is founded on a prevalent feeling that with the generating plants in Easton, and with only a sub-office or agent in Phillipsburg, the Phillipsburg service is not accorded proper attention.

The evidence submitted by the Eastern Pennsylvania Power Company was rested largely on the testimony of two witnesses. One of these, the commercial manager, with his office at Easton, testified how complaints were

handled. The other, a consulting engineer for a concern that is devising plans for a comprehensive service radiating from Easton, testified that more ample generating apparatus is partly installed at Easton, and more is to be installed shortly, and that a comprehensive plan of transmission and distribution lines is being devised which will include Phillipsburg, along with other places at which current is to be delivered. Counsel for the Eastern Pennsylvania Power Company, while averring that ample power will be available shortly, does not hold out the prospect that the changes in the transmission and delivery lines in Phillipsburg will be completed until October of this year.

The question arises whether a company holding a franchise and under legal obligation to furnish at all times safe, adequate and proper service may defer or postpone rendering such service, or postpone putting its apparatus in proper condition to render such service, until a more convenient season when the locality to be served shall have been embraced within a comprehensive scheme of reconstruction allowing such service to be afforded.

We do not believe that such postponement or delay is justified or justifiable.

We shall therefore approve the franchise under consideration as necessary and proper for the public convenience and as safeguarding the public interests.

We shall attach thereto, as the statute provides, conditions that will prevent the use of said franchise other than as a *bona fide* instrument to afford the service required by the town of Phillipsburg.

With this end in view the franchise is approved upon the express condition that the franchisee files in writing with this Board its guarantee that it will construct and maintain its plant for the generation of electric current in Phillipsburg, and that it will begin the construction of said generating plant within six months from the date hereof, and of its lines of poles and wires within nine months from the date hereof, and that it will have completed, unavoidable accidents excepted, its generating plant and the main lines of its distribution system within eighteen months from the date hereof.

The Board calls attention of the town council to the doubtful propriety and dubious legality of imposing requirements of unpaid service to be rendered by the franchisee. The Board has hitherto objected to the imposition on franchises of a money payment as a condition of the grant. And the Board is not satisfied that it has not power to rescind such conditions as exact unpaid service, should such conditions be shown to be unjust or unreasonable. In case the town cares to impose such conditions, taking the risk of their possible annulment by the courts or by the Board, the Board will not, in this case, require their elimination from this franchise.

The Board in granting approval of this franchise hereby puts on record its serious question of the estimate of cost and earning power of the new company submitted together with the petition. In case the petition for the approval of stock to finance the new company had embraced the issue of bonds, it would have been a serious question whether this Board's approval of bonds could have been granted. The stockholder takes a risk with his eyes open, and we do not feel disposed to say that he may not take such a risk.

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We suggest, however, to the petitioners in so far as they represent a civic and not a commercial movement, and to the town of Phillipsburg, that now they are legally competent to provide their own supply of electric current, it might be well to consider whether prompt amendment may not be exacted of the Eastern Pennsylvania Power Company as regards service; and whether—provided such amendment is secured—the service and the price thereof for the future may not be more advantageous, secured from the larger generating unit at Easton than locally provided.

A certificate of approval, incorporating the above condition, will be issued to the petitioner as of this date.

Dated February 3d, 1914.

**ORDINANCE—TOWNSHIP OF WOODBRIDGE, MIDDLESEX COUNTY—
PUBLIC SERVICE RAILWAY COMPANY.**

The Public Service Railway Company applied for approval of an ordinance of the Township of Woodbridge granting permission to said company to construct and operate a passing siding in Crows Mill Road, southwest of Copernic Avenue.

Approved February 10th, 1914, after hearing.

**ORDINANCE—CAPE MAY COUNTY—VULCAN ELECTRIC LIGHT,
HEAT AND POWER COMPANY.**

The Vulcan Electric Light, Heat and Power Company applied for approval of an ordinance of the county of Cape May granting permission to said company to erect poles and string wires in and along certain roads in the county. The privilege was granted for a term of fifty years.

Approved February 25th, 1914, after hearing.

**RESOLUTION—COUNTY OF MIDDLESEX—NEW YORK TELEPHONE
COMPANY.**

The New York Telephone Company applied for approval of a resolution by the Board of Chosen Freeholders of Middlesex County granting permission to said company to construct, operate and maintain, for its local and through lines, its poles, wires, etc., for a designated distance upon, over and across the New Market-Stelton Road, in Piscataway Township. The privilege was granted for a term of fifty years.

Approved March 24th, 1914, after hearing.

**RESOLUTION—COUNTY OF MIDDLESEX—NEW YORK TELEPHONE
COMPANY.**

The New York Telephone Company applied to the Board for approval of a resolution of the Board of Chosen Freeholders of the County of Middlesex granting permission to said company to construct, operate and maintain for its local and through lines its poles, wires, etc., for a designated distance upon, over and across Avenal Avenue. The permission was granted for a term of fifty years.

Approved March 24th, 1914, after hearing.

**ORDINANCE—VILLAGE OF RIDGEWOOD—PATERSON AND STATE
LINE TRACTION COMPANY.**

The Paterson and State Line Traction Company applied to the Board for approval of an ordinance of the Village of Ridgewood granting permission to said company to construct and operate a double track crossing of Godwin Avenue, opposite Clinton Avenue. The permission was granted for a term of fifty years.

Approved April 7th, 1914, after hearing.

**ORDINANCE—VILLAGE OF RIDGEWOOD—PATERSON AND STATE
LINE TRACTION COMPANY.**

The Paterson and State Line Traction Company applied to the Board for approval of an ordinance of the Village of Ridgewood granting permission to said company to construct and operate a double crossing of Monroe Street southwest of Franklin avenue. The permission was granted for a term of fifty years.

Approved April 7th, 1914, after hearing.

**RESOLUTION—MONMOUTH COUNTY—NEW YORK TELEPHONE
COMPANY.**

The New York Telephone Company applied to the Board for approval of a resolution of the Board of Chosen Freeholders of Monmouth County granting consent to said company to erect its poles, wires, cables, conduits, etc., for its local and through lines along, over and under the waterwitch section of Ocean Boulevard, the road from Englishtown, to Middlesex County line, and certain other roads designated in said ordinance. The privilege was granted for a term of fifty years.

Approved April 7th, 1914, after hearing.

**RESOLUTION—MIDDLESEX COUNTY—NEW YORK TELEPHONE
COMPANY.**

The New York Telephone Company applied to the Board for its approval of a resolution of the Board of Chosen Freeholders of the County of Middlesex granting permission to said company to erect its poles, wires and cables upon, over and across Livingston Avenue, from the southern boundary line of the City of New Brunswick to a point about 600 feet southwest. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

**RESOLUTION—MORRIS COUNTY—NEW YORK TELEPHONE
COMPANY.**

The New York Telephone Company applied for approval of a resolution of the Board of Chosen Freeholders of the County of Morris granting permission to said company to erect its poles, wires and cables upon, over and across the northerly side of the Newark-Pompton Turnpike, easterly of

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the New York and Greenwood Lake Railroad. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

RESOLUTION—MORRIS COUNTY—NEW YORK TELEPHONE COMPANY.

The New York Telephone Company applied to the Board for its approval of a resolution of the Board of Chosen Freeholders of the County of Morris granting permission to said company to construct underground conduits, cables, wires, etc., through and under East Blackwell Street for a distance of one hundred feet easterly from the corner of North Morris Street. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

ORDINANCE—OCEAN COUNTY—LAKEWOOD WATER, LIGHT AND POWER COMPANY.

The Lakewood Water, Light and Power Company applied to the Board for its approval of an ordinance of the Board of Chosen Freeholders of the County of Ocean granting permission to said company to use that portion of the Ocean County Road, between a point six hundred feet east of Cherry Street in the Village of Lakewood, and Sea View Avenue in West Point Pleasant, for the purpose of erecting poles, wires, etc. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

ORDINANCE—CAPE MAY COUNTY—VULCAN ELECTRIC LIGHT, HEAT AND POWER COMPANY.

The Vulcan Electric Light, Heat and Power Company applied to the Board for approval of an ordinance of the Board of Chosen Freeholders of the County of Cape May, granting permission to said company to erect poles and string wires in, along and over Avalon Road, from its intersection with the main seashore road at Swanton to the Borough Line between the Township of Middle and the Borough of Avalon. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

ORDINANCE—BOROUGH OF LINWOOD—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

The Delaware and Atlantic Telegraph and Telephone Company applied to the Board for its approval of an ordinance of the Borough of Linwood authorizing the said company to erect and maintain terminal and distributing poles, conduits, wires, etc., on and under the public roads, streets and highways of the Borough of Linwood. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

ORDINANCE—BOROUGH OF LAUREL SPRINGS—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

The Delaware and Atlantic Telegraph and Telephone Company applied to the Board for its approval of an ordinance of the Borough of Laurel Springs granting permission to said company to construct and maintain poles, wires, cables, etc., on and under the public roads, streets and highways of the Borough of Laurel Springs. The privilege was granted for a term of fifty years.

Approved April 28th, 1914, after hearing.

ORDINANCE—BOROUGH OF BEACH HAVEN—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

The Delaware and Atlantic Telegraph and Telephone Company applied to the Board for approval of an ordinance of the Borough of Beach Haven giving permission to said company to erect and maintain wires, cables, etc., along, over and under the streets and highways of Beach Haven. The privilege was granted for a term of fifty years.

Approved May 12th, 1914, after hearing.

ORDINANCE—OCEAN COUNTY—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

The Delaware and Atlantic Telegraph and Telephone Company applied to the Board for approval of an ordinance granting permission to said company to erect and maintain poles, wires, etc., along, over and under the county roads of Ocean County, not included in the State highway system shown on the map adopted by the State Highway Commission. The privilege was granted for a term of fifty years.

Approved May 12th, 1914, after hearing.

ORDINANCE—TOWN OF HARRISON—PUBLIC SERVICE RAILWAY COMPANY.

The Public Service Railway Company applied to the Board for approval of an ordinance of the Town of Harrison granting permission to said company to construct, operate and maintain an extension of its street railway tracks from its present tracks in Harrison Avenue, northwardly on Schuyler Avenue, with connections therefrom to its present tracks in Harrison Avenue and to its property on the northwesterly corner of Harrison Avenue and Schuyler Avenue. The privilege was granted for a term of fifty years.

Approved June 2d, 1914, after hearing.

NUMEROUS ORDINANCES—BOARD OF STREET AND WATER COMMISSIONERS OF NEWARK—PUBLIC SERVICE RAILWAY COMPANY.

The Public Service Railway Company applied to the Board for its approval of a number of ordinances of the Board of Street and Water Commissioners of the City of Newark granting certain privileges to said company. A report was filed by the Board with respect to its action on the applications

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for the approval of the ordinances mentioned above. This report is referred to in further detail in the introduction to this annual report of the Board, and will be published in full in Volume II of Reports of this Board.

On June 2d, 1914, certificates of approval of the ordinances referred to in the report were granted as follows:

An ordinance to provide for the relocation of poles of Public Service Railway Company on Broad Street, in the City of Newark, County of Essex, and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being an extension from tracks now constructed and being operated in Market Street and consisting of a double track in Jackson Street from Market Street to the center of Passaic River, the dividing line between the City of Newark, and the Town of Harrison, with connections between same and its northerly and southerly tracks in Market Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns to locate, construct, operate and maintain the following extension to its street railway system, being an extension from a track now constructed and being operated in South Eighteenth Street and consisting of a single track in South Eighteenth Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission and consent to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being an extension from existing tracks now constructed and being operated in South Tenth Street, through South Tenth Street, Twelfth Avenue, and South Twelfth Street to and connecting with existing tracks in Central Avenue, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Central Avenue, east of Warren Street, and its tracks in Warren Street, north of Central Avenue, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Bridge Street, east of the intersection of Bridge, Front and Ogden Streets, and its tracks in Front Street, south of Bridge Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Clay Street, east of Broad Street, and its tracks in Belleville Avenue, northwest of Broad Street, connections between its tracks in Carlisle Place, west of Ogden Street, and its tracks in Ogden Street, south of Carlisle Place, and connections between its tracks in Ogden Street, south of Carlisle Place, and its tracks in Carlisle Place, east of Ogden Street in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission and consent to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being an extension from tracks now constructed and being operated in Central Avenue, west of Broad Street, across Broad Street, through Park Place and Centre Street to Mulberry Street and connecting with existing tracks in said last mentioned street; together with connecting tracks between the said extension above described and tracks in Broad Street, near Fulton Street, and a connection from the said extension above described to tracks now constructed and being operated in Broad Street, south of Central Avenue in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain an extension of the southwesterly track of its passing siding in Ogden Street, southwest of Gouverneur Street, to a point in said Ogden Street, south of Fourth Avenue, and a connection between said southeasterly track of said passing siding in Ogden Street and its southeasterly track in Ogden Street, southwest of Clark Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain a connection between its easterly track of its passing siding in Ogden Street, south of Division Street, and its said easterly track in Ogden Street, south of Bridge Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Bloomfield Avenue, northwest of Mt. Prospect Avenue, and its tracks in Mt. Prospect Avenue, northeast of Bloomfield Avenue, and to relocate, locate, construct, operate and maintain a crossover between its northwesterly and southeasterly tracks in Mt. Prospect Avenue, northeast of Bloomfield Avenue, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Clifton Avenue, southwest of Bloomfield Avenue and its tracks in Bloomfield Avenue, southeast of Clifton Avenue, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain a connection between its southwesterly track in Miller Street southeast of Frelinghuysen Avenue and its southwesterly track in Miller Street southeast of Elizabeth Avenue, and to relocate, locate, construct, operate and maintain a portion of its single track in Miller Street between Elizabeth Avenue and Frelinghuysen Avenue, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission and consent to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being a single track extension from tracks now constructed and being operated in Broad Street,

over Green Street, to and connecting with tracks now constructed and being operated in Mulberry Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain a connection between its single track in Chapel Street and its northerly track in Bowery Street, a connection between its northerly track in Bowery Street and its southerly track in Ferry Street, a connection between its northerly track in Ferry Street and its private right of way on the northerly side of Ferry Street, a connection between its single track in Chapel Street and its said private right of way on the southerly side of Bowery Street, and a connection between its northerly track in Bowery Street and its said private right of way on the southerly side of Bowery Street, in the city of Newark, County of Essex and State of New Jersey.

An ordinance granting permission and consent to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being an extension from tracks now constructed and being operated in Washington Street through Warren Street and High Street to and connecting with existing tracks in High Street, south of Breittall Place, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system in the City of Newark, being an extension from tracks now constructed and being operated in Belleville Avenue in said city and consisting of a double track in Fourth Avenue with connections between same and to its said tracks in Belleville Avenue and between same and to its tracks in Ogden Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission and consent to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being a single track extension from tracks now constructed and being operated in Broad Street, over Lafayette Street, to and connecting with tracks now constructed and being operated in Mulberry Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain the following extension to its street railway system, being an extension from tracks now constructed and being operated in Market Street, and consisting of a single track in Madison Place and Jersey Street, crossing Morris Canal, with connections between same and its northerly and southerly tracks in Market Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its northwesterly and southeasterly tracks in Mulberry Street, northeast of North Canal Street, and private property on the

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westerly side of Mulberry Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its northeasterly and southwesterly tracks in Washington Street, near Plum Street, and private property on the southeasterly side of Washington Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance granting permission to Public Service Railway Company, its successors or assigns, to locate, construct, operate and maintain connections between its tracks in Market Street, southeast of Mulberry Street, and its tracks in Mulberry Street, northeast of Market Street, in the City of Newark, County of Essex and State of New Jersey.

An ordinance to prescribe the conditions upon which Public Service Newark Terminal Railway Company may construct and maintain a subway, not exceeding one-half mile in length, under the surface of Halsey Street, Cedar Street, Broad Street, Military Park and Park Place from the westerly side of Halsey Street to the easterly side of Park Place, and beneath the surface of Boudinot Street, Pine Street and a certain alley running eastwardly from Pine Street north of Boudinot Street, in the City of Newark, County of Essex and State of New Jersey. •

An ordinance granting the consent of the Board of Street and Water Commissioners of the City of Newark to Public Service Newark Terminal Railway Company to cross Pine Street overhead substantially at right angles for the purpose of connecting the tracks of the existing street railway in Mulberry Street with the terminal of said company on Park Place in the City of Newark, County of Essex and State of New Jersey.

ORDINANCE—BOARD OF CHOSEN FREEHOLDERS, CUMBERLAND COUNTY—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

The Delaware and Atlantic Telegraph and Telephone Company applied for approval of an ordinance of the Board of Chosen Freeholders of the County of Cumberland granting permission to said company to erect and construct poles, wires, cables and other apparatus in, over, and under Malaga Road, sections one and two, Mauricetown Road, Shiloh Pike and Deerfield Road. The privilege was granted for a term of fifty years.

Approved June 9th, 1914, after hearing.

RESOLUTION—BOARD OF CHOSEN FREEHOLDERS, MERCER COUNTY AND TOWNSHIP OF LAWRENCE—TRENTON AND MERCER COUNTY TRACTION CORPORATION.

Application was made by the Trenton and Mercer County Traction Corporation for approval of a resolution of the Board of Chosen Freeholders of Mercer County and a resolution of the Township Committee of the Township of Lawrence granting permission to the Trenton Street Railway Company, Trenton and Mercer County Traction Corporation, Lessee, to relocate a siding or turnout at or near the intersection of Princeton Avenue and the

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Lawrence Road, known as Harney's Corner, by constructing a siding or turnout of equal length in a new location.

Approved June 16th, 1914, after hearing.

**ORDINANCE—BOROUGH OF EDGEWATER—PUBLIC SERVICE
RAILWAY COMPANY.**

Application was made by the Public Service Railway Company for approval of an ordinance of the Borough of Edgewater granting permission to said company to locate and re-locate certain tracks in the Borough, and to construct, operate and maintain certain additional tracks. Protest was made against approval of the ordinance. Following hearing, the Board filed a report as follows:

REPORT.

An ordinance adopted by the Council of the Borough of Edgewater, in the County of Bergen, December 22d, 1913, entitled "An ordinance requesting New Jersey and Hudson River Railway and Ferry Company, and Public Service Railway Company, its lessee, to re-locate certain street railway tracks in the Borough of Edgewater, County of Bergen and State of New Jersey, and authorizing said companies to construct, operate and maintain additional tracks in said Borough," was filed with this Board. Objections to the ordinance were urged before the Board on behalf of the Civic Association, composed of citizens of the Borough. These objections were based upon the ground (1) that the Borough Council was without authority to adopt the ordinance; (2) that the provisions of the Limited Franchise Act (P. L. 1896, p. 329) are applicable to the grants of consent made by the ordinance and have not been observed in that the grants made are without limit of time; and (3) that the grants made are not necessary and proper to the public convenience and do not properly conserve the public interests. These objections will be considered in the order stated.

It appears that the New Jersey and Hudson River Railway and Ferry Company heretofore obtained an unlimited grant of authority to lay and maintain its tracks in Dempsey Avenue, and across the river road at two places, in the Borough. The Public Service Railway Company is the lessee of the road and franchises of the New Jersey and Hudson River Railway and Ferry Company. Under the present operation of the road cars pass down Dempsey Avenue and cross the river road to the terminal which is located in front of the ferry, which affords transportation from the Borough to the city of New York. Leaving the terminal the cars now cross the river road at a point a short distance north of the crossing first mentioned and proceed to the top of the Palisades over private right of way.

In addition to this movement of cars, it is necessary under the existing plan of operation to move cars in the opposite direction or up the hill in Dempsey Avenue under certain conditions. It appears that before Dempsey Avenue became a "public municipal street" the company purchased land and constructed its tracks within what are now the limits of that avenue.

Some time in 1905, the company conveyed to the municipality substantially what is now the northern half of the avenue, reserving to the company the

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right to maintain its tracks, wires and poles in the street. The ordinance submitted and so objected to, provides for the relocation of the northerly crossing of the river road. It also provides for the relocation of the tracks in Dempsey Avenue. It further provides for certain additional turnouts or switches.

1. *Had the council authority to enact the ordinance in question?*

This question must be answered in the affirmative.

The municipality is a borough. The act, "A General Act relating to Boroughs" (Revision, 1897), P. L. 1897, p. 285; Comp. Stats. I, p. 227, in its 28th section provides that, "The council of said boroughs shall have power to pass, enforce, alter or repeal ordinances to take effect within the limits of said borough for the following purposes * * * to ascertain, establish and alter the grades and boundaries of the streets and roads in said borough and to regulate the use thereof; * * * to prescribe the manner in which corporations or individuals shall exercise any privilege granted to them in the use of any street, road or highway * * * to regulate the use of the streets of the borough by street railway companies; to require such companies to lay and confine their tracks according to such grades as may be established by said council * * *."

2. *Do the grants of consent fall within the provisions of the Limited Franchise Act?*

In *Specht v. Central Passenger Railway Co.*, 76 N. J. L. 631 (1908), Chief Justice Gummere, delivering the opinion of the Court of Errors and Appeals, considered the purpose and scope of the Limited Franchise Act, and said (633):

"In our opinion the Supreme Court has misconceived the purpose and scope of the act of 1896. It deals only with the original installation of a street railway system, and not with the incidental changes in that system afterwards made necessary by reason of original defects in it which experience has disclosed, or by the gradual increase of public travel on the railway."

In so far as the relocations consented to by the ordinance under consideration are concerned, their character would, under this declaration as to the purpose and scope of the Limited Franchise Act, seem to take them out of the operation of that Act.

In addition to this, the relocations are governed by "An act concerning the relocation of the tracks of street railway and traction companies and companies owning or operating street railways or traction railways in this State" (P. L. 1910, chapter 243, p. 400, as amended by P. L. 1912, chapter 339, p. 590), which as amended provides as follows:

"Whenever any street railway or traction company or company owning or operating a street railway or traction railway in this State shall change the location of its tracks, or any part thereof, in any street or public highway, or public park to another part of such street or highway, or public park, or whenever such street railway or traction company shall change the location of its tracks, or any part thereof, from a private right-of-way proposed to be taken for highway or public park purposes, to a new location within the lines of a public highway, or within the boundaries of such public park, at the request of the board or boards, body or bodies charged with the maintenance and repair of the street or highway, or public park,

on or through which such tracks shall be relocated or to which such tracks shall be removed from a private right-of-way, the company so changing the location of its tracks, and its successors and assigns, shall have the right to maintain and operate the same in the new location for as long a period as it had the right to maintain and operate the tracks in their former location, at the time of such relocation."

Under this statute, then, a company obtaining consent to a relocation would "have the right to maintain and operate its tracks in the new location for as long a period as it had the right to maintain and operate tracks in their former location at the time of their relocation."

The right of the company, in the case in hand, to maintain and operate its tracks in their present location, is, as before stated, unlimited as to time. It would, therefore, under this statute, be entitled, as of right, to maintain and operate its tracks in the new location, provided for by the ordinance now considered, without limit of time.

In so far as the ordinance now considered consents to the installation and operation of additional turnouts and switches, it does not come within the operation of the Limited Franchise Act.

The installation and operation of the added spurs, switches and turnouts will not effect a radical change in the system itself. It will simply work incidental changes in the use of the streets.

3. *Are the grants of consent made by the ordinance necessary and proper for the public convenience, and does the ordinance properly protect the public interests?*

The Board has concluded that this question must also be answered in the affirmative.

In the relocation of the northerly crossing on the river road the crossing is moved some one hundred and fifty (150) feet further north. This relocation is for the purpose of affording additional trackage in front of the ferry slips. This relocation is not objected to by the protestants. The record fully establishes that it is necessary for the public convenience.

In the relocation of the tracks on Dempsey Avenue the tracks are moved some five (5) feet north of the center of the street. This change in location was requested by the Mayor and Council of the Borough. The avenue is some twenty-eight (28) feet wide. The south side is devoted to business structures. The entire block on the north side is taken up by a power house, car barns and other like structures. In the existing situation cars cannot pass a wagon backed up in front of a store on the south side of the avenue. The change in location of the tracks will increase the distance between the southerly rail and the southerly side of Dempsey Avenue some five (5) feet.

It is suggested on behalf of the protestants that the tracks now in Dempsey Avenue be required to be moved still further north and off the avenue to property belonging either to the company or to a company controlled by the same interests. This suggestion overlooks the fact that the use of the public highways in the operation of street railways is a public use; that primarily street railways are operated through the public highways and not over private right of way; that such operation serves the public convenience, and that only by means of the use of the public highways in such transporta-

tion is the comparatively low rate of fare which prevails on street railways made possible.

It also loses sight of the fact that the ordinance does not deal with the matter of an original grant of consent to locate tracks on Dempsey Avenue, and that tracks are now in the avenue. It overlooks the fact that the ordinance merely permits their relocation. It also fails to give weight to the practical difficulties involved in the suggestion which are disclosed by the record.

In the judgment of the officials of the Borough the relocation will better existing conditions. In this judgment the Board concurs. The turnouts and switches, to the installation of which the ordinance consents, will make available needed increased terminal facilities. The relocations, turnouts and switches sanctioned by the ordinance will further make it possible to confine trolley traffic on Dempsey Avenue to one direction—east. It now moves in both directions.

On these grounds the Board is of opinion that the grants of consent made by the ordinance are necessary and proper for the public convenience, and that the ordinance properly conserves the public interests.

Dated May 12th, 1914.

A certificate of approval was issued June 23d, 1914.

**ORDINANCE—BOROUGH OF LODI—PUBLIC SERVICE RAILWAY
COMPANY.**

Application was made by Public Service Railway Company for approval of an ordinance of the Borough of Lodi granting permission to said company to locate, construct and operate a connecting track between the southwesterly and northeasterly tracks in Charles Street, northwest of Westervelt Place in the Borough of Lodi.

Approved June 23d, 1914, after hearing.

**ORDINANCE—BOARD OF CHOSEN FREEHOLDERS, SALEM COUNTY
—DELAWARE AND ATLANTIC TELEGRAPH AND
TELEPHONE COMPANY.**

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance of the Board of Chosen Freeholders of the County of Salem granting permission to said company to erect and construct poles, wires, cables and other apparatus in, over and under the county roads of said county. The privilege was granted for a period of fifty years.

Approved June 30th, 1914, after hearing.

**ORDINANCE—TOWNSHIP OF HAMILTON—RIVERSIDE TRACTION
COMPANY, PUBLIC SERVICE RAILWAY COMPANY,
LESSEE.**

Application was made by the Riverside Traction Company, and Public Service Railway Company, its lessee for approval of an ordinance granting permission to said companies to relocate the single track and construct,

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operate and maintain a second track in Lalor Street, opposite the southerly termination of Adeline Street in the City of Trenton, in the Township of Hamilton, County of Mercer.

Approved July 7th, 1914, after hearing.

ORDINANCE—TOWNSHIP OF HAMILTON—RIVERSIDE TRACTION COMPANY, PUBLIC SERVICE RAILWAY COMPANY, LESSEE.

Application was made by the Riverside Traction Company and Public Service Railway Company, its lessee, for approval of an ordinance of the Township of Hamilton, granting permission to said companies to relocate a portion of the single track in Schiller Avenue at the northwesterly termination of said avenue in the Township of Hamilton, County of Mercer and State of New Jersey.

Approved July 7th, 1914, after hearing.

ORDINANCE—CITY OF TRENTON—RIVERSIDE TRACTION COMPANY AND PUBLIC SERVICE RAILWAY COMPANY, LESSEE.

Application was made by Riverside Traction Company and Public Service Railway Company, lessee for approval of an ordinance granting permission to said companies to relocate a portion of the northeastwardly track in Adeline Street at Lalor Street and to locate, construct and operate an extension southeastwardly of the southwesterly track in Adeline Street, northwest of Lalor Street in the City of Trenton.

Approved July 7th, 1914, after hearing.

RESOLUTION—BOARD OF CHOSEN FREEHOLDERS, MIDDLESEX COUNTY—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of a resolution of the Board of Chosen Freeholders of Middlesex County granting permission to said company to construct, maintain and operate its underground conduits, cables, wires, etc., under and across Main Street in the Borough of Middlesex, Middlesex County. The privilege was granted for a term of fifty years.

Approved July 14th, 1914, after hearing.

RESOLUTION—BOARD OF CHOSEN FREEHOLDERS, MORRIS COUNTY—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of a resolution of the Board of Chosen Freeholders of the County of Morris granting permission to the said company to construct, maintain and operate its underground cable, conduits, wires, etc., through and under Madison Avenue in the Township of Morris, Morris County. The privilege was granted for a term of fifty years.

Approved July 14th, 1914, after hearing.

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RESOLUTION—BOARD OF CHOSEN FREEHOLDERS, MORRIS COUNTY—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of a resolution of the Board of Chosen Freeholders of the County of Morris granting permission to said company to construct, maintain and operate its poles, wires, cables and other fixtures upon, over and across Newark-Pompton Turnpike, in the Township of Pequannock for certain distances as specified in said resolution. The privilege was granted for a term of fifty years.

Approved July 14th, 1914, after hearing.

ORDINANCE—BOROUGH OF NATIONAL PARK—FORT MERCER GAS COMPANY.

Application was made by the Fort Mercer Gas Company for approval of an ordinance of the Borough of National Park permitting the erection, operation and control of a plant for the manufacture and distribution of gas for public and private use, and granting the use of the streets for the installation and conduct of the same in the Borough of National Park. The permission was granted for a term of fifty years.

Approved July 14th, 1914, after hearing.

ORDINANCE—TOWNSHIP OF RARITAN—JERSEY CENTRAL TRACTION COMPANY.

Application was made by the Jersey Central Traction Company for approval of an ordinance of the Township of Raritan, Monmouth County, granting permission to the said company to construct, operate and maintain an electric street railway in the Township of Raritan and to locate the route and tracks of said railway. The privilege was granted for a term of fifty years.

Approved July 14th, 1914, after hearing.

ORDINANCE—BOROUGH OF NATIONAL PARK—FORT MERCER WATER COMPANY.

Application was made by Fort Mercer Water Company for approval of an ordinance of the Borough of National Park permitting the erection, operation and control of a water-supply plant for public and private uses and granting the use of the streets and other public highways for the installation and conduct of the same in the Borough of National Park. The privilege was granted for a term of fifty years.

Approved July 21st, 1914, after hearing.

ORDINANCE—SOUTH RIVER—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of an ordinance of the Borough of South River granting permission to said company to use the various streets, roads, avenues and parts thereof in the

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Borough of South River, Middlesex County, above and below the surface, for the construction, maintenance and operation of its local and through lines and systems. The privilege was granted for a term of fifty years.

Approved August 11th, 1914, after hearing.

ORDINANCE—TOWN OF PHILLIPSBURG—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance of the Town of Phillipsburg granting permission to said company to maintain and operate its poles, cables, wires and other overhead apparatus, also its conduits, cables, wires and other underground appliances on, in, under, through and across each and every of the public roads, streets, alleys and highways of the town; to use the property of other companies, and to permit other companies that possess authority to operate in the town, use its property upon such arrangements as may be agreed. The privilege was granted for a term of fifty years.

Approved August 11th, 1914, after hearing.

RESOLUTION—BOARD OF CHOSEN FREEHOLDERS OF MORRIS COUNTY—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of a resolution of the Board of Chosen Freeholders of Morris County granting permission to said company to lay a part of its underground system under Main Street, Boonton, from the southwest corner of Plane Street northerly, to the southeast corner of School Street. The privilege was granted for a term of fifty years.

Approved September 22d, 1914, after hearing.

RESOLUTION—BOARD OF CHOSEN FREEHOLDERS—MIDDLESEX COUNTY—NEW YORK TELEPHONE COMPANY.

Application was made by the New York Telephone Company for approval of a resolution of the Board of Chosen Freeholders of Middlesex County granting permission to said company to construct a part of its underground system under Amboy Road from manhole at the corner of New Brunswick Turnpike, southwesterly to pole 164 on the southwest corner, a distance of about sixty-nine feet. The privilege was granted for a term of fifty years.

Approved September 22d, 1914, after hearing.

ORDINANCE—TOWNSHIP OF MANTUA—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance of the Township of Mantua, granting permission to said company to erect and maintain terminal and distributing poles, conduits and other fixtures and appliances in, upon, over and under the public roads, streets, alleys and highways in the Township of Mantua. The privilege was granted for a term of fifty years.

Approved September 29th, 1914, after hearing.

ORDINANCE—CITY OF TRENTON—AMERICAN DISTRICT TELEGRAPH AND MESSENGER COMPANY.

Application was made by the American District Telegraph and Messenger Company for approval of an ordinance of the City of Trenton granting to said company the right to lease wires and conduits from wire-owning companies doing business in the City of Trenton in order to carry on business in connection with message, fire alarm, signal and burglar alarm service. The privilege was granted for a period of fifty years.

Approved September 29th, 1914, after hearing.

ORDINANCE—BOROUGH OF HADDONFIELD—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance authorizing said company to extend its underground system with necessary terminal poles and distributing wires on and under certain public streets and avenues in the Borough of Haddonfield.

The privilege was granted for a term of fifty years.

Approved October 27th, 1914, after hearing.

ORDINANCE—CITY OF SALEM—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance of the City of Salem authorizing the said company to erect and maintain terminal and distributing poles, conduits and other necessary underground fixtures and appliances for its lines upon the public roads, streets, alleys and highways of the City of Salem. The privilege was granted for a term of fifty years.

Approved October 27th, 1914, after hearing.

ORDINANCE—BOROUGH OF WESTVILLE—DELAWARE AND ATLANTIC TELEGRAPH AND TELEPHONE COMPANY.

Application was made by the Delaware and Atlantic Telegraph and Telephone Company for approval of an ordinance of the Borough of Westville granting permission to the said company to construct and maintain poles, wires, cables, conduits, etc., upon, over and under each and every of the public roads, streets, alleys and highways of the Borough of Westville. The privilege was granted for a term of fifty years.

Approved November 10th, 1914, after hearing.

NUMEROUS RESOLUTIONS GRANTING PRIVILEGES TO THE MARCONI TELEGRAPH-CABLE COMPANY.

Approval was given by the Board, on November 4th, 1914, to the following resolutions, granting privileges to the Marconi Telegraph-Cable Company:

Resolution—Township Committee of Atlantic Township, granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of Howell Township, granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of Wall Township, granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of Madison Township granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of East Brunswick Township granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of North Brunswick Township granting permission to construct a telegraph line along certain highways in said township.

Resolution—Township Committee of Franklin Township granting permission to construct a telegraph line along certain highways in said township.

Resolution—Board of Chosen Freeholders of Somerset County granting permission to erect poles on certain roads in said county.

Resolution—Board of Chosen Freeholders of Middlesex County designating roads in the county upon which poles should be erected.

Resolution—Board of Chosen Freeholders of Monmouth County granting permission to construct a telegraph line along certain highways in said county.

Resolution—Board of Chosen Freeholders of Middlesex County granting permission for the erection of certain poles in said county.

Resolution—Township Committee of Marlboro Township granting permission to construct a telegraph line along certain highways in said township.

Leases, Mergers, Agreements and Sales of Property.

In the Matter of the Application of the New York Bay Railroad Company for Approval of Sale of Land in the City of Newark, County of Essex and State of New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the New York Bay Railroad Company, by petition in writing, for approval of sale of a piece of land situate near Plank Road, in the City of Newark, County of Essex, containing .081 acres, more or less, northwestwardly of and adjoining land of the said The New York Bay Railroad Company, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the New York Bay Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated January 13th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company and West Jersey Toll Line Company for Approval of Lease of Certain Facilities in the Borough of Belvidere. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and the West Jersey Toll Line Company by petition in writing, for approval of lease by the Delaware and Atlantic Telegraph and Telephone Company to the West Jersey Toll Line Company of certain facilities in the Borough of Belvidere as described in said petition, copy of said lease dated June 30th, 1913, being submitted with said petition, which copy of said lease and said petition are, by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the lease of said facilities as prayed for in said petition.

Dated January 27th, 1914.

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In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company and the West Jersey Toll Line Company for Approval of Sale of Certain Facilities in the Township of Oxford, Warren County. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and the West Jersey Toll Line Company by petition in writing for approval of sale by said Delaware and Atlantic Telegraph and Telephone Company to said West Jersey Toll Line Company of certain facilities in the Township of Oxford, Warren County, New Jersey, being more particularly set forth in said petition, which by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES said sale, as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Delaware and Atlantic Telegraph and Telephone Company, or used by said company in construction or other work properly chargeable to capital account.

Dated January 27th, 1914.

In the Matter of the Application of the West Jersey and Seashore Railroad Company for Approval of Sale of Land in the Township of Franklin, Gloucester County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for approval of sale of tract of land containing 11.653 acres situate in the Township of Franklin, Gloucester County, State of New Jersey, which tract of land is more particularly described by means of a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the sale of said tract of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the West Jersey and Seashore Railroad or used by said company in construction or other work properly chargeable to capital account.

Dated February 10th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Land on the Northeasterly Side of Broadway in the City of South Amboy, Middlesex County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of sale of a parcel of

land situate on the northeasterly side of Broadway, City of South Amboy, Middlesex County, being lot No. 10, in block 105, on the General Plan of the said City of South Amboy, said parcel of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said parcel of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company or used by said company in construction or other work properly chargeable to capital account.

Dated February 10th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Sell Tract of Land at Wilburtha, in the Township of Ewing and County of Mercer, Containing 11.5 Acres.	}	CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of sale of a tract of land situate at Wilburtha, in the Township of Ewing and County of Mercer, containing 11.5 acres, more or less, said tract of land being shown more particularly by blueprint annexed to said petition, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said parcel of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company or used by said company in construction or other work properly chargeable to capital account.

Dated February 10th, 1914.

In the Matter of the Application of the Pennsylvania Tunnel and Terminal Railroad Company for Approval of an Agreement Between that Railroad Company and the Pennsylvania Railroad Company, for the Operation of the Railroad and Appurtenances of the Tunnel Company by the Pennsylvania Railroad Company as Agent for the Tunnel Company, from February 28th, 1914, Until January 31st, 1915. } CERTIFICATE.

Application having been made by the Pennsylvania Tunnel and Terminal Railroad Company, by petition in writing, for approval by the Board of Public Utility Commissioners of an agreement between the said Pennsylvania Tunnel and Terminal Railroad Company and the Pennsylvania Railroad Company for the operation of the railroad and appurtenances of the Pennsylvania Tunnel and Terminal Railroad Company by the Pennsylvania Railroad Company, as agent, from the twenty-eighth day of February, nineteen hundred and fourteen, until and including the thirty-first day of January, nineteen hundred and fifteen;

The Board of Public Utility Commissioners, after hearing and due consideration, ORDERS that the prayer of the petitioner be and the same is hereby granted, and the said agreement, providing for the operation of the railroad and appurtenances of the Pennsylvania Tunnel and Terminal Railroad Company by the Pennsylvania Railroad Company, as agent, for the period above mentioned, is HEREBY APPROVED.

Dated March 3d, 1914.

In the Matter of the Application of the Public Service Railway Company for Approval of Sale and Conveyance by Holland Company, Trustee, to Balbach Smelting Company .42 of an Acre of Land. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the Public Service Railway Company for approval of the sale and conveyance by Holland Company, Trustee, to Balbach Smelting Company of .42 of an acre of land more particularly described in said petition, which petition by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the conveyance of said tracts of land upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Public Service Railway Company, or used by said company in construction or other work chargeable to capital account.

Dated March 17th, 1914.

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**In the Matter of the Application of the Public Service
Railway Company for Approval of the Convey-
ance by Gottfried Kreuger and William Scheerer,
Trustees, to the Holland Company, of Eleven
Tracts of Land. } CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the Public Service Railway Company for approval of the sale and conveyance by Gottfried Kreuger and William Scheerer, Trustees, to the Holland Company, of eleven tracts of land more particularly described in said petition, which petition by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the conveyance of said tracts of land upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Public Service Railway Company, or used by said Company in construction or other work chargeable to capital account.

Dated March 17th, 1914.

**In the Matter of the Application of the Public Service
Railway Company for Approval of Sale and Con-
veyance by the Holland Company, Trustee, to the
Passaic Valley Sewerage Commission, of Eleven
Acres of Land. } CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the Public Service Railway Company for approval of the sale and conveyance by the Holland Company, trustee, to the Passaic Valley Sewerage Commission of eleven acres of land more particularly described in said petition, which petition by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the conveyances of said tracts of land upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Public Service Railway Company, or used by said company in construction or other work chargeable to capital account.

Dated March 17th, 1914.

**In the Matter of the Application of the Delaware and
Atlantic Telegraph and Telephone Company and
the Middlesex Telephone Company for Approval
of Sale of Certain Facilities to the Said Delaware
and Atlantic Telegraph and Telephone Company. } CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners, by petition in writing, by the Delaware and Atlantic Telegraph and Telephone Company and The Middlesex Telephone Company for approval of sale of certain facilities to said Delaware and Atlantic Telegraph and Telephone Company by said The Middlesex Telephone Company, consisting of a pole line situate in the Township of South Brunswick, Middlesex County, being

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more particularly described in said petition which is by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the proposed sale of said facilities upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of The Middlesex Telephone Company, or used by said The Middlesex Telephone Company in construction or other work properly chargeable to capital account.

Dated April 7th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company and the Farmers Telegraph and Telephone Company of Moorestown for Approval of Agreement for Joint Use of Certain Poles. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and the Farmers Telegraph and Telephone Company of Moorestown, by petition in writing, for approval of an agreement dated January 15th, 1914, between said Farmers Telegraph and Telephone Company of Moorestown and said Delaware and Atlantic Telegraph and Telephone Company relating to joint use of poles, a copy of which agreement was filed with said petition and which by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated April 7th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company and the New Jersey Telephone Company for Approval of Sale of Certain Facilities. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and the New Jersey Telephone Company by petition in writing, for approval of sale by said Delaware and Atlantic Telegraph and Telephone Company to said New Jersey Telephone Company of a line of poles between Somerville and Easton, being more particularly set forth in said petition which by reference thereto herein is made part hereof;

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES said sale as prayed for in said petition.

Dated April 7th, 1914.

**In the Matter of the Application of the Tuckerton
Water Company for Approval of Lease of Certain
Property at Tuckerton to S. J. Ridgeway. } CERTIFICATE.**

Application having been made to the Board, by petition in writing, by the Tuckerton Water Company for approval of lease of certain mill property at Tuckerton to S. J. Ridgeway, copy of said lease having been submitted with said petition, which petition and lease are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES said lease.

Dated April 7th, 1914.

**In the Matter of the Application of the Delaware and
Atlantic Telegraph and Telephone Company for
the Approval of an Agreement With the West
Jersey and Seashore Railroad Company for the
Joint Use of Certain Poles. } CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company, by petition in writing, for the approval of an agreement dated September 6th, 1913, between the West Jersey and Seashore Railroad Company and the said Delaware and Atlantic Telegraph and Telephone Company, relating to joint use of poles located in the Township of Upper Pittsgrove, Salem County, a copy of which agreement was filed with said petition, and which by reference thereto herein is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated May 5th, 1914.

**In the Matter of the Application of the Public Service
Gas Company for Permission to Sell Certain Prop-
erty in the Town of Montclair and Borough of
Glen Ridge, Essex County, to the Slaybach-Ingalls
Development Company. } CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Public Service Gas Company, by petition in writing, for permission to sell and convey certain property, more particularly described in said petition, situate, lying and being in the Town of Montclair, and Borough of Glen Ridge, in the County of Essex and State of New Jersey, to the Slaybach-Ingalls Development Company,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the sale and conveyance of said property as prayed for in said petition, upon condition that the proceeds realized from said sale be credited by said company to capital account.

Dated May 26th, 1914.

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In the Matter of the Application of the Neptunus Water Company and Vulcan Electric Light, Heat and Power Company for Authority to Separate Joint Property. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the Vulcan Electric Light, Heat and Power Company and the Neptunus Water Company, by petition in writing, for authority to separate joint property, as set forth in said application filed April 21st, 1914, which is by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the plan of separation of said joint property as set forth in said application, and recommends that the Neptunus Water Company take over by direct ownership, within six months from date, if possible, the tract of land occupied by its wells and tanks.

Dated May 26th, 1914.

In the Matter of the Application of the Point Pleasant Electric Light and Power Company for Approval of an Agreement With the New York Telephone Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Point Pleasant Electric Light and Power Company for approval of an agreement with the New York Telephone Company providing for the joint use of certain poles, in the Borough of Spring Lake, more particularly described in said agreement, a copy of which is on file in the office of this Board,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated June 2d, 1914.

In the Matter of the Application of the Point Pleasant Electric Light and Power Company for Approval of an Agreement With the Postal Telegraph Cable Company and the New York Telephone Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Point Pleasant Electric Light and Power Company for approval of an agreement with the Postal Telegraph Cable Company and the New York Telephone Company providing for the joint use of fifteen poles located in the Township of Wall, Monmouth County, New Jersey, more particularly described in said agreement, a copy of which is on file in the office of this Board,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated June 2d, 1914.

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**In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Approval of
Sale of Two Strips of Land in the Township of
Deptford, Gloucester County. } CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, for permission to sell two strips of land situate in the Township of Deptford, Gloucester County, New Jersey, containing respectively 0.062 of an acre and 0.075 of an acre, said application being accompanied by a blueprint showing more particularly the location of said strips of land, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and due hearing, no reason to the contrary appearing,

HEREBY APPROVES the sale of said strips of land, as prayed for in said petition, subject to the condition that the proceeds realized from such sale be applied to capital account.

Dated June 16th, 1914.

**In the Matter of the Application of the Delaware and
Atlantic Telegraph and Telephone Company for
the Approval of an Agreement With the Ocean
City Automobile Bridge Company Granting a
Right of Way to Petitioner. } CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company for approval of an agreement with the Ocean City Automobile Bridge Company providing for the grant of necessary rights to petitioner to erect, use, operate and maintain poles, cross-arms, cables, wires and other necessary appliances thereto on, over and across the property of said Ocean City Automobile Bridge Company, consisting of a strip of land and certain bridges used as a turnpike road, in the counties of Atlantic and Cape May, State of New Jersey, more particularly described in said agreement, a copy of which agreement is on file in the office of this board.

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated June 16th, 1914.

**In the Matter of the Application of the Lehigh Valley
Railroad Company of New Jersey for Approval
of Lease of its Railroad to the Lehigh Valley
Railroad Company a Corporation of the Common-
wealth of Pennsylvania. } CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the Lehigh Valley Railroad Company of New Jersey by petition, in writing, for approval of the lease of its railroad to the Lehigh Valley Railroad Company, a corporation of the commonwealth of Pennsylvania, referred to

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in the report of the Board of Public Utility Commissioners dated June 2d, 1914, and the Lehigh Valley Railroad Company of New Jersey having complied with the condition set forth in said report, requiring the filing of revised lease in complete form with proof of approval thereof by the stockholders as required by statute,

The Board of Public Utility Commissioners, no reason to the contrary appearing,

HEREBY APPROVES the execution of said lease.

Dated June 22d, 1914.

In the Matter of the Application of the Philadelphia
and Camden Ferry Company for Approval of Sale
of Premises in the City of Camden, Known as } CERTIFICATE.
"Hotel Ridgway."

Application being made to the Board of Public Utility Commissioners by the Philadelphia and Camden Ferry Company, by petition in writing, for approval of the proposed sale of premises situate on the southeasterly corner of Market Street, and Delaware Avenue, containing in front on the southerly side of said Market Street 93.73 feet and on the easterly side of said Delaware Avenue 100.36 feet, known as "Hotel Ridgway," in the City of Camden, County of Camden, State of New Jersey, said premises being shown more particularly in blueprint annexed to said petition, which blueprint and petition are, by reference thereto, herein made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the premises so proposed to be sold, is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said premises, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Philadelphia and Camden Ferry Company, or used by said company in construction or other work properly chargeable to capital account.

Dated June 23d, 1914.

In the Matter of the Application of the New Jersey
Shore Line Railroad Company and the New Jersey
Junction Railroad Company for Approval of } CERTIFICATE.
Agreement of Consolidation.

Application being made to the Board of Public Utility Commissioners by the New Jersey Shore Line Railroad Company and the New Jersey Junction Railroad Company, by petition in writing, for approval of agreement of consolidation and merger, copy of said agreement being on file in the office of the board, and

It appearing that the companies have complied with the condition set forth in its report upon this application (said report bearing date June second, one thousand nine hundred and fourteen),

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The Board of Public Utility Commissioners, after investigation and due hearing, no reason to the contrary appearing,

HEREBY GRANTS ITS APPROVAL of said agreement of merger and consolidation of said New Jersey Shore Line Railroad Company and said New Jersey Junction Railroad Company as prayed for in said petition.

Dated July 6th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Tract of Land in the City of Trenton, County of Mercer, State of New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of the proposed sale of a tract of land situate in the City of Trenton, Mercer County, New Jersey, containing 507 square feet, on the southerly side of Narrow Bridge Street westwardly from South Warren Street, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said tract of land so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Tract of Land in the City of Trenton, County of Mercer, State of New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of the proposed sale of a tract of land situate in the City of Trenton, Mercer County, New Jersey, containing 0.025 of an acre, more or less, between West State Street and West Hanover Street, northwestwardly of Calhoun Street, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the

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land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of the Sale of a Tract of Land in the City of Trenton, County of Mercer, State of New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing for approval of the proposed sale of a tract of land situate in the City of Trenton, Mercer County, New Jersey, containing 0.398 of an acre, on the northwesterly line of Calhoun Street, southwestwardly of West Hanover Street, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and said petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Tract of Land in the City of Trenton, County of Mercer, State of New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of the proposed sale of a tract of land situate in the City of Trenton, Mercer County, New Jersey, containing 5976 square feet, more or less, on the southeasterly corner Bridge and South Warren Streets, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

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The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant.

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Tract of Land in the City of Trenton, County of Mercer, State of New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of the proposed sale of a tract of land situate in the City of Trenton, Mercer County, New Jersey, containing 7670 square feet, more or less, on the southerly side of Bridge Street, between Fair and South Warren Streets, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Approval of Sale of Tract of Land in the City of South Amboy, County of Middlesex, State of New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for approval of the proposed sale of a tract of land situate in the City of South Amboy, Middlesex County, New Jersey, containing 2,600 square feet, on the northeasterly side of Broadway,

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southeastwardly of First or Front Street, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, or used by said company in construction or other work properly chargeable to capital account.

Dated July 14th, 1914.

In the Matter of the Application of the Delaware and
Atlantic Telegraph and Telephone Company and
West Jersey and Seashore Railroad Company for
Approval of an Agreement Relating to the Joint
Use of Poles. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and the West Jersey and Seashore Railroad Company, by petition in writing, for approval of agreement dated October 3d, 1913, between said Delaware and Atlantic Telegraph and Telephone Company and said West Jersey and Seashore Railroad Company, relating to joint use of poles, a copy of which agreement was filed with said petition, and which by reference thereto herein, is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated July 21st, 1914.

In the Matter of the Application for Approval of the
Lease of the Bordentown Electric Company to the
Public Service Electric Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners, by petition in writing, for approval of the lease of the Bordentown Electric Company to the Public Service Electric Company for a term of forty-six years, a copy of the proposed lease being submitted with said petition,

The Board of Public Utility Commissioners, after investigation and due hearing, no reason to the contrary appearing,

HEREBY APPROVES the execution of said lease.

Dated August 11th, 1914.

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In the Matter of the Application for Approval of the
Lease of the Cinnaminson Electric Light, Power
and Heating Company to the Public Service Elec-
tric Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners, by petition in writing, for approval of the lease of the Cinnaminson Electric Light, Power and Heating Company to the Public Service Electric Company, for a term of forty-six years, a copy of the proposed lease being submitted with said petition,

The Board of Public Utility Commissioners, after investigation and due hearing, no reason to the contrary appearing,

HEREBY APPROVES the execution of said lease.

Dated August 11th, 1914.

In the Matter of the Application of the Atlantic City
Electric Company and Ocean City Electric Light
Company for Approval of the Sale of the Property
of the Ocean City Electric Light Company to the
Atlantic City Electric Company for the Sum of
\$272,963. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Atlantic City Electric Company and Ocean City Electric Light Company, by petition in writing, for approval of the sale of the property of the Ocean City Electric Light Company to the Atlantic City Electric Company, for the sum of two hundred seventy-two thousand nine hundred sixty-three dollars (\$272,963),

The Board, after investigation and hearing, no reason to the contrary appearing,

HEREBY, upon condition that proceedings be taken under the statute for the formal dissolution of the said Ocean City Electric Light Company, APPROVES the sale by the Ocean City Electric Light Company of its property to the Atlantic City Electric Company for the sum of \$272,963, as set forth in said petition, which, by reference thereto herein, is made part hereof.

Dated September 15th, 1914.

In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Approval of
the Sale of Two Tracts of Land in Haddon Town-
ship, Camden County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for approval of the sale of two tracts of land situate in Haddon Township, Camden County, New Jersey, containing 14.0202 acres and 1.908 acres respectively, which tracts of land are more particularly described by means of a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

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The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the sale of said tracts of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the West Jersey and Seashore Railroad Company or used by said company in construction or other work properly chargeable to capital account.

Dated September 15th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company for the Approval of an Agreement With the Philadelphia and Reading Railway Company for the Joint Use of Certain Poles. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company, by petition in writing, for the approval of an agreement, dated June 27th, 1914, between the said Delaware and Atlantic Telegraph and Telephone Company and the Philadelphia and Reading Railway Company, relating to joint use of poles, located in the city and county of Camden, New Jersey, a copy of which agreement was filed with said petition, and which, by reference thereto herein, is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated September 22d, 1914.

In the Matter of the Application of the New Jersey Water and Light Company and the Atlantic Coast Electric Light Company for the Approval of the Lease by Said New Jersey Water and Light Company to Said Atlantic Coast Electric Light Company of Its Plant and System. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the New Jersey Water and Light Company and the Atlantic Coast Electric Light Company, by petition in writing, for approval of a lease, dated July 1st, 1914, by said New Jersey Water and Light Company of its plant and system, to said Atlantic Coast Electric Light Company, for a period of ten years, a copy of the proposed lease being submitted with said petition,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the execution of said lease.

Dated September 22d, 1914.

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In the Matter of the Application of the Electric Company of New Jersey for Approval of the Sale of Two Tracts of Land in the Townships of Washington and Glassboro, Gloucester County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Electric Company of New Jersey, by petition in writing, for approval of the sale of a tract of land situate in Washington Township, Gloucester County, New Jersey, containing seven and fifteen hundredths ($7\frac{15}{100}$) acres, also for the sale of a tract of land situate in Washington and Glassboro Townships, Gloucester County, New Jersey, containing forty-four and eighty-seven one-hundredths ($44\frac{87}{100}$) acres, which tracts of land are more particularly described by means of a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the sale of said tracts of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the Electric Company of New Jersey, or used by said company in construction or other work properly chargeable to capital account.

Dated September 22d, 1914.

In the Matter of the Application of the Delaware and Bound Brook Railroad Company for Approval of Sale of Tract of Land Near Trenton Junction. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Delaware and Bound Brook Railroad Company, by petition in writing, for approval of the proposed sale of a tract of land situate near Trenton Junction, Ewing Township, Mercer County, New Jersey, containing $\frac{364}{1000}$ of an acre, more or less, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, upon condition that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Delaware and Bound Brook Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated September 22d, 1914.

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In the Matter of the Application of the West Jersey and Seashore Railroad Company for Approval of Sale of Land in the City of Camden, Camden County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for approval of the sale of a lot of land containing 15 feet and 7½ inches in front and 72 feet in depth, situate on the north side of Mickle Street at the distance of 85 feet west of Broadway, in the City of Camden, Camden County, New Jersey, which lot of land is more particularly described by means of a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the sale of said lot of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the West Jersey and Seashore Railroad Company or used by said Company in construction or other work properly chargeable to capital account.

Dated September 22d, 1914.

In the Matter of the Application of the West Jersey and Seashore Railroad Company for Approval of Sale of Land in the City of Atlantic City, Atlantic County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for approval of the sale of block of land containing 3.4435 acres more or less, situate in the City of Atlantic City, Atlantic County, New Jersey, bounded by Albany, Trenton, Ventnor and Atlantic Avenues, which block of land is more particularly described by means of a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the sale of said block of land as prayed for in said petition, upon condition that the proceeds realized from such sale be applied toward the reduction of the capitalization of the West Jersey and Seashore Railroad Company or used by said Company in construction or other work properly chargeable to capital account.

Dated September 22d, 1914.

In the Matter of Merger of Pearce Brothers Leather Company and Johnson Leather Company. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by Pearce Brothers Leather Company and the Johnson Leather Company, corporations organized and existing under the laws of the State of New Jersey,

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for approval by the Board of a merger of said corporations as required by Chapter 19 of the Laws of 1913, approved February 19th, 1913, and the said application being accompanied by an agreement of merger and consolidation signed by the Presidents of Pearce Brothers Leather Company and the Johnson Leather Company, attested by the Secretaries thereof, and bearing the corporate seals of said corporations, and by the certificates required by the statutes of this State, the Board of Public Utility Commissioners, now, after hearing, no reason to the contrary appearing,

HEREBY APPROVES the merger of the Pearce Brothers Leather Company and the Johnson Leather Company.

Dated October 6th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company and the Bell Telephone Company of Pennsylvania for Approval of An Agreement With the President, Managers and Company for Erecting a Bridge Over the River Delaware at the Borough of Easton for Attachment Privileges. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company and The Bell Telephone Company of Pennsylvania, by petition in writing, for approval of agreement dated June 3d, 1914, between the President, Managers and Company for erecting a bridge over the River Delaware at the Borough of Easton, said The Bell Telephone Company of Pennsylvania and said The Delaware and Atlantic Telegraph and Telephone Company, in reinstallation of an additional cable over the bridge leading from Phillipsburg to Easton, a copy of which agreement was filed with said petition, and which by reference thereto herein, is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated October 6th, 1914.

In the Matter of the Application of the Point Pleasant Electric Light and Power Company for Approval of An Agreement With the New York Telephone Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Point Pleasant Electric Light and Power Company for approval of an agreement with the New York Telephone Company, providing for the joint use of certain poles in the Borough of Point Pleasant Beach, Borough of Bay Head, and Brick Township, in the County of Ocean, State of New Jersey, and Boroughs of Manasquan and Spring Lake, in the County of Monmouth, State of New Jersey, more particularly described in said agreement, a copy of which agreement is on file in the office of this Board,

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The Board of Public Utility Commissioners, after investigation and hearing,
HEREBY APPROVES of the terms and conditions specified in said agreement.
Dated October 13th, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval
of the Sale of a Strip of Land Situate in the
Township of Hopewell, Mercer County, New
Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a strip of land situate in the Township of Hopewell, Mercer County, New Jersey, containing 1.159 acres, more or less, said strip of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said strip of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval
of the Sale of a Lot of Land Situate in the City
of South Amboy, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a lot of land, situate in the City of South Amboy, Middlesex County, New Jersey, containing 8,325 square feet, more or less, having a frontage of 75 feet on the northwesterly side of Fourth Street northeasterly of Stevens Avenue, said lot of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lot of land, so shown on the

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blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Two Lots of Land Situate in the City of South Amboy, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of two lots of land, situate in the City of South Amboy, Middlesex County, New Jersey, containing 5,328 square feet, more or less, on the northwesterly side of Fourth Street southwesterly from the westerly corner of Fourth and Potter Streets, said lots of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lots of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Two Lots of Land Situate in the City of South Amboy, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of two lots of land, situate in the City of South Amboy, Middlesex County, New Jersey, containing 5,772 square feet, on the northerly corner of Thomson and Fourth Streets, said lots of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed

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is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lots of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Four Lots of Land Situate in the City of South Amboy, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of four lots of land, situate in the City of South Amboy, Middlesex County, New Jersey, known as Lots Nos. 20, 21, 22 and 23 in Block 105, fronting 100 feet on the easterly side of Broadway, distant 350 feet south of First or Front Street, having a depth of 75 feet, said lots of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lots of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of a Tract of Land Situate in the City of New Brunswick, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a tract of land, situate in the City of New Brunswick, Middlesex County, New Jersey, containing 0.04 of an acre, more or less, at the corner of Church and French Streets, said tract of land being shown more particularly by a blue-

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print annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania }
Railroad Company, Lessee of the United New }
Jersey Railroad and Canal Company, for Approval } CERTIFICATE.
of the Sale of a Piece of Land Situate in the City }
of Trenton, Mercer County, New Jersey. }

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a piece of land situate in the City of Trenton, Mercer County, New Jersey, containing 8,200 square feet, more or less, on the southeasterly side of East Canal Street, between High Street and Greenwood Avenue, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania }
Railroad Company, Lessee of the United New }
Jersey Railroad and Canal Company, for Approval } CERTIFICATE.
of the Sale of a Lot of Land Situate in the City }
of Trenton, Mercer County, New Jersey. }

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a lot of land, situate in the City of Trenton, Mercer County, New Jersey, containing 3979.82 square feet, more or less, on the easterly side of Fair Street

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between Narrow Bridge Street and Dillon Alley, said lot of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lot of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Two Tracts of Land Situate in the City of South Amboy, Middlesex County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of two tracts of land, situate in the City of South Amboy, Middlesex County, New Jersey, containing 11.877 acres and 2.02 acres, more or less, said tracts of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 20th, 1914.

In the Matter of the Application of the New York Telephone Company for the Approval of An Agreement With the New Jersey Telephone Company for the Sale of Certain Facilities. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the New York Telephone Company, by petition in writing, for the approval of an agreement between said New York Telephone Company and New

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Jersey Telephone Company, dated August 17th, 1914, providing for the sale of certain facilities, consisting of a pole line situate in the Town of Readington, County of Hunterdon, State of New Jersey, owned by said New York Telephone Company, being more particularly described in said agreement, a copy of the agreement being on file in the office of this Board (which is, by reference thereto herein, made part hereof),

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES said agreement, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the New York Telephone Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the New York Telephone Company for the Approval of An Agreement With the Postal Telegraph-Cable Company of New Jersey for the Sale of One Pole. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the New York Telephone Company, by petition in writing, for the approval of an agreement between said New York Telephone Company and the Postal Telegraph-Cable Company of New Jersey, dated September 17th, 1914, providing for the sale of one (1) pole at the southwest corner of the Highlands Railroad Station, in the Borough of Highlands, County of Monmouth and State of New Jersey, owned by said New York Telephone Company, being more particularly described in said agreement, a copy of the agreement being on file in the office of this Board (which is, by reference thereto herein, made part hereof),

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of Dedication of a Strip of Land in the City of Trenton, Mercer County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the dedication to the City of Trenton, for public park and drainage purposes, of a strip of land flowed by the waters of Assanpink Creek, situate in the City of Trenton, New Jersey, between the Delaware River and a point about 340 feet east of the Delaware and Raritan Canal Crossing, said strip of land

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being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part thereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be dedicated is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed dedication of said strip of land, to the City of Trenton, so shown on the blueprint annexed to said petition.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Four Tracts of Land Situate in the City of Trenton, Mercer County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of four tracts of land, situate in the City of Trenton, Mercer County, New Jersey, on Assanpink Creek northeast of Monmouth Street, containing about $2\frac{30}{100}$ acres, $\frac{41}{100}$ of an acre, $8\frac{47}{100}$ acres and $7\frac{24}{100}$ acres, respectively, said tracts of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tracts of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the Philadelphia and Long Branch Railroad Company, for Approval of the Sale of Five Tracts of Land Situate in the Borough of Lavallette, Ocean County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of the Philadelphia and Long Branch Railroad Company, by petition in writing, for approval of the sale of five tracts of land, situate in the Borough of Lavallette, Ocean County, New Jersey, four of said tracts being on the western side of Grand Central

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Avenue between Brooklyn and Washington Avenues, and one tract on the southern side of Washington Avenue west of Grand Central Avenue, containing in the aggregate 25,000 square feet, more or less, said tracts of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tracts of land so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Philadelphia and Long Branch Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania
Tunnel and Terminal Railroad Company for Ap-
proval of the Sale of a Tract of Land Situate in
the Borough of Secaucus, Hudson County, New
Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by The Pennsylvania Tunnel and Terminal Railroad Company, by petition in writing, for approval of the sale of a tract of land, situate in the Borough of Secaucus, Hudson County, New Jersey, containing 7.891 acres, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tracts of land so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Pennsylvania Tunnel and Terminal Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the New York
Bay Railroad Company for Approval of the Sale
of a Lot of Land Situate in the City of Newark,
Essex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the New York Bay Railroad Company, by petition in writing, for approval of the sale of a triangular lot of land, situate between Peddie and Badger

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Streets, in the City of Newark, Essex County, New Jersey, containing 378 square feet, more or less, said lot of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lot of land so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the New York Bay Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of a Tract of Land Situate in the Township of Raritan, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a tract of land, situate in the Township of Raritan, Middlesex County, New Jersey, on the northerly side of Old Post Road, west of the road to Metuchen, containing 1.48 acres, more or less, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tract of land so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the Belvidere Delaware Railroad Company, for Approval of the Sale of a Tract of Land Situate in Lopatcong Township, Warren County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The Belvidere Delaware Railroad Company, by petition in writing, for approval of the sale of a tract of land, situate in the Township of Lopatcong, Warren County, New Jersey,

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containing $2\frac{3}{4}$ acres, more or less, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Belvidere Delaware Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated October 27th, 1914.

In the Matter of the Application of the Delaware and Atlantic Telegraph and Telephone Company for the Approval of An Agreement With the Western Union Telegraph Company and the Trenton and Mercer County Traction Corporation, Lessee, for the Joint Use of Certain Poles. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Delaware and Atlantic Telegraph and Telephone Company, by petition in writing, for the approval of an agreement dated March 4th, 1914, between said Delaware and Atlantic Telegraph and Telephone Company, the Western Union Telegraph Company and the Trenton and Mercer County Traction Corporation, Lessee, relating to joint use of poles, a copy of which agreement was filed with said petition, and which, by reference thereto herein, is made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement, subject to the following conditions:

1. That the cost of changes to the Trenton and Mercer County Traction Corporation be charged to depreciation.
2. That the amounts received by the Delaware and Atlantic Telegraph and Telephone Company and the Western Union Telegraph Company, respectively, shall be credited to capital account.

Dated November 17th, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Land on the Northeast Side of Broadway, Known as Lots Nos. 13, 14 and 15, in Block 105, With Small Triangular Lot in the Rear Thereof, in South Amboy, Middlesex County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale

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of Lots Nos. 13, 14 and 15 in Block 105, with a small triangular lot in the rear thereof, situate in the City of South Amboy, Middlesex County, New Jersey, said lots of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lots of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 21st, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval } CERTIFICATE.
of the Sale of Piece of Land Situate in the City of
New Brunswick, Middlesex County, New Jersey. }

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of an irregular shaped piece of land, situate at the southwest corner of Somerset and Wall Streets, in the City of New Brunswick, Middlesex County, New Jersey, containing 1,349 square feet, more or less, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 21st, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval } CERTIFICATE.
of the Sale of Piece of Land Situate in the City of
New Brunswick, Middlesex County, New Jersey. }

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of the United New Jersey Rail-

road and Canal Company, by petition in writing, for approval of the sale of piece of land, situate on the northwesterly side of Wall Street, extending northeastwardly from Washington Street, in the City of New Brunswick, Middlesex County, New Jersey, containing 1,312 square feet, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 21st, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval
of the Sale of Eighteen Lots of Land Situate in
the City of South Amboy, Middlesex County, New
Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of eighteen contiguous lots of land, situate on the southeasterly side of Fourth Street, extending in front about 436 feet from the northeasterly side of Thompson Street, having a depth of 111 feet, being known as Lots Nos. 2 to 19, both inclusive in Block 2, in the City of South Amboy, Middlesex County, New Jersey, containing 48,396 square feet, said lots of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said lots of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 21st, 1914.

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In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the Belvidere Delaware Railroad Company, for Approval of the Sale of a Tract of Land Situate in Hopewell Township, Mercer County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of the Belvidere Delaware Railroad Company, by petition in writing, for approval of the sale of a tract of land, situate in Hopewell Township, Mercer County, New Jersey, on the south side of a public road leading from Washington's Crossing to Pennington, containing $\frac{22}{100}$ of an acre, said tract of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part thereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tract of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Belvidere Delaware Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 22d, 1914.

In the Matter of the Application of the Pennsylvania and Newark Railroad Company for Approval of the Sale of Two Tracts of Land Situate in Cranbury and South Brunswick Townships, Middlesex County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Pennsylvania and Newark Railroad Company, by petition in writing, for approval of the sale of two tracts of land, one tract situate partly in Cranbury Township and partly in South Brunswick Township, Middlesex County, New Jersey, containing 75.245 acres, and the other tract situate in said South Brunswick Township, containing 5.417 acres, said tracts of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said tracts of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Pennsylvania and Newark Railroad Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 22d, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of a Piece of Land Situate in Rahway, Union County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of a piece of land, situate on the northerly side of Broad Street, west of Irving Street, Rahway, Union County, New Jersey, containing 1,126 square feet, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof.

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 22d, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company, Lessee of the United New Jersey Railroad and Canal Company, for Approval of the Sale of Five Pieces of Land Situate in Jersey City, Hudson County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of five contiguous pieces of land, situate on the westerly side of Hudson County Boulevard, Jersey City, Hudson County, New Jersey, designated as Lots D1, D2, D3, D4 and D5, in City Block 586½, containing 17,462⁶⁸/₁₀₀ square feet, more or less, said pieces of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof.

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said pieces of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said

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company in construction or other work properly chargeable to capital account.
Dated December 22d, 1914.

In the Matter of the Application of the Pennsylvania
Railroad Company, Lessee of the United New
Jersey Railroad and Canal Company, for Approval
of the Sale of Eight Pieces of Land Situate in
Jersey City, Hudson County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, Lessee of The United New Jersey Railroad and Canal Company, by petition in writing, for approval of the sale of eight contiguous pieces of land, situate on the westerly side of Hudson County Boulevard, Jersey City, Hudson County, New Jersey, designated as Lots D6, D7, D8, D9, D10, D11, D12 and D13, in City Block 586½, containing 16,671 square feet, more or less, said pieces of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and, no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said pieces of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the United New Jersey Railroad and Canal Company, or used by said company in construction or other work properly chargeable to capital account.

Dated December 22d, 1914.

In the Matter of the Application of the New York
Telephone Company for the Approval of An
Agreement With the Consolidated Gas Company
of New Jersey for the Joint Use of Poles in Long
Branch, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the New York Telephone Company, by petition in writing, for the approval of an agreement dated November 2d, 1914, between the Consolidated Gas Company of New Jersey and the said New York Telephone Company, relating to joint use of poles, located in the Township of Ocean and City of Long Branch, Monmouth County, New Jersey, more particularly described in said agreement, a copy of which agreement was filed with said petition, and which, by reference thereto herein, is made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES of the terms and conditions specified in said agreement.
Dated December 22d, 1914.

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In the Matter of the Application of the Kinkora and
New Lisbon Railroad Company for Approval of
the Sale of a Piece of Land Situate in Mansfield
Township, Burlington County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Kinkora and New Lisbon Railroad Company, by petition in writing, for approval of the sale of a triangular piece of land, situate in Mansfield Township, Burlington County, New Jersey, containing 0.301 of an acre, more or less, said piece of land being shown more particularly by a blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation, now determines and concludes that the land so proposed to be conveyed is neither presently nor prospectively necessary for the corporate use of the applicant, and no reason to the contrary appearing,

HEREBY APPROVES said proposed sale of said piece of land, so shown on the blueprint annexed to said petition, UPON CONDITION that the proceeds realized from said sale be applied toward the reduction of the capitalization of the Kinkora and New Lisbon Railroad Company, or used by said Company in construction or other work properly chargeable to capital account.

Dated December 29th, 1914.

New Crossings at Grade.

In the Matter of the Application of the Pennsylvania
Railroad Company for Permission to Construct
Two Spur Tracks or Sidings at Grade Across } CERTIFICATE.
Somerset Street, in the Town of Harrison, New
Jersey. }

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, by petition in writing, for permission to construct and lay at grade two spur tracks or sidings across Somerset Street, to the property of the Otis Elevator Company, in the town of Harrison, Hudson County, New Jersey, as shown by means of a blueprint annexed to said petition, which petition and blueprint, by reference thereto herein, are made part hereof, said petition being also accompanied by a certified copy of a resolution passed by the Common Council of the Town of Harrison, December 30th, 1913, authorizing the construction of said spurs or sidings,

The Board of Public Utility Commissioners, after hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said spurs or sidings, at grade, as prayed for in said petition, subject to the conditions contained in said resolution, and also subject to the following conditions:

1. That the crossing at Somerset Street be planked not less than sixteen feet in width.
2. That all train movements over said crossing be protected by a flagman.
3. That speed of train movements over said crossing does not exceed six miles per hour.

Dated January 6th, 1914.

In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Permission
to Construct a Spur Track or Siding at Grade } CERTIFICATE.
Across Elm Street, in the Borough of Woodstown. }

Application being made to the Board of Public Utility Commissioners by petition in writing, by the West Jersey and Seashore Railroad Company, for permission to lay a spur track or siding, at grade, across Elm Street, in the Borough of Woodstown, New Jersey, as shown upon a blueprint annexed to said petition, which said petition and blueprint, by reference thereto herein, are made part hereof; said application being also accompanied by a certified copy of an ordinance of the Borough of Woodstown, passed December 15th, 1913, granting permission for the construction of said siding,

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The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing, hereby, subject to the condition contained in said ordinance, and subject further to the following conditions, GRANTS PERMISSION for the construction of said siding at grade, across Elm Street, in the Borough of Woodstown:

1. That all train movements over the crossing be protected by a flagman.
2. That train movements over the crossing do not exceed a speed of six miles per hour.
3. That the track be planked to conform with tracks now laid.

Dated January 20th, 1914.

**In the Matter of the Application of the Atlantic City
Railroad Company for Permission to Construct
Four Sidings at Grade Across Atlantic Avenue,
Camden. } CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the Atlantic City Railroad Company, by petition in writing, for permission to construct four sidings at grade across Atlantic Avenue, Camden, as shown on blueprint annexed to said petition, which petition and blueprint are, by reference thereto herein, made part hereof, and it appearing from said petition that the authority of the Camden City Council for the proposed construction has been obtained through passage of an ordinance,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY GRANTS its permission for the construction of said sidings upon the following conditions:

1. That grooved rail be used.
2. That Belgian block be used across Atlantic Avenue.
3. That train movements over Atlantic Avenue do not exceed a speed of six miles per hour.
4. That all train movements over Atlantic Avenue be protected by a flagman.

Dated February 25th, 1914.

**In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Permission
to Construct a Siding at Grade Crossing Eighty-
second and Eighty-first Streets and Second Ave-
nue, in Stone Harbor. } CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a spur or siding at grade crossing Eighty-second and Eighty-first Streets and Second Avenue, to reach the property of Semmelbeck and Bittner, as shown on blueprint annexed to said petition, which blueprint and petition are by reference thereto herein made part hereof, and

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It appearing that Stone Harbor is not an Incorporated Borough and that the Township of Middle has certified through its clerk that the streets at Stone Harbor have never been accepted by said Township of Middle,

The Board, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the construction of said siding at grade subject to the following conditions:

1. That the tracks shall not be laid on Second Avenue for one hundred feet as shown on blueprint heretofore referred to but that said track shall be placed on the property of Semmelbeck and Bittner.
2. That all train movements over Eighty-first Street be protected by a flagman.
3. That train movements over said siding do not exceed a speed of six miles per hour.

Dated March 10th, 1914.

In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Permission
to Construct a Siding at Grade Across Railroad
Avenue, Clayton, to Reach Lands of A. S. Clark
& Company. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a siding at grade across Railroad Avenue, in the Borough of Clayton, to reach lands of A. S. Clark and Company, said application being accompanied by a certified copy of a Resolution of the Clayton Borough Council, passed February 20th, 1914, granting permission for the construction of said siding,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing.

HEREBY APPROVES of the construction of said siding at grade as prayed for in said petition, subject to the condition contained in said Resolution of the Clayton Borough Council and subject further to the following conditions:

1. That the track to be constructed conform, in all respects, to the tracks now located on Railroad Avenue.
2. That all train movements over said siding be protected by a flagman.
3. That train movements over said siding do not exceed a speed of six miles per hour.

Dated March 24th, 1914.

In the Matter of the Application of George Q. Ham-
mell for Permission to Extend Wesley Avenue
and Partridge Street at Grade Across Tracks of
the Public Service Railroad in the Township of
Hamilton, Mercer County. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by George Q. Hammell, by petition in writing, for permission to ex-

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tend Wesley Avenue and Partridge Street at grade across tracks of the Public Service Railroad Company, in the Township of Hamilton, Mercer County, New Jersey, said application being accompanied by a map showing more particularly the location of said avenue and street, which petition and map are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, **HEREBY APPROVES** of the extension of said Wesley Avenue upon condition that a standard warning sign be erected at the crossing, and

HEREBY DENIES the application in so far as the same refers to Partridge Street.

Dated March 24th, 1914.

In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Permission
to Construct a Siding at Grade Across Broadway
and Charles Street, in the City of Gloucester,
New Jersey. } **CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a siding at grade across Broadway and Charles Street in the City of Gloucester to reach the lands of the Hinde and Dauch Paper Company, as shown by blueprint accompanying said petition, which petition and blueprint are, by reference thereto herein, made part hereof, said application being also accompanied by a certified copy of an ordinance of the City of Gloucester granting permission for the construction of said siding, subject to certain conditions,

The Board of Public Utility Commissioners, after investigation and hearing,

HEREBY GRANTS permission for the construction of said siding subject to the conditions contained in said ordinance and **SUBJECT FURTHER** to the following conditions:

1. That not more than two round-trip train movements be made over said siding in each twenty-four hours.
2. That all train movements over said siding be made during daylight hours.
3. That the track be laid to conform to the present grade.
4. That the crossing at Broadway be planked thirty-two feet in width.
5. That the crossing at Charles Street be planked thirty-two feet in width.
6. That standard crossing signs be erected.
7. That all train movements over said siding be protected by a flagman.
8. That train movements over said siding do not exceed a speed of six miles per hour.

Dated April 21st, 1914.

In the Matter of the Application of E. Frank Pine
for Permission to Construct a Siding at Grade
from Tracks of the Atlantic City Railroad Across
Church Street and West Railroad Avenue in
Blackwood. } **CERTIFICATE.**

Application having been made to the Board of Public Utility Commissioners by E. Frank Pine, by petition in writing, for permission to construct

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a siding at grade from tracks of the Atlantic City Railroad across Church Street and West Railroad Avenue, Blackwood, as shown by blueprint accompanying said petition, which blueprint and petition are, by reference thereto herein made part hereof, said application being also accompanied by a certified copy of resolution of Township Committee of the Township of Gloucester granting permission of the township for the construction of said siding at grade,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said siding at grade across said Church Street and West Railroad Avenue, subject to the following conditions:

1. That the crossing at Church Street be planked in a manner to make same safe for highway traffic.
2. That the crossing at West Railroad Avenue be planked for a width of not less than twenty feet.
3. That standard crossing signs be erected.
4. That all train movements over said siding be protected by a flagman.
5. That train movements over said siding do not exceed a speed of six miles per hour.

Dated April 21st, 1914.

In the Matter of the Application of the Public Service
Railroad Company for Permission to Lay an Ad-
ditional Track at Grade in West Windsor Town-
ship, Mercer County, Across Rabbit Hill Road. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Public Service Railroad Company, by petition in writing, for permission to construct an additional track at grade across Rabbit Hill Road, in the Township of West Windsor, Mercer County, New Jersey, as shown on map attached to said petition, which map and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said track subject to the following conditions:

1. That the grade of Rabbit Hill Road remain as at present.
2. That the crossing be planked to conform with the track constructed.

Dated April 28th, 1914.

In the Matter of the Application of the West Jersey
and Seashore Railroad Company for Permission
to Lay an Additional Temporary Construction
Track at Grade Over Certain Streets in the City
of Camden. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in

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writing, for permission to lay an additional temporary construction track at grade across Walnut Street, Mount Vernon Street, Chestnut Street, Sycamore Street, Kaighn Avenue, Liberty Street, Mechanic Street, Atlantic Street, Lemon Street and Pear Street, in the City of Camden, said application being accompanied by a blueprint showing more particularly the location of said proposed crossings, which blueprint and petition are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the construction of said temporary grade crossings, for a period of one year, upon condition that all train movements over said track across said streets and avenue, be protected by a flagman.

Dated April 28th, 1914.

In the Matter of the Application of the Standard Oil Company for Permission to Construct a Siding at Grade from Tracks of the Erie Railroad Company Across West Railroad Avenue and Michigan Avenues, in the City of Paterson. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners, by the Standard Oil Company, by petition in writing, for permission to construct a siding at grade from tracks of the Erie Railroad Company across West Railroad Avenue and Michigan Avenue, Paterson, to connect with the plant of the Standard Oil Company, as shown by blueprint dated November 1st, 1913, annexed to said petition, which blueprint and petition are, by reference thereto herein made part hereof, said application being also accompanied by a copy of an ordinance of the Board of Public Works of the City of Paterson approved September 6th, 1911, regulating railroad crossings, and a letter from the Clerk of the City of Paterson, advising of motion (adopted by the Board of Public Works at a meeting held March 3d, 1914) that the petition of the Standard Oil Company for a railroad switch into its property on West Railroad Avenue be granted, the work to be done in accordance with existing city ordinances, and the petitioner having submitted a letter from the railroad company stating that the location of the siding as shown on said plan has the approval of the Erie Railroad Company,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said siding at grade across said West Railroad Avenue and Michigan Avenue, subject to the following conditions:

1. That the track be laid in accordance with the plans submitted.
2. That the crossing on West Railroad Avenue be planked not less than 32 feet in width.
3. That the crossing on Michigan Avenue be planked not less than 16 feet in width.
4. That all train movements over both Avenues be protected by a flagman.
5. That train movements over said siding do not exceed a speed of six miles per hour.

Dated May 5th, 1914.

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In the Matter of the Application of the West Jersey and Seashore Railroad Company for Permission to Construct a Siding at Grade Across Main Road, North of Absecon, to Reach Lands of the Absecon Sand and Gravel Company. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a siding at grade across Main Road, leading from Absecon to Egg Harbor, Atlantic County, to reach lands of the Absecon Sand and Gravel Company, said application being accompanied by a certified copy of a Resolution of the Board of Chosen Freeholders of Atlantic County, adopted January 14th, 1914, granting permission for the construction of said siding,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES of the construction of said siding at grade as prayed for in said petition, subject to the conditions contained in said Resolution of the Board of Freeholders of Atlantic County, and subject further to the following conditons:

1. That the crossing be planked the full width of the road, the top of rail to be even with the road.
 2. That standard crossing signs be erected.
 3. That all train movements over the crossing be protected by a flagman.
 4. That train movements over said siding do not exceed a speed of six miles per hour.
 5. That train movements be restricted to two each day, one in and one out.
- Dated May 15th, 1914.

In the Matter of the Application of the Passaic Valley Sewerage Commissioners for Permission to Construct a Siding at Grade Across Avenue R, in the City of Newark, to connect with Tracks of the Bay Shore Connecting Railroad. } CERTIFICATE.

Application having been made by the Passaic Valley Sewerage Commissioners, by petition in writing, to the Board of Public Utility Commissioners for permission to construct a siding at grade across Avenue R, in the City of Newark, about three hundred feet southwesterly from Doremus Avenue, to connect with tracks of the Bay Shore Connecting Railroad, and to be located as indicated on a blueprint No. B 1770, attached to said petition, which blueprint and petition are, by reference thereto herein, made part hereof, and the petitioner having submitted a certified copy of a resolution of the Board of Street and Water Commissioners of the City of Newark, adopted April 16th, 1914, and approved by the Mayor April 17th, 1914, granting consent for the construction and operation of said siding,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said siding at grade, as prayed for in said petition, subject to the conditions contained in said resolution, and subject further to the following conditions:

1. That train movements over said siding do not exceed a speed of six miles per hour.

2. That crossing signs be erected.

Dated May 19th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Construct a Siding at Grade Across Morris Avenue, Harrison. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for permission to construct a siding at grade across Morris Avenue, in the Town of Harrison, Hudson County, to reach the lands of the H. J. Heinz Company, said application being accompanied by a blueprint showing more particularly the location of said siding, which petition and blueprint are, by reference thereto herein made part hereof and said application being also accompanied by certified copy of resolution of the Common Council of the Town of Harrison, adopted March 3d, 1914, granting permission for the construction of said siding,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES of the construction of said siding at grade, subject to the following conditions:

1. That standard crossing signs be erected.

2. That all train movements over said crossing be protected by a flagman.

3. That train movements over said crossing do not exceed a speed of six miles per hour.

4. That the crossing be constructed as nearly on a level with the present grade of the street as conditions will permit.

Dated May 26th, 1914.

In the Matter of the Application of Thomas H. Thropp for Permission to Construct a Crossing at Grade Over Tracks of the East Trenton Railroad in Lawrence Township, Mercer County. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by Thomas H. Thropp, by petition in writing, for permission to construct a crossing at grade over tracks of the East Trenton Railroad in the Township of Lawrence, Mercer County, New Jersey, to reach New York Avenue in the City of Trenton, said application having been accompanied by a blueprint, showing more particularly the location of said siding, which blueprint is by reference thereto herein made part hereof,

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The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the construction of said crossing at grade, subject to the following conditions:

1. That standard crossing signs be erected.
2. That train movements over said crossing do not exceed a speed of ten miles per hour.

Dated May 26th, 1914.

In the Matter of the Application of the Borough of
Beach Haven for Permission to Construct Ninth
Street at Grade Across Tracks of the Philadel-
phia and Beach Haven Railroad, in the Borough
of Beach Haven. } **CERTIFICATE.**

Application having been made by the Borough of Beach Haven for permission to construct Ninth Street at grade across tracks of the Philadelphia and Beach Haven Railroad, said application being accompanied by a tracing showing more particularly the location of said crossing, which petition and tracing are by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of a temporary crossing at Ninth Street in the Borough of Beach Haven, to be used from June 1st, 1914, to October 1st, 1914, subject to the following conditions:

- 1 That the crossing be removed on October 1st, 1914.
2. That the company erect standard crossing signs marked "Private Crossing."
3. That, on approaching this crossing, the same signals be given by trains of the railroad company as at all other crossings.

Dated May 26th, 1914.

In the Matter of the Application of the Atlantic City
Railroad Company for Permission to Extend Sid-
ing Across Public Highway Known as Evesham
Road, at Glendora Station. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Atlantic City Railroad Company for permission to extend its present car-load delivery siding across the public highway known as Evesham Road, at Glendora Station, Camden County, New Jersey, said application being accompanied by a blueprint showing more particularly the location of said siding, which blueprint and petition are, by reference thereto herein, made part hereof; said application being also accompanied by a certified copy of Resolution adopted by the Township Committee of Gloucester May 4th, 1914, granting permission for the extension of said siding across said public road,

The Board of Public Utility Commissioners, after investigation and due hearing, no reason to the contrary appearing,

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HEREBY GRANTS permission for the extension of said siding at grade across said public road, subject to the following conditions:

1. That all movements over the siding be protected by a flagman.
2. That train movements over said siding do not exceed a speed of six miles per hour.

Dated June 9th, 1914.

In the Matter of the Application of P. S. Van Kirk
for Permission to Construct a Siding at Grade
from Tracks of the New York, Susquehanna and
Western Railroad Company Across Twenty-first
Avenue and Forty-second Street, in the City of
Paterson, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners, by petition in writing, by P. S. VanKirk, for permission to construct siding, at grade, across Twenty-first Avenue and Forty-second Street, in the City of Paterson, from tracks of the New York, Susquehanna and Western Railroad Company, to reach Wolff Brothers Mill Building, in accordance with blueprint annexed to said petition, which blueprint and said petition by reference thereto herein are made part hereof, said application being also accompanied by a letter from the City Clerk of Paterson, containing abstract from minutes of meeting of the Board of Public Works of March 3d, 1914, granting permission for the construction of said siding,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY GRANTS consent to the construction of said siding, at grade, as prayed for in said petition, subject to the following conditions:

1. That crossings at Twenty-first Avenue and Forty-second Street be properly planked, so that wagons may pass over same.
2. That all train movements over said crossings be protected by a flagman.
3. That speed of train movements over said crossings does not exceed six miles per hour.

Dated June 23d, 1914.

In the Matter of the Application of the Borough of
Roosevelt for Permission to Extend Certain
Street in Said Borough at Grade Across the
Tracks of the New Jersey Terminal Railroad. }

The Borough of Roosevelt, by petition in writing, made application to the Board for permission to extend Atlantic, Bryant, Emerson and High Streets at grade across the tracks of the New Jersey Terminal Railroad (operated by the Central Railroad Company of New Jersey).

The Board filed a report dated July 6th, 1914, reviewing conditions involved and stating its conclusions. This report will be published in full in Volume II of reports of decisions. The report stated *inter alia* that the railroad at this point consists of a single track over which four movements

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are made per week, none being passenger trains. The tracks run through the Borough, practically cutting it in two parts, there being but one crossing over the railroad, at Woodbridge Avenue.

The Borough has a population of about 8,000 persons and is growing rapidly. From the testimony adduced at the hearing the Board was convinced that great inconvenience was suffered by the people of the Borough by reason of the location of the track and the existence of but one crossing.

With respect to High Street the Board found that it was located but one hundred feet from the present crossing and also that if extended it would pass over a switch, leaving the frog of the switch in the middle of the street, which would be a source of danger. Permission was therefore denied with respect to High Street. Permission was granted for the extension of Atlantic, Bryant and Emerson Streets.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Lay at Grade a Spur Track or Siding Across Railroad Avenue to Property of the Hyatt Roller Bearing Company, in the Town of Harrison, Hudson County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for permission to construct and lay at grade, a spur track or siding across Railroad Avenue to property of the Hyatt Roller Bearing Company, in the Town of Harrison, County of Hudson and State of New Jersey, to be located as shown on a blueprint annexed to said petition, which blueprint and petition by reference thereto herein are made part hereof, said petition being accompanied by a certified copy of resolution of the Common Council of the Town of Harrison, adopted Tuesday, November 11th, 1913, granting permission for the construction of said siding at grade,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said spur or siding, at grade, as prayed for in said petition, subject to the conditions contained in said resolution, and also subject to the following conditions:

1. That the crossing at Railroad Avenue be planked its full width.
2. That all train movements over said crossing be protected by a flagman.
3. That speed of train movements over said crossing does not exceed six miles per hour.

Dated June 23d, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company (Operating the New York Bay Railroad) for Permission to Lay at Grade a Spur Track or Siding Across Belmont Avenue to Property of the Aluminum Goods Manufacturing Company, in the City of Newark, Essex County, New Jersey. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company (operating the New York Bay Railroad), by petition in writing, for permission to construct and lay, at grade, a spur track or siding across Belmont Avenue, to reach the lands of the Aluminum Goods Manufacturing Company, in the City of Newark, County of Essex and State of New Jersey, to be located as shown on blueprint annexed to said petition, which blueprint and petition by reference thereto herein are made part hereof, said petition being accompanied by a certified copy of ordinance of the City of Newark adopted by the Board of Street and Water Commissioners May 28th, 1914, approved by the Mayor June 1st, 1914, granting permission for the construction of said siding at grade,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said spur or siding, at grade, as prayed for in said petition, subject to the following conditions:

1. That the crossing on Belmont Avenue conform with the one as now laid on the main track.
2. That all train movements over said crossing be protected by a flagman.
3. That speed of train movements over said crossing does not exceed six miles per hour.

Dated June 23d, 1914.

In the Matter of the Application of the Elizabeth and Trenton Railroad Company and the Public Service Railroad Company for Authority to Construct Connecting Tracks Between the Tracks of Said Companies and Tracks of the Public Service Railway Company in Woodbridge Road, in the Road Leading from Woodbridge to Rahway. } **CERTIFICATE.**

Application being made to the Board of Public Utility Commissioners by the Elizabeth and Trenton Railroad Company and the Public Service Railroad Company, by petition in writing, dated May thirteenth, one thousand nine hundred and fourteen, for authority to construct connecting tracks between tracks of the petitioners and tracks of the Public Service Railway Company in Woodbridge Road, in the road leading from Woodbridge to Rahway, in the County of Middlesex, as set forth in said petition and the blueprint annexed thereto, which blueprint and petition by reference thereto herein are made part hereof,

The said Board, after hearing and investigation, HEREBY GRANTS permission for the construction of said track at grade across Woodbridge Avenue, in accordance with the plan filed by the company.

Dated July 2d, 1914.

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In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Construct a Siding Track at Grade Across Green Street, Jersey City, to Provide Shipping Facilities for Colgate & Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for permission to construct and lay at grade a siding or spur track across Green Street at the intersection of Green and Grand Streets, Jersey City, to provide shipping facilities for Colgate & Company, to be located as shown on a blueprint annexed to said petition, which blueprint and petition, by reference thereto herein are made part hereof, and a certified copy of an ordinance of the Board of Commissioners of the City of Jersey City, passed July thirtieth, nineteen hundred and fourteen, granting permission for the construction of said siding at grade having been filed with said Board of Public Utility Commissioners,

The said Board, after hearing and investigation, no reason to the contrary appearing,

HEREBY GRANTS permission for the construction of said siding or spur track at grade as prayed for in said petition, subject to the conditions contained in said ordinance, and also subject to the following conditions:

1. That all train movements over said crossing be protected by a flagman.
2. That train movements over said crossing do not exceed a speed of six miles per hour.

Dated August 17th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Construct a Siding Track at Grade Across Hudson Street, Jersey City, to Provide Shipping Facilities for Colgate & Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for permission to construct and lay at grade a siding or spur track across Hudson Street at the intersection of Hudson and Sussex Streets, Jersey City, to provide shipping facilities for Colgate & Company, to be located as shown on a blueprint annexed to said petition, which blueprint and petition by reference thereto herein are made part hereof, and a certified copy of an ordinance of the Board of Commissioners of the City of Jersey City, passed July thirtieth, nineteen hundred and fourteen, granting permission for the construction of said siding at grade having been filed with said Board of Public Utility Commissioners,

The said Board, after hearing and investigation, no reason to the contrary appearing,

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HEREBY GRANTS permission for the construction of said siding or spur track at grade, as prayed for in said petition, subject to the conditions contained in said ordinance and also subject to the following conditions:

1. That all train movements over said crossing be protected by a flagman.
2. That train movements over said crossing do not exceed a speed of six miles per hour.

Dated August 17th, 1914.

In the Matter of the Application of the Board of Commissioners of the Village of Ridgewood for Permission to Construct a Highway at Grade Over the Tracks of the North Jersey Rapid Transit Company. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Board of Commissioners of the Village of Ridgewood, by petition in writing, for permission to construct a highway (known as North Irving Street), at grade over the tracks of the North Jersey Rapid Transit Company, in the Village of Ridgewood, New Jersey, said highway to be constructed on the same angle as the street, said application having been accompanied by a blueprint showing more particularly the location of the crossing, which petition and blueprint and amended petition and blueprint are, by reference thereto herein, made part hereof,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

HEREBY APPROVES the construction of said highway at grade, subject to the following conditions:

1. That a standard crossing sign be erected.
2. That the crossing be planked the entire width of the street, including the sidewalk.

Dated September 8th, 1914.

In the Matter of the Application of the Delaware, Lackawanna and Western Railroad Company for Permission to Lay a Temporary Construction or Spoil Track in the Borough of Madison, Crossing Sampson Avenue at Grade. } CERTIFICATE.

Application having been made to the Board of Public Utility Commissioners by the Delaware, Lackawanna and Western Railroad Company, for permission to lay a temporary construction or spoil track in the Borough of Madison, crossing Sampson Avenue, at grade, as shown upon blueprint annexed to said petition, which blueprint and petition are, by reference thereto herein made part hereof,

The Board of Public Utility Commissioners, after hearing and investigation,

HEREBY APPROVES the installation of said construction track, for a period of two months, upon the following conditions:

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1. That the track cross said Sampson Avenue at the present grade.
2. That the crossing be planked the full width of the roadway.
3. That standard crossing signs be erected at said crossing.
4. That all movements over said crossing be protected.
5. That train movements over said crossing do not exceed the speed of ten miles per hour.

Dated September 22d, 1914.

In the Matter of the Application of the West Jersey and Seashore Railroad Company for Permission to Construct a Temporary Footwalk at Grade Across the Tracks of Its Cooper's Point Branch at Camden. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a temporary footwalk, at grade, across the tracks of its Cooper's Point Branch, between Ninth and Market Streets, in the City of Camden, to connect the plants of the R. M. Hollingshead Company, located on opposite sides of the tracks of said Cooper's Point Branch,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES of the construction of said temporary footwalk at grade, as prayed for in said petition, for a period of one year from date, subject to the following conditions:

1. That a warning sign be erected, reading "Private Crossing."
2. That the engine bell continue ringing between Ninth and Market Streets.

Dated November 17th, 1914.

In the Matter of the Application of the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, for Permission to Construct a Siding at Grade Across Railroad Avenue, Harrison. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the United New Jersey Railroad and Canal Company, Pennsylvania Railroad Company, Lessee, by petition in writing, for permission to construct a siding at grade across Railroad Avenue, in the Town of Harrison, Hudson County, New Jersey, to reach the lands of the Hyatt Roller Bearing Company, which siding is to take the place of the present siding, which will be removed, said application being accompanied by a blueprint showing more particularly the location of said siding, which blueprint and petition are by reference thereto herein made part hereof, and said application being also accompanied by certified copy of resolution of the Common Council of the Town of Harrison, adopted September 1st, 1914, granting permission for the construction of said siding,

The Board of Public Utility Commissioners, after investigation and hearing, no reason to the contrary appearing,

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HEREBY APPROVES of the construction of said siding at grade, subject to the conditions contained in resolution of the Town of Harrison, and also subject to the following conditions:

1. That the track now laid will be taken up and the street left in the same condition as before the track was laid.
2. That the crossing for the proposed track be planked inside and outside of the rails, and made to conform with the street as now laid.

Dated November 24th, 1914.

In the Matter of the Application of the West Jersey and Seashore Railroad Company for Permission to Construct a Siding at Grade Across Railroad Avenue, Lake Avenue and Crown Point Road, to Reach the Lands of the Joseph Campbell Company, South Westville, Gloucester County, New Jersey. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the West Jersey and Seashore Railroad Company, by petition in writing, for permission to construct a spur track or siding, at grade, across Railroad Avenue, Lake Avenue and Crown Point Road, to reach the lands of the Joseph Campbell Company at South Westville, County of Gloucester, State of New Jersey, as shown by blueprint accompanying said petition, which blueprint and petition are, by reference thereto herein made part hereof, said application being also accompanied by a certified copy of ordinance passed by the Board of Chosen Freeholders of the County of Gloucester, granting permission for the construction of said siding, subject to certain conditions,

The Board of Public Utility Commissioners, after hearing and investigation,

HEREBY GRANTS permission for the construction of said siding, subject to the conditions contained in said ordinance and subject further to the following conditions:

1. That the crossing at Crown Point Road be improved its full width to conform with the road as now laid.
2. That a standard crossing sign be erected.
3. That all train movements over the crossing be protected by a flagman.
4. That the speed of all trains be reduced to six miles per hour.
5. That the streets not opened be planked when opened.

Dated December 21st, 1914.

In the Matter of the Application of the Pennsylvania Railroad Company for Permission to Construct a Temporary Crossing at Grade Over the Tracks of Said Company at Twenty-fourth Street, in the City of Camden. } CERTIFICATE.

Application being made to the Board of Public Utility Commissioners by the Pennsylvania Railroad Company, by petition in writing, for permission to construct a temporary crossing, at grade, over the tracks of said com-

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pany, at Twenty-fourth Street, in the City of Camden, during the rebuilding of the bridge at Twenty-seventh Street, said application being accompanied by a blueprint showing more particularly the location of said proposed crossing, and also by copy of resolution adopted by the Committee on Streets and Highways of the City Council of Camden, granting permission for the construction of said crossing, at grade,

The Board of Public Utility Commissioners, after hearing and investigation, no reason to the contrary appearing,

HEREBY APPROVES the construction of said temporary grade crossing, for a period of ninety days, subject to the following conditions:

1. That standard crossing signs be placed on each side of track.
2. That the crossing be protected by a flagman both night and day.

Dated December 21st, 1914.

Inspection of Railroads.

The following are from reports of inspectors on inspections of railroads:

ATLANTIC CITY RAILROAD.

Main Line.

This road extends from Kaighns' Point to Atlantic City, a distance of fifty-five and five-tenths miles.

It is double track, ballasted with stone, with the exception of that part between Pleasantville and Atlantic City, which is ballasted with cinders. The tracks are laid with 90 pound rail, and are in first-class condition.

Nine hundred and ninety-nine tons of 90 pound rail have been placed in track since last inspection.

Bridges.

Bridge No. 3 is having a new deck placed on both tracks. The walls are shored, and no appreciable movement has taken place; the shoring is all in good condition.

The seven bridges, Nos. 9 to 15, on the meadows south of Pleasantville, are being overhauled; considerable poor timber was noted in them and in the timber bulkheads. No. 11, a through plate girder, is having new abutments and deck. No. 12 is now a concrete box, having replaced a wooden trestle.

Material is on hand for rebuilding No. 15 as a wooden trestle, the bents of which are in very poor condition. As work is about ready to start at this bridge, no recommendations are considered necessary. The bent under center of No. 10 is also marked for renewal, and new stringers are framed ready for placing in the bridge. Extensive repairs are to be made to the others before the summer schedule goes into effect on June 21st.

The drawbridge over Beach Thorofare and the other bridges on the line are in good condition.

On the Mississippi Avenue Branch in Atlantic City, the one bridge—a small wooden trestle—has been filled in, having been replaced with a 30-inch cast iron pipe.

On the Baltic Avenue Branch, also in Atlantic City, there are no bridges.

Gloucester Branch.

This branch extends from Gloucester Junction to Greenloch, a distance of eleven miles.

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It is single track, ballasted with gravel and cinders. It is laid with 90, 80 and 76 pound rail.

The track has been well maintained, and is in good condition.

Bridges.

The wooden trestles on this branch are gradually being replaced with permanent structures.

No. 3 was replaced with a concrete culvert this year.

No. 6 is expected to be reached in 1915, and No. 7 in 1916; meanwhile, they are maintained in safe condition for the traffic. It is expected that No. 8 will be renewed in 1914. No. 1, a wooden trestle, has material on hand for general renewals which are shortly to be made.

When this work is done, the remaining bridges will be in good condition.

Williamstown Branch.

This Branch extends from Williamstown Junction to Mullica Hill, a distance of nineteen and seven-tenths miles. It is single track, ballasted with gravel and cinders. The track is laid with 90, 80, 79 and 70 pound rail. Forty-three tons of 90; one hundred tons ninety-five have been laid since last inspection replacing 70 pound. One hundred and six tons of 79 and fifty-four tons of 90 will still be laid this year.

The track has been well maintained, and is in good safe condition.

Bridges.

Between Williamstown Junction and Mullica Hill, there are three bridges, all of them wooden trestles.

No. 3, at Mullica Hill, has recently been put in good repair.

Nos. 1 and 2, near Williamstown Junction, have material delivered at the site for making necessary repairs, which will soon be done, putting them in good condition.

Between Williamstown Junction and Atco there are no bridges.

Cape May Division.

This Division extends from Winslow Junction to Cape May, a distance of fifty-four and two-tenths miles.

It is double track to Woodbine Junction, single from there to Cape May, twenty-two and five-tenths miles. The track is ballasted with cinders, laid with 90 pound rail, and has been well maintained. It is in first-class condition.

Bridges.

No. 6, the Tuckahoe Drawbridge, is having a new dock of creosoted timber placed on it.

The other bridges on the branch are in fair to good condition, except No. 7, the ties at the south end of which are in poor condition, and the bridge needs a thorough cleaning.

On the Harbor Branch, in Cape May, there are no bridges.

Recommendation.

Bridge 7: Renew defective ties at south run-off, and clean bridge and bridge seats.

Sea Isle City Branch.

This Branch extends from Tuckahoe to Sea Isle City, a distance of twelve and one-tenth miles. It is single track, ballasted with gravel and cinders, laid with 90, 79 and 70 pound rail. One hundred and ninety-ton of 90 pound and fifty-eight ton of 79 pound replacing 80 pound have been laid since last inspection.

The track is in good condition between Tuckahoe and Ocean City Junction; fair to good between Ocean City Junction and Seaville; and only fair between Seaville and Sea Isle City. The high tides coming over it make it hard to maintain.

While it is reasonably safe for the traffic and rate of speed, it needs a large amount of cinders to raise it above high tide. Four trains for nine months and eight for three. Maximum speed for passenger trains 30 miles; freight 20 miles per hour.

Recommendation.

That track be raised between Seaville and Sea Isle City as fast as conditions will permit.

Bridges.

The bridges on this branch are at the present time only in fair condition, but they are being repaired in order to place them in safe condition for the summer traffic.

Material for repairing No. 1 is at the site, and will be put in the bridge within one month. Repairs will soon be made to No. 2. No. 3 has recently been repaired. At Ben Hands (No. 4) a new draw is being built; foundation work is partly completed, but the steel for the draw has not yet been delivered.

At No. 5, the recommendations made last year have been carried out. The wooden A-frame drawspan is to be replaced in 1915 with a steel drawspan. Many of the stringers and ties are in poor condition; they are to receive temporary repairs sufficient to carry the traffic safely this year, and the entire bridge is to be rebuilt next year. It may be feasible to eliminate about 500 feet of the center part of this trestle, where it crosses a low island, by filling.

As the work outlined for the bridge is sufficient to carry the traffic for the coming year, no recommendations are made.

Ocean City Branch.

This Branch extends from Ocean City Junction to Ocean City, a distance of ten and three-tenths miles. It is single track, ballasted with gravel and cinders. It is laid with 80 and 90 pound rail. Seventy-two tons of 90 pound rail have been laid since last inspection.

The track has been well maintained, and is in good condition. New interlocking signals are now being installed at Ocean City for the protection of the West Jersey and Seashore Railroad, the Atlantic City and Shore Line, and the Atlantic City Railroad. This is done upon recommendation of your Board.

Bridges.

Bridge No. 2 has been shortened from 33 to 18 spans, and has had new ties and a thorough overhauling, and is now in good condition.

No. 4 is only in fair condition, but material is on the ground for making renewals which will be completed before the summer traffic opens.
No. 5 is a wooden trestle in fair condition.
The other bridges are in good condition.

BALTIMORE & NEW YORK RAILROAD.

This road extends in New Jersey from the Arthur Van Kull bridge to Cranford, a distance of five and two-tenths miles.

There is one and ⁸⁵/₁₀₀ths double track, balance single. The track is laid with 85 pound rail, ballasted with stone.

Everything has been done in the way of maintenance to keep the track in safe condition for the traffic. It is used for freight purposes only.

Recommendation.

That not less than 3,000 ties be placed in track this year.

Bridges.

A great deal of work has been done on this line during the past year to maintain it in safe condition. The large drawbridge at Arthur Kill has been thoroughly overhauled, seven pins at the outer end of each truss, 28 in all, have been replaced with new pins, increasing their diameter from 4⁷/₈ inches to 6 inches. Two new diagonal bars have been placed in the second panel from the ends of each truss, replacing the old bars which were badly out of adjustment. Two new vertical posts, the second from the ends of each truss have also been renewed, so that the bridge is now in very good condition. At the same time, the restriction for loading remains the same as it was before.

About 350 feet of the large wooden trestle through Elizabeth has been filled since last inspection, adding considerably to its stability. The bridge over Stephenson's Siding remains as it was before; it is maintained temporarily in safe condition. Repair work is being continued on the trestle, insuring its safety for operation until negotiations for its complete renewal, or filling are completed.

All metal bridges on the line have been painted, and both substructure and superstructure are in first-class condition, except where a little pointing is necessary on the piers of the Arthur Kill bridge.

The small culverts and drain pipes under the track have not been cleaned out for some time and are somewhat choked by debris; these are to be cleaned in a few days, so that no recommendation concerning them is necessary. The recommendations made last year are therefore receiving attention, and have been carried out as far as possible up to the present time.

Recommendation.

Point masonry piers of Arthur Kill bridge.

BARNEGAT RAILROAD.

This road extends from Barnegat City to Barnegat City Junction, a distance of 8.7 miles. It is single track, ballasted with sand and cinders. The track is laid with 60 pound rail, and although this is in poor condition, it is reasonably safe for the traffic, as only four trains are run each day during the summer, and two trains three times each week for the balance of the year. Maximum speed is twenty-five miles for passenger trains, and twenty-miles for freight.

Bridges.

In last year's report, attention was called to the depreciated condition of the bridges. Since last year's inspection, conditions have become worse, but are not considered dangerous. The stringers are sap rotted in some places as much as 4 inches, and several piles of Bridge No. 9 are so badly depreciated that they will have to be renewed.

Recommendation.

Bridge No. 9—Renew bad piling in bents No. 2 and No. 3 by January 1st, 1915.

CENTRAL RAILROAD OF NEW JERSEY.

Main Line.

This line extends from Jersey City to Phillipsburg, a distance of seventy-two and two-tenths miles. There are four tracks from Jersey City to Bound Brook Junction, two from Bound Brook Junction to Phillipsburg, ballasted with stone, all laid with 100 pound rail. The track has been well maintained, and is in first-class condition.

A new station with waiting room on opposite side, with an intertrack fence and a connecting overhead foot bridge, has been built at Aldene.

The passenger station at Jersey City has been practically rebuilt with a connecting train shed of the Bush pattern with twenty tracks with ample wide platforms for incoming and outgoing trains.

It is, in my judgment, the finest equipped in the State, and fully sufficient to handle the traffic.

Bridges.

The bridges on this line are all in fair to good condition. Undergrade bridge No. 409, over Morris Canal, has poor masonry abutments. A detailed inspection and report will later be made on this bridge. The roadway is being lowered under the bridge at High Bridge Station, to give more under clearance for teams. Concrete covering on overhead bridge carrying Hudson County Boulevard is cracking near bearings, but the condition is not such at the present time as to endanger the safety of the structure.

Between High Bridge and Phillipsburg, the bridges were examined in detail by Inspector Wean of this office, who *recommends* the following work to be done to maintain the structures in good condition:

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No. 52.89—Repair poor post in bent at south side of track.

No. 66.51—The west end of south abutment is cracking and is apparently moving toward the track. The south end shoes now set about one-half on wall plate. They should be adjusted to better bearing, and wall frequently inspected to check its movement.

No. 66.90—Repair or renew timber in bents and floor joints. Take sag out of center span.

No. 67.97—Renew poor stringers.

No. 70.09—Repair masonry for about 6 feet along barrel of arch about 30 feet in from north end where stones are breaking and falling out.

No. 71.72—Was reported in poor condition at bearings of plate girders on posts. They have since been repaired.

Delaware River—Cut out and redrive loose rivets, particularly in stringer laterals; repair broken clip angles and adjust bottom lateral rods for tension. The broken angles are the top angle of north post at east end of second span, and the top connection angle on the north side of the west end of the west span. The latter angle is broken 5 inches. Rivets here are loose also. Rivets are loose in stringer connection to first post mentioned above. A number of rivets are loose in the bottom connection of top lateral struts. Center pins in top chord are turning. Inspect them for loose pin nuts.

Newark and New York Branch.

This Branch extends from Communipaw to Newark, a distance of seven and one-tenth miles.

It is double track laid with 100 pound rail, ballasted with stone. The track is in first-class condition.

A transfer shed has been erected just west of Passaic River for the purpose of transferring passengers for Newark from Harrisburg, Philadelphia and the seashore trains.

Bridges.

Bridges are in good condition, except as noted.

Bridge No. 168—The masonry is showing signs of disintegration, stones being broken and cracked and pointing loose. New stones should be provided where found necessary, and loose and open joints pointed.

Bridges No. 170 and No. 172 are badly rusted underneath, and should be painted. On Bridge No. 195 the joints in masonry are loosening up, and should be pointed.

Recommendations.

Bridge No. 168—Provide new stones under bridge seats to replace broken stones, and point masonry by January 1st, 1915.

Paint under sides of bridges No. 170 and No. 172.

Point masonry of Bridge No. 195.

Newark and Elizabeth Branch—Bridges.

There are four timber trestles on this branch maintained in fair to good condition. On all of them the timber is beginning to show sap rot and becoming somewhat soft, although none are as yet in a condition which could be called dangerous.

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Fire has occurred on bridges No. 206 and No. 207, and repairs have been made in a proper manner.

The approaches to bridges No. 205 and No. 207 are both low, and the track should be surfaced at these points.

Recommendation.

Place track in good surface at both ends of bridges No. 205 and No. 207.

Elizabethport & Perth Amboy Branch.

This Branch extends from Elizabethport to Perth Amboy, a distance of eleven and six-tenths miles.

It is double track, ballasted with stone laid with 100 pound rail, and is in first-class condition.

Bridges.

There are three drawbridges on this branch.

No. 209, over the Elizabeth River, is a new Scherzer Rolling Lift Bridge.

Nos. 214 and 217 are both through plate girder swing bridges, having old masonry. Some of the lower courses were noted to be somewhat open; they should be pointed.

Otherwise the bridges on this branch are in good condition.

Recommendation.

Point masonry on bridges No. 214 and No. 217.

Sound Shore Branch.

This Branch extends from Elizabethport to Chrome, a distance of seven miles.

It is single track, ballasted with gravel and cinders.

The track is laid with 80 pound rail.

There is a large number of ties distributed on ground on the east end of branch, which are now being placed in track, which will keep it in good safe condition.

Bridges.

There are eleven bridges on this branch, all of them being pile and timber trestles, except one which is a concrete covered I-beam span, one a through plate girder draw span over Rahway River, and one a deck plate girder draw span over Pyle's Creek.

The bridges are all in good condition, having been recently repaired and strengthened for 126.0 ton engines.

South Branch.

This Branch extends from Somerville to Flemington, a distance of fifteen and five-tenths miles.

It is single track, laid with 85 and 90 pound rail, ballasted with gravel and cinders.

The track has been well maintained, and is in good condition.

Bridges.

The bridges on this branch are in fair to good condition.

The abutments of No. 0.83, over the Raritan River near Somerville, are old and show quite a number of cracks. Shoring is maintained in good condition on both of the abutments of the bridge, making travel safe across it.

High Bridge Branch.

This Branch extends from High Bridge to Rockaway, a distance of thirty and four-tenths miles.

It is single track, laid with 90, 80 and 76 pound rail. Five miles of 90 have been laid since last inspection, replacing the 76.

The track is ballasted with gravel and cinders. It has been well maintained and is in good safe condition for the traffic.

Bridges.

Bridges Nos. 264 and 283 have bents under them, keeping them safe for the traffic.

The other bridges on the line are in good condition.

There is one small drawbridge, No. 276, over the Morris Canal, at Dover.

Ogden Mine Branch—Bridges.

This branch was inspected as far as Calighan's. All bridges are in good condition.

Lafayette Branch.

The branch extends from Pacific Avenue to Johnson Avenue. The branch is used only for freight traffic. It is single track, laid with 70 lb., 80 lb. and 90 lb. rail, ballasted with ashes, and is in good condition except as noted.

On the curve where the branch passes underneath Lafayette Coal Trestle, cars scrape against corner of trestle. It is therefore recommended that the track be shifted over to give more clearance.

Bridges.

There is one bridge on this branch, which is in fair condition. A few defective timbers, principally stringers, were noted which should be renewed. There are two lines of 8" x 16" stringers per rail on 12½' spans. These stringers are highly stressed under the Class 1 drill engines, but not dangerously so, provided they are maintained in good condition.

Recommendation.

Renew defective timber of the one bridge on this branch.

Manufacturers' Branch.

This branch extends from the Newark & New York Branch to the Morris Canal and Plank Road, Newark, a distance of 2.91 miles. The branch is used only for freight, is single track, laid with 70 lb., 80 lb. and 90 lb. rail, ballasted with cinders, and is in good condition.

Bridges.

There are nine bridges on the branch, which are in good condition except as noted.

Bridge No. 4½ is rusted and badly in need of paint. One poor stringer was noted on Bridge No. 9 under the east rail.

Recommendations.

Scrape and paint Bridge No. 4½.
Renew defective stringer on Bridge No. 9.

West Side Connection.

This branch extends from West Side Avenue to Danforth Avenue, a distance of 0.94 miles. It is used only for freight traffic, is single track, and is laid with 70 lb., 80 lb. and 90 lb. rail, ballasted with cinders, and in good condition.

Bridges.

There are four bridges on this branch which are in fair condition except as noted.

Bridge No. 3—The lateral strut between foot of columns is so badly rusted that it should be renewed.

Recommendation.

Bridge No. 3—Renew lateral strut between foot of columns.

Bay Shore Connection.

This branch extends from Butterworth Junction to junction with Lehigh Valley R. R., a distance of 1.1 miles. The branch is used only for freight traffic. It is single track, laid with 90 lb. rail, ballasted with ashes, and is in good condition.

Bridges.

There are three wooden trestles on the branch, which are in good condition.

Hibernia Branch.

This Branch extends from Rockaway to Hibernia, a distance of four miles. It is single track, laid with 67 pound rail, ballasted with gravel and cinders. The track has been maintained in good, safe condition for the traffic.

Chester Branch.

This Branch extends from German Valley to Chester, a distance of four and twenty-five one-hundredths ($4 \frac{25}{100}$) miles.

It is single track laid with 70 and 80 pound rail, ballasted with gravel and cinders.

While the track is only in fair condition, it is safe for the traffic and speed, viz., two trains per day, maximum speed twelve miles per hour.

Bridges.

The three bridges on this branch are light, but adequate for the traffic. They are maintained in good condition.

Southern Division—Main Line.

This line extends from Red Bank to Bayside, a distance of one hundred and four and four-tenths miles.

It is single track, ballasted with gravel and cinders.

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The track is laid with 90, 85, 80, 76, 70 and 60 pound rail. The 60 pound is all laid south of Vineland.

The track has been very much improved since last inspection in the way of placing fifty-three miles of new and relaying 90 pound rail between Red Bank and Winslow Junction, taking the place of the lighter rail.

The track is in good, safe condition. The track south of Winslow Junction has also been well maintained, and is in good, safe condition for the traffic.

Automatic semaphore signals have been installed between Red Bank and Lakehurst.

Bridges.

Bridge No. 78, recommended for rebuilding in 1913, has not been attended to, but six lengths of cast iron pipe have been delivered at the site for placing under the track at this point; this is to be done this summer, and the trestle filled. Meanwhile, the trestle is considered sufficiently safe to carry for this limited time.

North of Lakewood, the bridges are in better condition than over the rest of the line, being steel and concrete structures. South of Lakewood, with the exception of the bridge at Elm Road, the bridges are all wooden trestles and are maintained in fair condition.

Bridge No. 72 is at the present time in safe condition.

Bridges Nos. 57 and 58, together with other bridges on the line noted for further inspections, have been examined in detail by Inspector Wean, who reports them in fair condition, except that the approaches on No. 58 are low and should be tamped up to bring them to good surface.

No. 55 is reported in good to fair condition. The bent under the north end has three poor piles in it, and in the fourth bent from the north end one of the posts is about one-third rotten. The stringers on this bridge should be surfaced up and repairs made to the piles in north end bent and also to cribbing, in order that the bank may be properly held up.

No. 56, the line and surface of track is poor. Four stringers were noted rotten on top face, so that $2\frac{1}{2}$ inches penetration was obtained with a bar. Eight of the piles have spaces between their heads and the under side of the cap.

Some poor ties were noted on bridge No. 82, which should be renewed.

On bridge No. 84, at Elm Road, ties are noted as poor; they should be renewed.

Bridge No. 90, at Bridgeton, 13 poor stringers were noted, the rest of them being in fair condition. Some of the transverse bracing was noted as poor and cap on bent 10 from north end is crushing at bearing. The cap on bent 14 is also soft. Track over bents, No. 6 and No. 10, is low. Piling is generally in fair condition. The bridge acts poorly under live load. There is no longitudinal bracing in the bridge and the transverse bracing extends only half-way down to the water line and is not attached to the batter piling. The bridge would be considerably stiffer if another story of transverse bracing were added underneath the present transverse bracing, carrying the system down as low as possible, and if longitudinal bracing was put in to stiffen the piles at their center point.

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On No. 89, the guard-rail block at south end is broken and the point is loose; a new casting should be placed here.

From Bridgeton to Bay Side, the small trestles are in fair condition. When renewals are necessary at Nos. 101 and 102, they could apparently be made with economy by substituting pipe for these trestles and filling in.

Recommendations.

Bridge 55: Repair bent at north end of bridge. Realign and surface track across the bridge, including the surfacing of stringers. Make repairs to cribbing at north end of bridge. Surface track at bridge approaches.

Bridge 56: Realign and surface track. Bring piles to bearing under caps and renew defective stringers.

Bridge 58: Surface track at ends of bridge.

Bridge 82: Renew defective ties.

Bridge 84: Renew defective ties.

Bridge 89: Replace broken block at guard-rail point with a new one.

Bridge 90: Renew defective stringers and transverse bracing. Continue transverse bracing down as low as possible and connect it to the batter piles as well as the plumb piles. Place longitudinal bracing in the bridge, supporting the piles near their center. Realign and surface track.

Freehold Branch.

This Branch extends from Matawan to Freehold, a distance of twelve miles.

It is single track, laid with ninety pound rail, ten miles of which has been laid since last inspection, replacing the light sixty pound, which has greatly improved the condition of this Branch. It is well ballasted with gravel and cinders, has been well maintained, and is in good safe condition.

Bridges.

Bridge No. 8¾ is soon to be replaced with cast iron pipe and filled in. The pipe has been delivered at the site for this purpose.

Bridge No. 1, at Freehold, a through plate girder span over a street, with columns on the curb line, has the columns on the north end out of plumb. The concrete should be cut out around the base of these columns, and they should be brought back into a plumb position and secured there.

The other bridges on the branch are in good condition.

Recommendation.

Bridge No. 1: Bring columns underneath this bridge into a plumb position, and secure them so.

Sea Shore Branch.

This Branch extends from Matawan to Eatontown, a distance of twenty-five and six-tenths miles. It is single track from Matawan to Atlantic Highlands; double from Atlantic Highlands to West End; single track from East Long Branch to Eatontown.

The track is laid with 70 and 85 pound rail from Matawan to Atlantic Highlands; from Atlantic Highlands to West End with 85, 76, 70 and 60;

from East Long Branch to Eatontown 70 and 60 pound rail. It is ballasted with gravel and cinders, principally cinders in good quantity.

That part of the track along the ocean, which was badly washed by the high water, is being raised and put in good condition. The breakwaters are being strengthened, which is expected will prevent a recurrence.

The track between Eatontown and East Long Branch has been much improved, and is in good condition. The whole Branch is in good safe condition.

Bridges.

Recommendations made resulting from the last annual inspection have been carried out.

No. 28 is to have a 30" pipe placed in it and the opening filled, this year.

No. 22 is a wooden trestle, in poor condition. It is to be replaced with an I-beam span, material for which is delivered at the site and will shortly be placed in track.

No. 30, a small wooden trestle in fair condition, is to have a cast iron pipe placed in it and filled, in about four weeks.

On bridges 17, 18 and 19, the wooden blocks at points of guard rails are either off entirely or are in poor condition. New blocks should be placed at these guard-rail points.

Otherwise, the bridges are in fair to good condition and safe for the traffic.

Recommendation.

Place standard blocks to protect guard rail points on bridges 17, 18 and 19.

Toms River Branch.

This branch extends from Lakehurst to Barnegat, a distance of twenty-two and two-tenths miles.

It is a single track, ballasted with gravel and cinders, laid with 70 and 66 pound rail.

The track is out of line and surface, and only in fair condition.

It is safe for the traffic and speed, viz., eight trains each day, maximum speed 30 miles per hour.

Recommendation.

That all unsound ties be replaced and the track be put in line and surface as fast as practicable.

Bridges.

Bridge No. 71 has been filled in and replaced with concrete pipe.

No. 70, a small wooden trestle, is in fair condition. It could apparently be treated the same as No. 71 when repairs are necessary at this point.

The track at the north end of No. 66 is slightly out of line and the block at south end of guard rail is broken off and the point is missing. These conditions should be rectified.

The other bridges on the line are in fair condition, the ordinary renewals being sufficient to keep them safe for the light traffic over the branch.

Recommendation.

Bridge 66: Place new casting at south end of guard rail, and realign track at north end of bridge.

DELAWARE, LACKAWANNA & WESTERN RAILROAD.

Main Line.

This Road extends from Hoboken to Denville Junction, a distance of thirty-seven and thirty-seven hundredths miles.

The tracks are laid with 80 and 91 pound rail, ballasted with stone and gravel. There are four tracks between Hoboken and Hackensack Bridge; three between Broad Street, Newark, and Fifteenth Street, Roseville; also between Highland Avenue and Milburn from Bergen Junction to Delaware Bridge via Boonton Branch, a distance of seventy-nine and fifteen-hundredths miles.

This line is laid with 80, 90, 91 and 101 pound rail. There are four tracks between Chester Junction and Port Morris Junction. The track between Bergen Junction and Netcong is ballasted with stone; from Netcong west, crushed stone, gravel and cinders. All treated ties are now being used with screw spikes. The work of elevating the tracks is now being done between Mountain Avenue and South Orange, which eliminates four highway grade crossings; also between Chatham and Madison five have been eliminated, three more under way.

The line is changed to the west for three and one-half miles between Chatham and Madison.

The new station has been completed at Morristown, also track elevation at that point. Four crossings have been eliminated and two more east of Morristown are under way.

New stations have been built at Chatham and Convent Station.

The track has been well maintained, and is in good condition. Tie renewals will be completed within the next sixty days.

Bridges.

The bridges on the line are maintained in good condition throughout. A guard-rail point that was not properly beveled off on the first bridge east of Newark is to be rectified very soon, so that no recommendation concerning it is necessary.

Bridges on grade crossing elimination are being built at several places. The work on the new bridges in connection with grade crossing elimination through South Orange is about to be started; the plant for the purpose is now being erected. East of Madison the work is well under way. Five new through plate girder bridges with ballasted floors on concrete abutments are about completed, also one pedestrian subway and one concrete arch. East of Morristown, one new overhead bridge is to be built and excavation is now in progress at that point. The new bridges through Morristown are completed, and the arch west of Morristown has been raised to the new grade line.

A small wooden highway bridge near Port Murray is soon to be rebuilt in steel encased in concrete. Five highway bridges have been rebuilt in a similar manner since the last annual inspection.

All the new bridges are excellent examples of modern practice.

Lackawanna Railroad of New Jersey.

This line extends from Port Morris Junction to Slateford Junction, a distance of twenty-eight and fifty-three hundredths miles. The track is laid with 91 and 101 pound rail, double track with 12 miles of sidings. All stone ballast, excepting over the heavy fills, same being ballasted with slag and cinders.

There is not a highway crossing at grade on this line, all being over or under.

The track and everything pertaining thereto is in first-class condition.

Bridges.

All the bridges on the line are concrete arches except the two steel plate girder bridges at Port Morris, one of which is on the wye track. Last year, an overhead concrete arch was completed west of Blairstown.

Small shrinkage cracks have appeared in the parapets, railings, and unimportant parts of the two large bridges over Paulins Kill and the Delaware River, but they are not of vital importance and do not in any way affect the stability of the structures.

All the work on this line is in first-class condition.

There are no grade crossings on the line.

Montclair Branch.

This Branch extends from Roseville Junction to Montclair, a distance of four miles. It is double track, laid with 80 and 91 pound rail, ballasted with stone and gravel.

The track is in good condition.

Bridges.

All the bridges on the line are new and are in first-class condition. The steel undergrade bridges are encased in concrete, and have received architectural treatment to harmonize with the surroundings. All have ballasted floors, except the bridge over Toneys Brook, east of Bloomfield, which is an open deck structure.

The work is standing up well, and represents modern practice in every particular.

Passaic and Delaware Branch.

This Branch extends from Summit to Gladstone, a distance of twenty-one miles.

It is single track, laid with 75 and 85 pound rail, ballasted with gravel and cinders in good quantity.

The track has been well maintained, and is in good condition.

Bridges.

All the bridges on the line have been overhauled and put in first-class condition. They are all comparatively small bridges, except the viaduct over the Passaic River. The work of painting them is now in progress and will soon be completed. A protective coating of cement and sand has been placed on the new creosoted decks to lessen the fire risk.

Chester Branch.

This Branch extends from Chester Junction to Chester, a distance of ten miles.

The track is laid with five miles of 80 and five miles of 67 pound rail, ballasted with gravel and cinders. The track is in good safe condition for the traffic.

Bridges.

Two small I-beam bridges with solid concrete floors have been completed on the line, replacing small pile trestles. There are three small open deck bridges left which could be treated in like manner when repairs may become necessary. The largest bridge on the branch is a through girder span over the Morris Canal. Superstructure is in good condition, but the old stone walls are cracking badly and the mortar has fallen out of the joints in many places. This masonry should be thoroughly overhauled, grouted, and pointed, after the loose mortar in the points has been carefully raked out. When this is done, the bridges on the branch will all be in good condition.

Recommendations.

Clean out joints in masonry on abutments of bridge 32.30, over Morris Canal, and grout and point masonry in a good and workmanlike manner.

Sussex Branch.

This Road extends from Netcong to Franklin Furnace, Branchville Junction to Branchville, a distance of thirty and five-tenths miles. It is single track.

The track is laid with 80 pound rail from Netcong to Newton, balance with 75. The track is ballasted with gravel and cinders, and is in good safe condition for the traffic.

Bridges.

Poor ties were noted on bridge No. 60.81; also one poor guard timber. They should be renewed.

The small wooden bridges between Newton and Branchville Junction have been replaced with iron pipe and concrete headwalls.

Bridge No. 63.98, over Paulins Kill, was renewed since inspection of last year.

The decks of bridges are in good condition and the steelwork is kept clean.

Recommendation.

Renew defective ties and wooden guard on bridge No. 60.81.

Bridges—Branchville Branch.

All bridges on the branch are in good condition.

The three bridges mentioned in last year's report have been rebuilt with steel girders and concrete abutments.

Hampton Branch.

This Branch extends from Washington to Hampton, a distance of four and eight-tenths miles.

It is single track, laid with one mile of 75 pound, balance 67 pound rail, ballasted with gravel and cinders.

The track is in safe condition for the traffic.

Bridges.

The work of renewing ties on the highway bridge at Changewater has been completed, and the entire bridge is now in good condition. Two other bridges, a small I-beam structure, and a small stone arch, are both maintained in good condition.

Phillipsburg Branch.

This Branch extends from Phillipsburg to Washington, a distance of thirteen and seven-tenths miles. It is single track, laid with 75 pound rail, ballasted with gravel and cinders. The track has been well maintained, and is in good safe condition.

A commodious new station has been erected at Phillipsburg to be used jointly by the Central Railroad of New Jersey and the Delaware, Lackawanna & Western Railroad.

Bridges.

A new wooden overhead highway bridge has been built east of Phillipsburg. Four small undergrade bridges have had reinforced concrete tops, as reported last year. Except for the two bridges near Stewartville, which are but three or four years old, the remaining bridges are small; all are maintained in good condition.

Bridges—Boonton Branch.

A temporary trestle is maintained in good condition west of bridge No. 2.18, for the purpose of allowing the construction of the Manhattan Sewer.

The southwest wing wall of bridge No. 2.66 is cracked and opening, but it is not of a serious nature.

Work of renewing bridge No. 7.63 with a concrete arch is now in progress.

Bridge No. 16.24 has been rebuilt with steel girders on masonry abutments.

The masonry abutments of bridge No. 21.17 are to be renewed this year.

Deck of High Bridge has been coated with a wash of cement mortar to lessen danger from fire.

All bridges are clean and both deck and steelwork in good condition.

Rockaway Branch.

This Branch extends from Denville to East Dover, a distance of three and sixty-five hundredths miles. It is single track, ballasted with gravel and cinders, laid with 80 pound rail, and is in good condition.

Bridges.

Ties on bridges Nos. 33.80 and 34.22 are in poor condition and should be renewed.

Bridge No. 35.14 has been widened and completely rebuilt.

The bridges are kept clean and are all in good condition.

Recommendation.

Renew defective ties on bridges Nos. 33.80 and 34.22.

Bridges—Warren Railroad.

Repair work east of Manunka Chunk Tunnel has been completed and a new steel bridge placed there.

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The remaining bridges on the line are in fair to good condition, all of them being small structures over highways. The largest one is a through plate girder bridge over the Morris Canal near Washington.

ERIE RAILROAD.

Main Line.

This Line extends in New Jersey from Jersey City to State line one mile west of Mahwah, a distance of thirty miles.

There are four tracks from Jersey City to Rutherford Junction, excepting over the Hackensack Bridge, where there are two. Two from Rutherford Junction to Ridgewood Junction; four from Ridgewood Junction to State line. All tracks ballasted with stone, with the exception of the two passenger tracks between Hackensack Bridge and Croxton, which are gravel. All tracks are laid with 100 pound, with the exception of the two freight tracks west of Waldwick, which are laid with 90 pound rail.

Twenty miles of new 100 pound rail have been laid and thirteen miles of stone ballast placed under track since last inspection.

The track has been well maintained, and is in good condition.

Bridges.

With the exception of some ties and timber guards, the bridges are in fair to good condition. New ties and timber guards are programmed for this year's work, also the replacing of wooden bearing with steel plates and shoes.

The recommendations made last year have all been carried out, except renewal of a few defective ties, but on completion of the authorized work programmed by the railroad company for this year, the decks of bridges will be in fair to good condition.

Bridge No. 25.44 has been repaired and is now in fair condition. Bridge No. 7.14, over Berry's Creek, is to be replaced with a reinforced concrete culvert this year. Bridge No. 28.52 is to be replaced with a 30" cast iron pipe this year.

Croxton to New York State Line.

This Division extends in New Jersey from Croxton to the New York State line, east of Tappan, a distance of twenty-one and five-tenths miles.

It is double track, ballasted with stone for a distance of eighteen miles, balance cinder and gravel.

The track is laid with 80 pound rail.

The New York, Susquehanna and Western tracks are used between Granton Junction and Croxton, two for passenger and two for freight trains. The passenger track is laid with 90 pound; the freight with 70 pound rail.

While the road is not in as good condition as when last inspected, it is safe for the traffic.

The usual force will be placed on track on July 1st, when the annual percentage of renewals will be made.

Bridges.

Bridges are kept in good condition, except as hereafter noted.

Inside guard rails have been placed on Bridges No. 8.61 and No. 18.14, as recommended last year.

Bridge No. 12.75 has been replaced with a concrete culvert.

Bridge No. 14.83.—Ten ties and one timber guard should be replaced. These are on the company's program for renewals this year.

N. J. and N. Y. Junction to State Line.

This Division extends in New Jersey from New Jersey and New York Junction to State line west of Montvale, a distance of eighteen miles. Ten miles of this road between New Jersey and New York Junction is double track, balance single.

The track is laid with 80 pound rail, eleven miles laid replacing the 70 since last inspection. Also fifteen miles of stone ballast has been placed under track since last inspection.

The track is now ballasted with stone from Montvale to Essex Street (Hackensack).

It has been well maintained, and is in good condition.

Bridges.

Bridges are kept in good condition.

Bridge No. 14.83 is blocked up at center of span to make it safe for the "Mikado" type of engines which occasionally use this branch.

Bridge No. 15.36 has been replaced with a 30-inch diameter cast iron pipe, and is being filled.

Newark Branch.

This Branch extends from Greenwood Lake Junction to Paterson Junction, a distance of sixteen miles.

There are four miles of double track, balance single.

The track is laid with 90 pound rail from Greenwood Lake Junction to one-half mile east of Harrison, balance 80 pound. Three miles of new 80 pound rail have been laid, and four miles of stone ballast have been placed under track since last inspection, which now makes six miles ballasted with stone, balance gravel and cinders.

The track has been well maintained, and is in good condition.

The station at West Nutley has been rebuilt.

Bridges.

Recommendation for renewing ties on bridge No. 7.93 has not been carried out, but they are on the company's program for renewal this year.

Bridge No. 8.04 is still in service, but restricted to slow order and H-4 engines. But one track is used at a time.

The deck on bridge No. 12.34 is to be renewed this year. Repairs are now being made to bridges No. 18.17 and No. 18.40.

The other bridges on the line are in fair to good condition.

Bergen County Branch.

This Branch extends from Rutherford Junction to Ridgewood Junction, a distance of ten miles.

It is double track, ballasted with stone, laid with 100 pound rail, and is in good condition. The west-bound track has been ballasted with stone since last inspection.

Bridges.

The bridges on this line are in good condition except as noted below.

Recommendations for renewing defective ties and guards on bridges No. 11.12, No. 11.38 and No. 13.88, have not been carried out. These bridges, together with No. 14.15, are on the company's program of work authorized for this year covering timber renewals. Inspection will be made on or about October 1st, 1914, to see that it is done.

Inside guard rails have been placed on No. 15.06 as recommended in last year's report.

Main Line—New York and Greenwood Lake Division.

This line extends from Croxton to Sterling Forest, a distance of forty-three miles.

It is double track from Croxton to Great Notch, a distance of sixteen miles, from there to Sterling Forest single. The track is laid with 80 pound rail to Ringwood Junction, and from Ringwood Junction to Sterling Forest with 90 pound rail. It is ballasted with gravel and cinders, with the exception of four miles from North Newark to Glen Ridge, which is stone.

The track has been well maintained, and is in good condition.

An overhead bridge is being built over track about one mile west of Midvale, which eliminates two highway grade crossings, one of which is dangerous.

Bridges.

Recommendations made last year have been carried out. Extensive renewals of ties, timber guards and planking are programmed all along the line for this year.

Bridge No. 7.06. Repairs have been made to this bridge—new floor and railing.

Bridge No. 10.01 should be overhauled and strengthened, as noted in the recommendations below.

Bridge No. 19.345 is to be replaced with a steel span, material for which is now at bridge site.

Bridge No. 20.08. Renewals to be made to this trestle include 4 stringers, 1 cap, 2 sills, 8 posts and 8 corbels, material for which is now at bridge site.

Bridge No. 21.56. New concrete abutments have been built replacing old wooden supports.

Bridges No. 21.72 and No. 21.76 have been partly renewed, and both trestles are now in good condition.

Bridge No. 23.10. Renewals to be made to this trestle include 3 stringers, 2 caps and 25 ties, material for which is on hand and men are working on them.

Bridge No. 23.18. The railroad company expects to renew this bridge before the close of this year.

Bridge No. 27.85. East bent is poor, but the railroad company has marked same for renewal.

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Recommendations.

Renew defective timber and plumb bents on Bridge No. 10.01.

Renew defective timber of east bent Bridge No. 27.85.

Caldwell Branch.

This Branch extends from Great Notch to Essex Fells, a distance of six miles. The track is laid with 80 pound rail, ballasted with gravel and cinders. The 80 pound rail was laid late last year, replacing the 74. In laying this rail the ties were badly cut in places. Tie renewals on this Branch should be made as early as possible. Also all unsound switch ties of which there are quite a number should be replaced.

The track is safe for the traffic.

Recommendation.

That all unsound ties be replaced as early as practicable.

Bridges.

Bridge No. 22.00, at Essex Fells, is in the same condition as when last inspected. Work of rebuilding it has not been started.

At bridge No. 18.30 the sidewalks underneath the bridge have been completed up to the bridge on both sides by the County, it being impossible to construct them under the bridge as it now exists. It is only a matter of a short time when this bridge will have to be rebuilt full width of the highway.

Bridge No. 18.20, over Peckman's Brook, is to be rebuilt this year. A detailed report has been made on it with recommendations for keeping it safe until renewed.

The remaining bridges are in good condition.

Ringwood Branch.

This Branch extends from Ringwood Junction to Ringwood, a distance of three miles.

The track is laid with 74 pound rail, ballasted with gravel and cinders, and is in safe condition for the traffic, four trains per day.

Bridges.

Considerable repairs are to be made by the railroad company to the wooden trestle on this branch. When repairs are completed, all the bridges will be in good condition.

Orange Branch.

This Branch extends from Forest Hill to West Orange, a distance of four miles.

It is single track, laid with 80 pound rail, ballasted with gravel and cinders. The track has been well maintained, and is in good condition.

Bridges.

Recommendation made last year has been carried out.

Filling has been completed at Bridge No. 10.86.

Bridge No. 10.12. At south end of bridge timber blocking and timber sill are very poor, and a few defective pieces of timber were noted.

The remaining bridges are in good condition.

Recommendation.

Renew support at south end and defective timber on Bridge No. 10.12.

LEHIGH AND HUDSON RIVER RAILROAD.

This Road extends in New Jersey from the New York and New Jersey State Line near Vernon to the Pennsylvania Railroad right of way to Belvidere including the three wyes at Belvidere, a total distance of forty-eight and fifty-nine hundredths miles. It is single track, ballasted with gravel and cinders, principally gravel.

The track is laid twelve and sixty-two hundredths miles of 100 pound rail, and thirty-five and ninety-seven hundredths miles of eighty pound rail. It has been well maintained, and is in good condition.

The new A. P. B. signals have been completed, and are taking care of the running of trains in a satisfactory manner.

Bridges.

The bridges on the line are receiving good maintenance, and when the repairs outlined for this year have been completed, they will be in good condition.

The nine bridges mentioned in report of last year for rebuilding have been completed, and the masonry repaired and put in safe condition. These bridges are designed for Cooper's E-60 loading.

Extensive repairs have been made to other bridges, in some cases amounting to almost entire rebuilding. Three box drains east of Mulford's are to have cast iron pipe substituted for them this year. Bridge No. 134, east of Long Bridge Station, is to be filled in within the next thirty days, and the two bridges on each side of this are being rebuilt at the present time as wooden trestles.

Owing to the amount of work done last year, the numerous small openings between McAfee and Vernon have not been replaced with pipe, as suggested, but they have been placed in safe condition for the traffic. The double stone box, No. 117-A, west of Sparta Junction, is to have several feet of its north end removed and rebuilt in reinforced concrete; this work to be done by November 1st, 1914. This part of the culvert is not under the track, and although it is loose now, does not in any way endanger safe operation.

LEHIGH AND NEW ENGLAND RAILROAD.

This Road extends in New Jersey from Liberty Corners to Swartswood Junction, and from Hainesburg Junction to Delaware River Bridge, a distance of twenty-three and seven-tenths miles. It is single tracks, ballasted with gravel and cinders. The track is laid with three and one-quarter miles of 80 pound rail, the balance with 60. Six miles of the 60 will be replaced with 80 within the next ninety days.

The track is improving each year, and is in safe condition for the traffic.

Bridges.

Recommendations made last year have been partly carried out, the inside guard rails being fully spiked except that in two cases on the receiving ends they should be spiked more often. Recommendation for painting is repeated, including bridge No. 71.08, although it is intended to paint them this year.

Bridge No. 61.03. The southeast wing wall is cracked, and bi-monthly inspections should be made by the company to determine if there is any progressive movement in the wall.

Bridge No. 65.28. One wood stringer is badly burnt.

Bridges Nos. 65.71 and 67.15. Inside guard rails should be spiked more often on receiving ends.

The bridges will be in good condition when painted, and the recommendations are carried out.

Recommendations.

Inspect bridge No. 61.03 once every two months to determine any movement of wing wall.

Renew wood stringer on bridge No. 65.28.

Fully spike inside guard rail at receiving ends on bridges Nos. 65.71 and 67.15.

LEHIGH VALLEY RAILROAD.

Main Line.

The line extends from Phillipsburg to Mile Post 13.14, a distance of 63.0 miles. It is all double track, used for passenger and freight traffic, and is laid with 90 lb., and 100 lb., and 110 lb. rail. Ballast is stone. There are eight miles of No. 3 and No. 4 track between Potters and New Market, seven miles of No. 3 and No. 4 track from Port Reading Tower west of Flagtown 1 mile, and 15 miles of No. 3 track from Three Bridges to Bellewood Park, and eight miles of No. 4 track from West Portal to Greensbridge. Automatic signals are used. New rail has been laid as follows:

0.23	miles,	90 lb. A
40.045	"	100 lb., and
6.11	"	110 lb.

87,648 ties, and 3,684.76 cubic yards of stone have also been placed under track this year. The track has been well maintained and is in first-class condition.

Bridges.

The bridges are maintained in first-class condition. Ties on bridges have been renewed in many places and the steel work is kept clean and well painted. Work is now being done in the way of pointing masonry, and when this is finished on bridges Nos. 18, 21 and 48, the masonry will all be in good condition.

Overhead bridge No. 45 has been renewed since last inspection.

Bridge No. 19.50, an overhead bridge of the Public Service Railway Co., was noted to be in poor condition. It will receive a thorough detailed inspection, and report will be made on it at an early date.

M. P. 13.14 East to Jersey City.

The line extends from Mile Post 13.14 to Jersey City, a distance of 13.14 miles.

West of Oak Island Junction the line is double track, is used for passenger traffic, and is ballasted with stone. East of Oak Island Junction it is double track, used for freight only, is ballasted with cinders, and laid with 80 lb. and 90 lb. rail. 28,000 ties have been placed in track this year.

The track has been well taken care of, and is in first-class condition.

Bridges.

Bridges Nos. 9, 9a and 9b are still maintained as pile trestles, and are safe for the traffic. The company, however, is considering the replacing of these bridges with more permanent structures.

Bridges Nos. 3, 3a, 3b, 5a, 5b, 5c and 5e, have new decks, and are now being cleaned and painted where needed.

Bridge No. 6, over Newark Bay, is a through truss drawbridge with pile trestle approaches, and is used jointly by the Pennsylvania R. R. and the Lehigh Valley R. R. The approaches are kept in good condition, and when the floor system of the drawbridge is painted, the entire structure will be in good condition. Painting of the floor system will be done as soon as a few minor repairs are made to the draw.

Irvington Branch.

It is all single track, used only for freight, and is laid with 76 lb., 80 lb., and 90 lb. rail. Ties are in fair condition, and ballast is cinder. The line and surface of track are fair. There are no fixed signals on the branch, trains being operated by hand signals and train orders.

Bridges.

The bridges are all maintained in good condition.

Perth Amboy Branch.

The line is double-track, used for both passenger and freight traffic, and is laid with 14.5345 miles 90 lb. rail, 2.5690 miles 80 lb. rail, 2.6685 miles 76 lb. rail, 0.56 of a mile 66 lb. rail. Tie renewals are being made in sufficient quantity to maintain track in fair to good condition. Ballast is cinders for the entire line, except through Metuchen Cut, a distance of about one

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mile, where stone ballasting is used. The line and surface of track are in fair condition. The electric automatic block signals, lighted by gas, are used on the line.

Bridges.

The bridges on this branch are maintained in fair to good condition. Three small I-beam bridges are being replaced with concrete slab tops. On some of the bridges, defects were noted as follows:

P17—Some attention should be given to pointing masonry.

P18A—At the south end, the parapet wall and ends of wing walls have begun to move from the action of frost.

P19B—The north parapet has been shoved out a little owing to the frost.

P19C—The deck on this bridge is badly worn, but new plank is unloaded at the site for the purpose of renewing the same.

P22—Three truss timbers, and the cap and sill timbers of one bent, and two posts in another bent, are poor; these poor timbers should be renewed.

P22A—The deck plank is only in fair condition, and the approach of driveway is low. New plank has been delivered at the site for making repairs to a part of the walk, and the driveway should be filled up to grade. The paint is in very poor condition on this bridge.

P23—The concrete footwalk at the end of the plank has settled from 3 to 5 inches at the south end of bridge, and there is a very steep piece of plank set in at this point to make up the difference. This condition would prove dangerous to pedestrians in slippery weather. The sidewalk should be raised to meet the same level as the floor of the bridge.

Otherwise, the bridges are in good condition.

Recommendations.

P17—Point masonry.

P18A and P19B—Repair parapet and wing walls where the stones have been moved by the action of frost.

P22—Renew defective timber in trusses, cap and sill in one bent, and two posts in another bent, where poor.

P22A—Fill approach of driveway up to grade, particularly at south end. Paint steel work.

P23—Raise concrete footwalk approaches to meet grade of walk on bridge.

Raritan Branch.

Inspection was made on August 10th, 1914. It is all single track, used for freight only, and is laid with 0.28 of a mile 67 lb. rail, and 4.88 miles 66 lb. rail. Ties are in fair condition, sufficient renewals being made to keep the track in safe condition for the light traffic over the branch. The track is ballasted with ashes the entire length. Line and surface of track are fair. There are no fixed signals on the branch, trains being operated by hand signals and train orders.

Bridges.

Bridges are in good condition on this branch, with the exception of PE20, which is in need of painting, and PE21, over a small stream, where the

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channel is filled up with sand. Bridge PEK20 was noted as beginning to get soft on the outside. Otherwise, bridges are in good condition.

Recommendations.

Scrape and paint iron work on bridge PE20.
Bridge PE21—Clean out channel.

Flemington Branch.

It is all single track, used for both passenger and freight traffic, and is laid with 1.678 miles 67 lb. rail, 0.129 of a mile 66 lb. rail. Ties east of M. P. 52 are in fair condition; west of that in fair to poor condition. 300 good ties should be placed in track between M. P. 52 and the end of the branch. Ballast of the entire branch is cinders. The line and surface of track are fair.

The point of switch just east of highway crossing in Flemington was noted to be out of adjustment.

There are no fixed signals on the branch, trains being operated by hand signals and train orders.

Recommendations.

Place 300 ties in track west of M. P. 52.
Adjust switch point on first switch east of road crossing in Flemington.

Bridges.

Recommendations for pointing masonry on two cattle passes on this branch have been carried out, and all the bridges on the branch are in good condition.

On the east approach to F52B, three ties were noted as being poor. New ties should be placed in track here. The track is properly surfaced at this point.

Recommendation.

Place three good ties at east approach to bridge F52B.

Clinton Branch.

It is all single track, used for both passenger and freight traffic, and is laid with 0.32 miles 90 lb. rail, 0.23 miles 80 lb. rail, 1.49 miles 67 lb. rail. The ballast is cinders the entire length of line. Ties are in fair condition, renewals having been made in sufficient quantity for the light traffic on the branch. The line and surface of track are fair. There are no fixed signals on this branch, trains being operated by hand signals and train orders.

Bridges.

The bridges on this branch are all in fair to good condition.

Pittstown Branch.

It is all single track, used for both passenger and freight traffic, and is laid with 0.13 of a mile 80 lb. rail, 0.12 of a mile 90 lb. A rail, 3.778 miles 67 lb. rail. At the time of this inspection, this 67 lb. rail was being replaced with 76 lb. rail. The track is ballasted with cinders the entire length. Ties are in fair condition, sufficient renewals having been made to keep the track

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in safe condition for the light traffic over the branch. The line and surface of track are fair. There are no fixed signals on the branch, trains being operated by hand signals and train orders.

Bridges.

The bridges are all maintained in good condition.

Musconetcong Branch.

It is all single track, used for freight only, and is laid with 2.292 miles 76 lb. rail, 0.566 of a mile 66 lb. rail, 0.352 of a mile 67 lb. rail. Track is ballasted with cinders its entire length. Ties are in fair condition from the Junction down to M. P. 72. From this point to the end of the branch the ties are in poor condition, which is a distance of about 1 mile. Ties have been distributed over this part of the line in sufficient quantity to bring it up to good condition, so that no recommendations are necessary. The line and surface of track are fair. There are no fixed signals on the line, trains being operated by hand signals and train orders. There are many curves on the branch, and grades are heavy.

Bridges.

This branch was inspected on August 4th, 1914. The bridges on the line are all maintained in good condition, considerable repair work having been done during the past year.

The approach to bridge Mu72B was noted as being low, but not dangerous. Surfacing at this point will doubtless be taken care of by the track forces; therefore no recommendation is considered necessary.

National Docks Branch.

This branch was inspected on September 16, 1914.

It extends from National Docks Junction to Constable Hook, a distance of 6.09 miles, and has branches to Pennsylvania R. R. at Waldo Junction and to the National Docks; it also connects with the New Jersey Junction Railroad. The branch is all double track, used for freight only, and is laid with 80 and 90 pound rail. Ballast is stone and cinders. There are no signals only at towers, yard movements being in force.

The branch is maintained in a good and safe condition.

Bridges.

The bridges on the branch are kept in good condition. Painting is now being done, and tie renewals made where required.

Bridges are now nearing completion at York and Bright Streets, Jersey City, and a steel viaduct from Bright Street to New Jersey Junction will soon be finished. The wooden trestles between New Jersey Junction and Academy Street are all being filled in.

Bridge ND4A is being strengthened, and bridge ND7A has been partly renewed. Both are wooden trestles.

MORRISTOWN AND ERIE RAILROAD.

Main Line.

This road extends from Morristown to Essex Fells, a distance of ten and eight-tenths miles.

It is single track, laid with 80 pound rail, with the exception of one-half mile which is laid with 60 pound. The track is ballasted with gravel and cinders.

Quite a large deterioration in ties has taken place since last inspection, and not less than three thousand should be placed in main track this year.

The ditches in cuts need cleaning out.

The track is in safe condition for the traffic.

Recommendations.

That not less than 3,000 ties be placed in main track this year; that the renewals be made under the light rail within the next sixty days, and that all ditches in cuts be cleaned as soon as practicable.

Bridges.

The recommendations made in report of April 3d, 1913, have not been carried out, except in the case of the Passaic River Bridge, but preparations have been made for doing so.

The Passaic River Bridge has been entirely overhauled and steel stringers substituted for the timber ones in twelve spans. The best of the remaining stringers have been run in at each end, the bridge now having four 8" x 16" stringers per rail, and the timber bents have been repaired and braced. It is the intention eventually to build concrete abutments here and five concrete piers, and place an extra line of steel stringers under each rail, filling up that part of the trestle now having the wooden stringers in it.

The bridge in Morristown is in poor condition, and men have just started repairing it. The bridge is to have a new deck and to be entirely repaired. A new location of track is considered at this point so that all that is desired at the present time is to keep the present structure unquestionably safe.

The plate girder bridge over highway east of Beaufort should have an entire new deck, and the one west of Beaufort should have blocking under girders renewed. The ties on this bridge are in good condition.

The two small bridges on the meadows west of Hanover are in very poor condition. Timber relief bents have been placed under the poorer one, and the other one should be immediately strengthened in the same manner. At both of these locations it is proposed to substitute small deck plate girder spans of steel for the timber trestles. Piling has been driven and foundations for the abutments are in place. Plans for these bridges have already been finally approved February 9th, 1914, but the material has not yet been ordered. These bridges should be completed by August 1st, of this year.

The Whippany River Bridge, near these, is still carried safely on the temporary work. It is expected to complete the replacing of this bridge with a steel structure on concrete in 1915.

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The trestle on siding to the grain and feed mill west of Whippany should be reinforced at once in order to make it safe for drilling movements.

The second bridge east of Morristown should have new wall plates, as the present ones are rotten.

The embankment on south side of overhead bridge west of Whippany is badly eroded and should have walls built to hold the filling, or be temporarily cribbed for that purpose. The roadway should be widened on approaches and substantial railings built. The bridge also needs a thorough overhauling to put it in good condition, new floor planking, stringers and wall plates being required; some material is on hand for this purpose.

Whippany River Bridge, west of Whippany, should have new wall plates placed under the stringers.

A new deck has been placed on the first Whippany River bridge west of Whippany.

A small wooden stringer bridge west of Hanover has had pipe encased in concrete placed in it and filled up. The small drainage opening west of Beaufort is to be treated in the same manner.

The fact of the first concrete arch east of Beaufort is scaling off about two feet above the water line. The loose concrete should be scraped off and replaced with good portland cement plaster.

On the spur track leading into the Caledonia Paper Mills at Whippany, the small bridge over the creek is in very poor condition. The track is lined over the outside of the stringers to the west end, and the stringers are badly rotted. I-beams have been lying on the ground for a long time, evidently for renewing this bridge, but they should be put under the tracks.

Recommendations.

Complete replacing of the two small timber trestles on the meadows west of Hanover with steel plate girder spans on concrete abutments by August 1st, 1914. Place two reinforcing bents under the easterly one within the next 10 days.

Place a new deck on the plate girder bridge near Beaufort by July 1st, 1914.

Renew blocking under the deck plate girder bridge west of Passaic River by July 1st, 1914.

Place reinforcing bent under center of bridge on grain mill siding west of Whippany within the next 10 days.

Place new wall plates under both ends of second bridge east of Morristown by June 1st, 1914.

Build retaining walls or temporary cribbing on south side of overhead bridge west of Whippany; fill roadway out to full width, place substantial railing on approaches, and renew defective floor planking, stringers and wall plates by July 1st, 1914.

Renew stringers on bridge over creek leading to Caledonia Paper Mills at Whippany.

Bridges—Malapardis Branch.

Recommendation for placing a concrete slab on the small openings at the junction and replacing the next small openings with pipe, has been carried out.

There is but one bridge of considerable size on this branch, and that is a

timber trestle near the brick yards. The posts are oak and rotted at the center; one bent is settled and has been blocked up six inches with three pieces of planking on posts under the cap. The line and surface of track, also stringers and guards, are poor; ties are fair, and condition of approaches fair. Stringers should be reinforced and renewed where necessary to maintain the structure in good condition, and the rotten timber in bents should be replaced in order to keep the structure safe.

On the siding leading to McEwan Bros. Paper Mill coal dump, ties are spaced very irregularly from 18 inches to 57 inches apart. These ties should be properly spaced.

Recommendations.

Renew all defective timber in bents under bridge near brick yards, and reinforce or place new stringers in the bridge.

Properly space ties on siding at paper mill coal dump.

MOUNT HOPE MINERAL RAILROAD.

This road extends from Wharton to Mount Hope, a distance of 3.54 miles. The road is used for passenger and freight traffic. It is single track, laid with 2.5 miles of 70 pound rail, balance with 60 pound; it is ballasted with stone, gravel and ashes.

The track is maintained in safe condition for the traffic.

Bridges.

Bridges on this line are maintained in good condition except a drainage opening in the yard at Mount Hope. This is a small double track wooden stringer bridge, 6' 6" effective length, the stringers and wall plates of which are rotten at bearings, giving poor action under load.

Recommendation.

Renew defective stringers and wall plates in small bridge at Mount Hope.

NEW YORK AND LONG BRANCH RAILROAD.

This road extends from Perth Amboy to Bayhead Junction, a distance of thirty-eight and four-tenths miles. It is double track, laid with ten and six one-hundredths miles of 100 pound rail; sixty and eighty one-hundredths of 90 pound; three and fifty-nine one-hundredths of 80 pound, and one and seventy-three one-hundredths of 76 pound rail.

The track is ballasted with twenty-three miles of stone, balance gravel and cinders. The track has been well maintained, and is in good condition.

Improvements are being made at several of the stations in the way of lengthening out the platforms and erecting waiting rooms on the opposite side of stations.

Bridges.

Recommendations made resulting from the last annual inspection on September 4th, 1913, have all been carried out, except renewal of ties on the trestle south of the Manasquan draw. These are on hand, and are to be placed in track within the next 10 days.

The old wooden trestle at Matawan has been replaced with a new wooden trestle at the same location. The work at this point is nearly completed, and it is expected that both tracks will be placed in service May 26th, 1914. This trestle contains I-beam spans over the creek and over the trolley line.

The Red Bank trestle is a new double-track steel deck structure, composed of 25 feet towers connected by 50 feet intermediate spans. This work has just been completed far enough to allow both tracks to be placed in service.

A wooden trestle at Flat Creek is having repairs made to ties and stringers.

New overhead bridges have been built at Middletown, three of them as timber bridges and one as a steel span.

The track 100 feet south of drawspan of the Raritan River Bridge is slightly out of line, due to settlement of the pier underneath. This condition is not considered serious, as speed is limited over the bridge to 35 miles per hour.

The overhead bridge at Sylvania Ave., Avon, is to be replaced with a steel span this fall.

The wooden trestle over Dobbie's Creek is to be replaced with a through plate girder span, work on which is to be started after the heavy summer traffic ceases.

The other bridges on the line are in good condition.

NEW YORK, SUSQUEHANNA & WESTERN RAILROAD.

Main Line.

This road extends in New Jersey from Granton Junction to Delaware River Bridge east of Water Gap Station, a distance of ninety miles. It is double track from Granton Junction to Riverside, a distance of thirteen miles, balance single.

The track is laid with 80 pound rail, ballasted with gravel and cinders.

Five miles of new 80 pound rail will be laid this year.

The track is in good safe condition for the traffic.

Bridges.

The line east of Pompton Junction was inspected June 18th, and west of Pompton Junction on June 24, 1914.

Bridge No. 24.75 has been replaced with a solid floor through plate girder bridge on concrete abutments.

Bridge No. 34.86 is to be renewed; steelwork is at bridge site.

Bridge No. 13.31, over the Hackensack River, has been examined in detail and is to receive a thorough overhauling amounting to almost entire rebuilding of both superstructure and substructure.

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Bridge No. 43.30 is to be rebuilt; steel girders are at bridge site.

Bridge No. 68.27 is being rebuilt.

Bridge No. 78.77. A new concrete bridge seat at the east end is now being built.

Bridges Nos. 87.60 and 90.09 have not been rebuilt as permanent structures since the washouts of 1913, but are maintained in safe condition. Bridge No. 92.51 is a high trestle also built to temporarily carry traffic over a large washout in 1913. As it is to remain in service indefinitely, adequate longitudinal bracing should be placed throughout the structure to properly secure it in position.

A number of the steel bridges are to be painted, defective ties and wooden guards renewed, and bearings repaired this year. Slow order is maintained over the light bridges.

When work is finished as programmed for this year, the bridges will be in fair to good condition, and safe for the traffic as limited over the various parts of the line.

Recommendation.

Place adequate longitudinal bracing in Bridge No. 92.51.

Edgewater Branch.

This branch extends from Little Ferry Junction to Edgewater, a distance of 3.00 miles. It is all double track, used for freight only, and is laid with E. B., 80 pound rail, and W. B., 71 pound rail, which is in good condition. Ties are of yellow pine, in fair condition. Ballast is cinders. The line and surface of track are fair. There are no fixed signals on the branch, excepting at towers. The track is maintained in safe condition.

Recommendation.

Place the 250 ties which are unloaded along the track in track this year.

Bridges.

Bridge seats are kept clean, as recommended in report of September 12th, 1913.

Bridges are in fair condition except as noted. Bridge No. 11.22—Rust is showing on the exposed parts of this bridge; these parts should be thoroughly cleaned and painted.

Bridge No. 10.25 is restricted to the use of one track at a time.

Recommendation.

Scrape and paint steelwork on bridge No. 11.22.

Lodi Branch.

This branch extends from Lodi Junction to Lodi, a distance of 1.8 miles. It is all single track, used for passenger and freight traffic, and is laid with 80 pound, 70 pound and 68 pound rail, which is in good condition. Ties are of yellow pine and chestnut, in fair condition. Ballast is ashes. The line and surface of track are good. Drainage, fair. There are no fixed signals on the branch, trains being operated by hand signals and train orders. The track is being maintained in a safe condition.

Bridges.

There is one small wooden trestle on this branch, in fair condition.

Passaic Branch.

This branch extends from Passaic Junction to Passaic, a distance of 3.05 miles. It is all single track, used for freight only, and is laid with 80 pound, 70 pound and 68 pound rail, which is in fair condition. Ties are of yellow pine and chestnut, in fair condition. Ballast is gravel. The line and surface of track are fair to good. There are no fixed signals on the branch, trains being operated by hand signals and train orders.

The track is being maintained in a safe condition.

Bridges.

The two bridges on this branch are wooden trestles in fair condition.

Middletown Branch.

This branch extends from Beaver Lake to State line, east of Unionville, a distance of twenty miles.

It is single track laid with ten miles of 80 pound rail, balance 70 pound. Eight miles of 80 pound rail will replace the 70 pound before November 1st this year.

The track is ballasted with gravel and cinders, and is in safe condition for the traffic.

Recommendation.

That the annual percentage of ties be placed in track as early as practicable.

Bridges.

Recommendations made last year have been carried out.

Bridge No. 66.13 has been rebuilt as a plate girder span on concrete abutments. It replaces a wooden trestle.

The bridges are kept clean and are all in fair to good condition.

Delaware Branch.

This branch extends from Columbia Junction to Delaware, a distance of 3.45 miles. It is all single track, used for passenger and freight traffic, and is laid with 70 pound rail, which is in good condition. Ties are of yellow pine, chestnut and oak, and are in poor to good condition. Ballast is gravel and ashes, in fair condition. The line and surface of track are fair. There are no fixed signals on the branch, trains being operated by hand signals and train orders. At various places grass is growing along track and also in ditches, and for about one mile the ties are entirely covered with ashes. The track is being maintained in safe condition for the limited traffic.

Recommendations.

Clean track and ditches of grass and weeds.

Realign track and place ashes that have been unloaded under track.

Bridges.

Bridges Nos. 91.85, 92.30, 92.41 and 92.75, have new head walls.

Bridge No. 92.80.—The wood bridge seats have been rebuilt with concrete, new underpinnings under wing walls, and I-beams have been bolted together.

The bridges are now in good condition.

Macopin Lake Branch.

This branch extends from Charlottsburg to Macopin Lake, a distance of 1.6 miles. It is all single track, used for freight only, and is laid with 60 pound rail which is in fair condition. Ties are of chestnut and yellow pine, in poor to fair condition. Ballast is ashes and gravel, in fair condition. The line and surface of track are fair. There are no fixed signals on the branch, and trains are operated by hand signals and train orders.

There are a number of poor ties on the line which should be replaced with good ones.

Recommendation.

Place at least 300 ties in track.

PEMBERTON AND HIGHTSTOWN RAILROAD.

This road extends from Pemberton to Hightstown, a distance of 25. miles. It is all single track, used for both passenger and freight traffic, and is laid with 50 lb. rail for 13 miles, and 60 lb. rail for 12 miles, all in good condition. Ties are of yellow pine and in fair to good condition. 4,000 new ties have been placed this year, and 700 additional are being put in. Ballast is gravel and cinders in good condition. The line and surface of track are good. Drainage, good. There are no fixed signals on the line, trains being operated by telegraph orders.

Shoulders are good, except in some places the weeds have not been cleaned up. Grass line should also be completed. On the whole, the track is being maintained in good condition for the traffic.

Recommendations.

Complete removal of weeds and grass in road bed.

Bridges.

Recommendations made last year have all been carried out, except the renewal of defective timber in bulkheads of Bridge No. 1. This recommendation is, therefore, repeated.

On Bridges Nos. ½, 1, and 3, the bulkheads holding the fill at ends of bridge should be replaced with sound timber.

The company has ordered and has some material on hand for making all repairs necessary to maintain the bridges in safe condition.

Recommendations.

Renew defective timber in bulkheads of Bridges Nos. ½, 1 and 3.

PENNSYLVANIA RAILROAD.

Main Line—Manhattan Division.

When a few of the bridges have been painted, all structures will be in first-class condition.

New head blocks have been placed at the ends of the drawbridge across the Hackensack River.

Main Line—New York Division.

This line extends in New Jersey from Jersey City to Delaware Bridge west of Trenton, a distance of fifty-six and seven-tenths miles. There are four tracks, with the exception of a short distance through Newark, where there are two. All tracks are laid with 100 pound rail, ballasted with stone.

The tracks are now elevated between Bayway and Colonia. Work on the two extra tracks is now progressing, which will make six tracks for a distance of six and eight-tenths miles.

Sixteen highway grade crossings have been eliminated. No trains run over the grade crossings, except the contractors' in completing the work.

At Woodbridge Junction the tracks are so arranged that trains for the Perth Amboy and Woodbridge Branch run under instead of crossing over the opposing tracks.

The tracks have been well maintained, and are in good condition.

Bridges.

Both Hackensack River bridges are to have necessary renewals, to keep them in good condition.

Bridges on four of the six tracks have been placed in service on the Rahway improvement, and work is being pushed on the bridges of the two remaining tracks.

Bridge No. 20 has been replaced with a concrete slab. The bridge over the Port Reading Branch of the Reading Railroad is being rebuilt as a through plate girder with solid floor. Four bridges through Metuchen are being rebuilt and are in various stages of completion. The new bridges are assembled on falsework at the sides of the railroad, and are having concrete floors placed on them before moving them over.

Some poor timber guards were noted on the bridges through New Brunswick, but they are all listed for renewal and will soon be put on, so that no recommendation is necessary. No. 30, over Oakley's Brook, has been replaced with a reinforced concrete slab. No. 34, over Devils Run, has had a new slab top since the inspection of 1913. Millstone River, No. 35, is now crossed with three reinforced concrete arches, work on which has recently been completed.

No. 38 is to have a new deck on four tracks, material for which has been delivered at the site. The two Assanpink Creek bridges in Trenton are being overhauled and repairs made where necessary. The bridge carrying the Delaware & Raritan Canal over the railroad in Trenton has been raised 12 inches to give additional clearance over the railroad at this point. The trestle over the Trenton Water Power Canal has had a 48 inch cast iron pipe placed in it, and the trestle is now being filled.

The other bridges on the line are in good condition.

New York Bay Branch.

This branch extends from Waverly to Greenville, a distance of four and six-tenths miles.

It is a double track, laid with eighty per cent. 100 pound rail, balance 85, ballasted with cinders.

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It is in good safe condition for the traffic, and is used for freight purposes only.

Bridges.

Following the fire of a year ago, which destroyed a great part of the trestle over Newark Bay, the trestle was rebuilt as single track and is used jointly with the single track reconstructed trestle of the Lehigh Valley R. R. Co. as a double track railroad across the bay. The drawbridge is owned and maintained by the Lehigh Valley Co.

The bridges east of the Bay Bridge are used only for slow speed freight movements and are maintained in good condition for the traffic.

The older part of the Bay Bridge is to have repairs made to ties and stringers this year, which will keep it safe for the traffic. Material for making these repairs has been delivered at the site.

Waverly and Passaic Branch.

This branch extends from Waverly around Newark to the Meadows Shops, a distance of four miles.

It is double track, laid with 100 pound rail, ballasted with cinders, used for freight purposes only. It is in good safe condition for the traffic.

Bridges.

The speed on this branch is limited to 20 miles an hour, and the line is used only for freight.

The abutments of bridge No. 9½ are still shored up and no movement has been noted in them.

The through plate girder span over the plank road has been lengthened at each end to provide for the extended width of highway. 48" cast iron pipe are on the ground for replacing the small pile trestle near Waverly. These pipe are to be put in this year, and the trestle filled. None of the bridges have inside guard-rails except the Passaic River Drawspan and its approaches; they are, however, to be placed on the remaining bridges in the near future.

Otherwise, the bridges are maintained in good condition.

Perth Amboy and Woodbridge Branch.

This branch extends from Perth Amboy and Woodbridge Junction to Rahway, a distance of six and nine-tenths miles. It is double track, laid with 85 and 100 pound rail, ballasted with stone, and is in good condition.

Bridges.

The work of reconstructing this railroad near Perth Amboy Junction is nearing completion. A new bridge has been created by the junction carrying the railroad over the old highway at this point.

The bridge at Sucker Brook is still maintained in its temporary position but soon will be reconstructed for the final location of line.

There are but two other open deck bridges on the branch, both of which are maintained in good condition; all the other openings are either small arches or culverts.

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Millstone Branch.

This branch extends from Millstone to Millstone Junction, a distance of six and six-tenths miles.

It is single track, laid with sixty-five per cent. 85 pound, balance 100 pound rail, ballasted with cinders.

It is in good safe condition for the traffic.

Bridges.

There are no bridges on this branch.

Rocky Hill Branch.

This branch extends from Monmouth Junction to Rocky Hill, a distance of seven and two-tenths miles.

It is single track, laid with thirty per cent. 100 pound, fifty per cent. 85 pound, balance, 75 pound rail. It is ballasted with gravel and cinders. It is safe for the traffic and speed. The maximum speed is thirty miles per hour, and around all sharp curves ten miles per hour.

Bridges.

The one bridge on this branch, a small wooden trestle near Kingston, is in fair condition except for guard timber, one of which is poor.

Recommendation.

Renew defective guard timber on bridge near Kingston.

Princeton Branch.

This branch extends from Princeton Junction to Princeton, a distance of three and two-tenths miles.

It is double track, but is run as single except in times of heavy traffic.

The tracks are laid with 85 pound rail, ballasted with gravel and cinder. It is in good safe condition for the traffic.

Bridges.

There is but one bridge on this branch, which is over the Millstone River and Delaware & Raritan Canal. A new deck has been placed on it and the timber underneath the bridge has been entirely overhauled and is now in good condition.

New lift rails have been placed on the drawspan over the canal, and 100 pound rail laid across the bridge.

Delaware River R. R. and Bridge Branch.

This branch extends from Haddonfield Junction to the Delaware River, a distance of eight and three-tenths miles.

It is double track, ballasted with stone laid with sixty per cent. 100 pound, balance 85 pound rail.

The track is in good condition.

Bridges.

The undergrade bridges on this line are all in good condition.

The overhead bridge in Merchantville, carrying the Camden & Burlington County R. R., will have a special report made on it in the near future.

Belvidere Division.

Inspection was made of that part of this division extending from Trenton to Manunka Chunk, a distance of sixty-six and six-tenths miles, on Wednesday, April 22, 1914.

It is single track, laid with eight miles 100 pound; two miles 90, and the balance with 85 pound rail, ballasted with rock, slag, gravel and cinders.

Sufficient tie renewals have been made during the past year to keep the track in safe condition.

Recommendation.

That the necessary tie renewals be made, replacing all that are unsound.

Bridges.

Bridges on the above line were inspected at the time of the regular spring bridge inspection of the company. Work of reinforcing and rebuilding the old bridges on this line has been prosecuted with commendable energy, about 85 per cent. of the old ones having been replaced, rebuilt or reinforced, so that they are safe for the heaviest power contemplated. Some of those mentioned in the report of last year for repairs have been laid over temporarily to permit other repair work to precede them. Of the older and lighter bridges, some are noted as requiring attention this year, while others are deemed safe until 1915.

No. 92, in Belvidere, has had new bents placed under the center of each of the river spans and under the span over the roadway on the east end. This roadway span will be renewed this year. The span at the west end of this bridge and the west abutment are new.

In a few cases, bridges which appeared to be old and light were noted for special examination and reports on them will be made in the near future.

No. 83, an I-beam bridge on old stone walls, showed some small cracks under bearings. It is only in fair condition, and should be rebuilt in 1914, if possible.

No. 82, an old stone arch, is cracked. This bridge should be lined with reinforced concrete in 1915, and should have the cracks in joints of masonry pointed this year.

No. 81, an old stone arch over Hutchinson Road, is also cracking. This bridge cannot be lined on account of side clearance. It should be rebuilt in 1915 with deck girders or a reinforced concrete slab. The masonry should be pointed this year.

No. 78 is a stone arch, old and cracking. It should be rebuilt not later than 1915. Pointing the cracks is considered sufficient this year.

No. 74, a small old deck plate girder, was noted as having inadequate sway frames. The angles connecting to the main girders are held only by a single rivet. Greater security can easily be had by substituting for these sway frames a diaphragm composed of a plate with an angle top and bottom riveted to the stiffener angles of the girders. This should be done as soon as possible.

No. 68 is a coal trestle in the main track at Phillipsburg. Temporary repairs have been made here, but a coal trestle ought not to be located in the main track of a railroad as busy as this one.

The long line of deck plate girders, Bridge No. 66, opposite Andover Furnace, is to be filled and the bridge done away with.

No. 65 has a relief bent under the main track and is safe.

A stone arch culvert, east of Bridge No. 59, should be lined with reinforced concrete this year.

No. 57, a stone arch lined with concrete in 1911, is in good condition, except that considerable erosion has taken place at the tow of the apron on the downstream side. Riprap should be placed at this point to prevent further erosion and undermining of foundations.

No. 56, an old stone arch, should be pointed this year.

No. 50, an old stone arch, is only in fair condition. It should be lined with reinforced concrete this year.

No. 47½, an I-beam bridge on old stone abutments, has shoring timbers placed between the abutments, which appear to have pushed inward toward each other. This bridge should be rebuilt this year.

Nos. 30 and 32, stone arches, which have been reinforced by concrete on the backs of the arches, require pointing up to the spring line.

No. 7, a waste weir, has many poor ties and guards on it. They should be renewed this year.

No. 5, an old stone arch, is in fair condition, except that some pointing is needed this year.

No. 4, a waste weir, having I-beam stringers resting on wood capped stone piers. The piers are in poor condition and should be repaired and pointed this year.

The overhead bridge at Foul Rift Road, east of Bridge No. 85, should have the abutment toward the river pointed.

The overhead bridge at Calhoun Street, Trenton, requires some little pointing on the abutment.

The other old bridges on the line are in fair condition and do not need immediate attention. The repair work that has been done is first-class in every instance.

Recommendations.

Bridge No. 83—Rebuild this year.

Bridge No. 82—Point masonry this year, and line with reinforced concrete in 1915.

Bridge No. 81—Point masonry this year. Rebuild with reinforced concrete slab or deck girders in 1915.

Bridge No. 78—Point masonry this year. Line arch with reinforced concrete in 1915, or rebuild it.

Bridge No. 74—Substitute plate and angle diaphragms for the present sway frames, riveting the diaphragms securely to the stiffener angles of the main girders. This work to be done before July 1st, 1914.

Line culvert east of bridge No. 59 with reinforced concrete this year.

Bridge No. 57—Place riprap in front of tow of apron on the downstream side before winter.

Bridge No. 56—Point masonry.

Bridge No. 50—Line arch with reinforced concrete this year.

Bridge No. 47½—Rebuild entire bridge this year.

Bridges No. 30 and No. 32—Point arches up to the spring line.
Bridge No. 7—Renew defective ties and guards this year.
Bridge No. 5—Point masonry this year.
Bridge No. 4—Repair and point stone piers this year.
Overhead bridge at Foul Rift Road—Point masonry on the river side.
Bridge at Calhoun Street, Trenton—Point masonry.

Flemington Branch.

This branch extends from Lambertville to Flemington, a distance of eleven and five-tenths miles. It is single track laid with 100, 90, 85, 70, 67 and 60 pound rail.

It is ballasted with cinders in good quantity. The track has been maintained in safe condition for the traffic.

Not less than two hundred and fifty ties to the mile should be placed in track this year.

The maximum speed over this branch is forty miles per hour.

Recommendation.

That not less than 250 ties to the mile be placed in track before October 1st, this year.

Bridges.

Recommendations made in report of April 30th, 1913, have all been carried out, and, aside from minor repairs, the bridges are all in good condition.

No. 22 should have the lower courses of masonry on two abutments pointed.

No. 21 should have some pointing on the east abutment.

No. 20 requires pointing on the lower courses of the east abutment.

No. 6 should have west abutment pointed.

No. 2 should have east abutment pointed in face wall and around bridge seat stone.

Recommendations.

Point masonry in the following bridges:

No. 22, lower courses of east abutment.

No. 21, east abutment.

No. 20, lower courses of east abutment.

No. 6, west abutment.

No. 2, east abutment—face walls and around bridge seat stone.

Bridges—Small Freight Branches.

Martin's Creek Branch.

This branch contains but one bridge. Ties are being framed to replace the defective ones at present on the bridge. Speed is limited to but fifteen miles an hour over this bridge, and the branch is used only for freight.

No recommendations.

Phillipsburg Branch.

There are two bridges on this branch. No. 1 is a half-through skewed pin-connected span over the Morris Canal. It is in fair condition except for the bent plates forming the connection between the end floor beam and the

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end post at the short end. On both ends of the bridge these plates are cracked. The bridge could easily be made safe by building up the masonry underneath the end of this floor beam and bringing the floor beam to bearing thereon.

Bridge No. 2 is a light deck plate girder on stone abutments, and it has at the present time two pile bents under it which makes it temporarily safe. The bridge is to be rebuilt in the near future when changes in the yard at this place are made.

Recommendation.

Support end floor beams of Bridge No. 1 on masonry piers built up from the present abutments near the ends which now rest on the cracked bent plates connecting to end posts of the main trusses.

Millham Branch.

There remains but one undergrade bridge on this branch, a desk plate girder in two spans on stone piers and abutments. Relief bents have been placed under the center to reinforce the span for the heaviest engines. Masonry should be pointed.

Recommendation.

Point masonry on Bridge No. 1.

Enterprise Branch.

The one bridge on this branch is an A-frame drawbridge in good condition. No recommendations.

Trenton Branch.

Bridge No. 4, a deck plate girder on stone abutments, has a relief bent under each span to make it safe for the heavy engines. The other bridges have been recently overhauled and put in good repair.

No recommendations.

Main Line—Trenton Division.

This line extends from Camden to South Amboy, a distance of sixty-one and two-tenths miles. It is double track from Camden to Bordentown, excepting a short distance through Burlington; single track from Bordentown to Old Bridge; double from Old Bridge to South Amboy. The track is laid with eighty-five pound rail, ballasted with gravel and cinders in good quantity.

Tie renewals have been made in sufficient number to keep the track in safe condition.

Tie renewals should be made east of Hightstown as early as practicable as the percentage of unsound ties seems larger at that point.

Recommendation.

That all tie renewals be made replacing all unsound ties before October 1st this year.

Bridges.

On Bridge No. 8, it was noted that the southwest wall plate under main girder has shifted, and the stone walls need pointing.

No. 9. Some pointing is necessary in the abutments, and backwalls should be repaired.

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No. 13, at Burlington, has been raised and a new through plate girder bridge built over the channel.

No. 16 has been filled up.

No. 18, at Bordentown, has had two new concrete abutments built, replacing old timber and pile bents.

No. 22 is only in fair condition. Several fires have occurred in the old trestle, and it was noted that the skeletons were on the ground for renewing the bridge with a concrete slab. A special examination of this bridge will be made at a later date.

On No. 25 some tie renewals are needed to replace the poor ties which are at present in the deck.

No. 29, at Jamesburg, is being carried on relief bents, and is safe until it is renewed.

No. 39 has had a lateral system placed in it, as recommended. The girders still rest on timber bents at their centers, but these are in good condition and are safe for a while longer.

The remaining bridges are in good condition.

Recommendations.

No. 8—Reset southwest wall plate and point masonry.

No. 9—Point masonry walls and repair backwalls.

Burlington Branch.

This branch extends from Mount Holly to Burlington, a distance of seven and three-tenths miles. It is single track, laid sixty per cent. 60 pound; balance 70 pound rail. It is ballasted with gravel and cinders. Maximum speed thirty miles per hour. It is safe for the traffic.

Recommendation.

That not less than 300 ties to the mile be placed in track before October 1st this year.

Bridges.

There are three bridges on this branch, and they are in fair to good condition.

No. 1 has been raised, and contains a new through plate girder on concrete piers.

No recommendations.

Kinkora Branch.

This branch extends from Kinkora to Lewistown, a distance of ten and seven-tenths miles. It is single track, laid with two miles of eighty-five pound rail, balance seventy. It is ballasted with cinders in good quantity.

It is safe for the traffic. Maximum speed 40 miles per hour.

Recommendation.

That not less than 300 ties to the mile be placed in track before October 1st this year. There are a number on the ground on the west end of branch, which should be placed in track as early as practicable.

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Bridges.

The bridges on this branch are in fair to good condition.

No. 1 has had a new deck placed upon it, as recommended, and relief stringers placed alongside of the old and poor ones.

No. 6 has been temporarily repaired until 1915, when the entire bridge will be renewed.

No recommendations.

Bordentown Branch.

This branch extends from Trenton to Bordentown, a distance of six and one-tenth miles. It is single track, laid with eighty-five pound rail, well ballasted with gravel and cinders.

That track has been well maintained, and is in good safe condition for the traffic.

Recommendation.

That the necessary tie renewals be made replacing all unsound ties before October 1st this year.

Bridges.

The four bridges on this branch are in good condition, except No. 4, in which some cracks were noted in the east abutment, which should be pointed.

Recommendation.

Point east abutment, Bridge No. 4.

Jamesburg Branch.

This branch extends from Jamesburg Junction to Monmouth Junction, a distance of six miles. It is double track, laid with one and one quarter miles of 100 pound; two miles of 90 pound; balance 85 pound rail. Ballasted with cinders.

The track is in good condition.

Bridges.

The bridges on this branch are maintained in good condition, except No. 10, the ties on which are fair but sufficiently good to last until 1915.

No recommendations.

Freehold and Jamesburg Branch.

This branch extends from Jamesburg Junction to Sea Girt, a distance of twenty-seven and five-tenths miles. It is single track laid with eighty-five pound rail, ballasted with cinders.

The track has been well maintained, and is in good condition.

New stations have been built at Lower Jamesburg and Tennent.

Camden and Burlington County Railroad.

This road extends from Pemberton to Camden, a distance of twenty-two and five-tenths miles.

It is single track laid six-tenths of a mile with 100-pound; seven-tenths of a mile with 90 pound; balance with 85 pound rail.

It is ballasted with gravel and cinders. The track has been well maintained. Sufficient tie renewals have been made to keep it in good safe condition.

Bridges.

The bridges on this line are in good condition.

The wooden trestle at No. 9 has been replaced with a three span reinforced concrete slab.

No recommendations.

Medford Branch.

This branch extends from Medford to Medford Junction, a distance of six and one-tenth miles. It is single track laid with 70 pound rail, ballasted with sand and cinders.

Improvement has been made in the way of placing 135 cars of cinders in track, some of which are still to be put under.

While the track is reasonably safe for the traffic and speed, the maximum of which is thirty miles per hour, more cinders are required to place it in good condition.

Recommendations.

That not less than 300 ties to the mile be placed in track before October 1st this year;

That not less than 100 additional cars of cinders be placed under track this year;

That the cinders now on ground be placed under track as early as practicable.

Bridges.

There are two bridges on this branch, both in good condition.

Vincentown Branch.

This branch extends from Ewansville to Vincentown, a distance of 2.8 miles. It is all single track, used for both passenger and freight, and is laid with 90 lb. rail on the Y track, 60 lb. in yard, and the balance 70 lb., all in good condition. Ties are of yellow pine, oak and chestnut, in poor to good condition. The line and surface of track are fair. Movement is by telephone orders.

Along the greater part of the line, the road bed is covered with weeds, which should be removed.

Recommendations.

Place at least 600 ties in track this year.

Remove all weeds from road bed.

Bridges.

There are no bridges on this branch.

Philadelphia and Long Branch Railroad.

This road extends from Bay Head to Birmingham, a distance of forty-six and one-tenth miles. It is single track, laid with two miles of 90 pound; four miles of 70, and balance with 85 pound rail. It is ballasted with gravel and

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cinders in good quantity. The track has been well maintained, and is in good condition.

There are quite a large number of ties to be placed in track both east and west of Hanover Farms. They are on the ground, and will be placed in track before June 1st next.

A new station has been built at Lavalette.

Bridges.

Bridge No. 24 is all filled in, except the opening for the channel, the trestle across which is soon to be replaced with a reinforced concrete bridge in three spans. Other small trestles on the line have had cast iron pipes placed in them and filled. The remaining bridges are in good condition except some of the ties at the east end of Bridge No. 13, over Barnegat Bay, detailed inspection of which will be made later.

Bridge No. 12, an I-beam span on stone abutments, needs some pointing on the abutments.

Recommendation.

Point abutments on Bridge No. 12.

Brown's Mills Branch.

The branch extends from Brown's Mills Junction to Brown's-Mills-in-the-Pines, a distance of 1.8 miles. It is all single track, used for passenger and freight traffic, and is laid with 70 lb. rail in good condition. Switches have 85 lb. rail, and all curves have tie plates. Ties are of oak, yellow pine and chestnut, in fair condition. Ballast is fair, sand and ashes being used. The line of track is good and surface is fair. The wire block system of signals is in operation.

The track is being maintained in a safe condition.

Bridges.

There are no bridges on this branch.

Island Heights Branch.

This branch extends from Island Heights Junction to Island Heights, a distance of one and two-tenths miles. It is a single track laid with seventy-pound rail, ballasted with gravel.

It is in good condition.

Bridges.

There is but one bridge on this branch and that is over Toms River. It contains a deck plate girder draw.

The bridge is at present undergoing repairs to piling, stringers and deck. Speed is limited to 15 miles over the trestle and 10 miles over the draw.

No recommendations.

PHILADELPHIA AND BEACH HAVEN RAILROAD.

This road extends from Manahawken to Beach Haven, a distance of twelve miles. It is single track, laid with five and four-tenths miles of 100 pound; three miles of 85 pound, and three and six-tenths miles of 70 pound rail.

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The track is ballasted with gravel and cinders.

Sufficient tie renewals have been made during the past year to keep the track in safe condition for the traffic, and speed maximum forty miles which should not be increased.

Recommendations.

That all tie renewals be made, and the track lined and surfaced before the summer time-table goes into effect.

Bridges.

The recommendation of last year for placing tie plates on bridges between Manahawken and Barnegat City Junction has been carried out.

The bridges are in good condition except as noted. Bridge No. 6—A number of ties on draw span are supported by bolts connecting to a longitudinal wooden timber which is carried by the adjacent ties resting on the bottom chord of the main truss. These bolts are loose and need tightening.

The wooden trestles between Barnegat City Junction and Beach Haven have been filled in with ashes except Nos. 15 and 16.

Recommendation.

On Bridge No. 6, tighten bolts carrying ties.

PHILADELPHIA & READING RAILWAY.

Delaware & Bound Brook Railroad.

This road extends in New Jersey from Delaware River to Bound Brook Junction, a distance of twenty-one miles.

It is double track, with a number of center sidings. Two additional tracks are now being built between Hopewell and Skillmans.

The track is ballasted with stone, and is in good condition, and is laid with 100 pound rail.

Bridges.

Bridge No. 29, over Delaware River, was completed during the month of December, 1913.

Bridge No. 41, at Glenmore, is being replaced with three concrete arches and a deck plate girder span. This work will be completed in about four months. The speed at this place is reduced to 10 miles an hour.

Bridge No. 30, over P. R. R. and canal—decking is poor and should be renewed.

Bridge No. 31.—Masonry in barrel of arch needs pointing. Parapet wall stones have loosened and have moved considerably out of place, particularly on west side. Wing walls on west side are bulging and upper courses of stonework are being pushed outward. This arch should have prompt attention.

Bridge No. 34, over public road—Wooden guards are poor and should be renewed.

Bridge No. 37.—The deck of trolley bridge is in poor condition. A future inspection will be made.

Bridge No. 47, defective ties and guards should be renewed on two center tracks.

Bridge No. 48 is a new steel highway bridge on concrete abutments and steel bents, replacing the old wooden bridge at the same location.

Bridge No. 50 is an overhead steel highway bridge on stone abutments and steel bents. The north column of east bent is leaning, and the lateral rods are out of adjustment. Columns should be plumbed and lateral rods adjusted.

Bridge No. 51.—Wood guards on two inside tracks should be renewed.

Bridge No. 53, overhead highway bridge—Repairs to west abutment have been made, but masonry pedestals under columns are in poor condition and should be repaired.

Bridge No. 54, over stream—Concrete arch is being extended for two extra tracks.

Bridges No. 56 and No. 60—Rivets and lateral bracing should be examined; loose rivets should be replaced. There are several rivets out in the lower lateral connections at east end of bridge.

Bridges No. 58 and No. 59, overhead highway bridges—Bulkheads are in poor condition and should be repaired.

Bridge No. 65—West abutment is cracking and bearings are loose under girders. Masonry should be pointed and bearings under girders renewed.

Bridge No. 66—Bearings under main girder are in poor condition at east end; they should be repaired.

There are a number of ties on the different bridges which are badly burnt and decayed; all such ties should be renewed. Bolts are missing in a good many splices of guard rails, which should be supplied. Extensive repairs are now being made along this division, as the railroad is providing four tracks between Glenmore and Bound Brook Junction.

Recommendations.

Renew all defective ties and place bolts in splices of guard rails where needed.

Bridge No. 31—Rebuild and repair parapet and wing walls and point barrel of arch, or line arch and reinforce wing walls with reinforced concrete before December 1st, 1914.

Renew decking and guards as outlined in report, as follows: Bridges Nos. 30, 34, 47 and 51.

Bridge No. 50—Plumb north column of east bent and readjust lateral rods.

Bridge No. 53—Repair masonry footings under columns.

Bridges Nos. 56 and 60—Replace missing rivets in lateral connections. Examine lateral systems for loose rivets. This should be done immediately.

Bridge No. 65—Point masonry and replace loose bearing stones under girders.

Bridge No. 66—Repair bearings under main girders.

Trenton Branch.

This branch extends from Trenton to Trenton Junction, a distance of three and seven-tenths miles.

It is single track, ballasted with cinders.

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The track is laid with 80 pound rail.
It has been well maintained, and is in good condition.

Bridges.

There are no bridges on the branch, the only openings consisting of cast iron pipe and stone box culverts, all of which are in good condition.

Port Reading Branch.

This branch extends from Port Reading Junction to Port Reading, a distance of twenty-one miles. It is single track, laid with twelve miles of 90 pound rail, and balance 80 pound.

It is ballasted with gravel and cinders.

This branch is used for freight purposes only.

The track has been well maintained, and is in good condition.

Bridges.

The recommendation resulting from annual inspection of April 16th, 1913, has been carried out. The decks of the bridges on this branch are generally in fair condition, renewals being made in sufficient quantity to insure safe operation. Exceptions to this are noted below.

On No. 1, over the Raritan River, the ties on siding are so badly decayed that it would be unsafe to run an engine over them. A few defective ties under main track on this bridge were noted. The northwestern pedestal stone under truss shoe of Bridge No. 2 is cracked; the company is to repair this pedestal immediately. On Bridge No. 7, the flange of one of the steel guard rails is broken in several places; it should be replaced with a perfect one.

The main truss bearings on Bridge No. 15 over the Lehigh Valley Railroad have been repaired. Roller nest at west end of bridge is out of adjustment, the spacing bar connecting the rollers having broken. Ties and guards are generally poor. Rollers should be adjusted, spacing bar renewed and a new deck placed on the bridge. About two-thirds of the ties and guards on No. 20 should be renewed.

Recommendations.

Bridge No. 27, over stream—Renew defective guard rail.

Bridge No. 15, over Lehigh Valley Railroad—Adjust roller nest and renew broken spacing bar.

Renew defective ties on Bridges Nos. 1, 15 and 20.

RAHWAY VALLEY RAILROAD.

This road extends from Summit to Aldene, a distance of eight miles. It is single track, ballasted with gravel and cinders.

The track is laid with five and one-half miles of 70 pound rail, balance with 60.

Four thousand ties were placed in track last October and November, and not less than five thousand more should be placed in track this year, with

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renewal of switch timber where required. Cinder ballast is being placed where needed, and trestles are being filled.

On account of the light rail between Kenilworth and Aldene, tie renewals and surfacing should be done over this section as early as possible.

The track is in safe condition for the traffic.

Recommendations.

That not less than 5,000 ties be placed in main track this year; that the ballast now distributed be placed under track, and that the ditches in all cuts be cleaned as early as practicable.

Bridges.

The Morris Avenue Bridge in Summit, recommended for tie renewals in the inspection report of April 2d, 1913, has had an entire new deck recently put on. The work is very nearly completed; steel work has not yet been painted, and the upper surfaces of the metal work in the bridge are badly in need of scraping and painting.

Paint on the bridge over Park Avenue, Summit, is in very poor condition.

The Summit trestle is being filled with cinders; filling has been placed on the west end of this trestle around the curve, and concrete abutments are contemplated for the two plate girder spans over Russell and Ashwood Avenues in this trestle, and when these are built, the filling of the trestle will be completed.

A new bridge has been built over the new Shunpike Road, plans for which were finally approved September 23d, 1912. This new bridge has been slightly damaged by careless blasting in the vicinity, and in future blasts should be properly covered and the bridge protected against injury from this source. The painting has been considerably injured also, and should receive attention very soon.

The Van Winkle's Brook Bridge, which was to have a new east abutment built last June, has not been attended to. It has been maintained, and is now in safe condition, but should be rebuilt before next winter. It is contemplated to raise the tracks at this point and build a new east abutment, reinforce the west abutment, and place the second-hand girders which are on the ground at Summit in the opening which is to be enlarged to receive them. A report will be made later on the adequacy of these girders for the purpose.

The trestle at west end of Rahway River Bridge is all filled in, thus eliminating a spot which was approaching the danger point. The steel span over the river is in fair condition, but it needs scraping and painting in parts.

Between Kenilworth and Aldene are three timber drains which contain a great deal of rotten timber and are in very poor condition. Cast iron pipe should be substituted for these drains and they should be filled in.

The other openings on the line are in good condition.

Recommendations.

Scrape and paint all bridges on the line before September 1st, 1914.

Rebuild bridge at Van Winkle's Brook before September 1st, 1914.

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Substitute cast iron pipe and fill for the three timber drainage openings between Kenilworth and Aldene.

Protect bridge at the new Shunpike Road from injury by blasting.

RARITAN RIVER RAILROAD.

Main Line.

This road extends from New Brunswick to South Amboy, a distance of twelve and three-tenths miles. It is single track, laid with eighty pound rail, ballasted with gravel and cinders. The track has been well maintained and is in good safe condition for the traffic. Ties are now being distributed for this year's renewals.

Recommendation.

That not less than 3,000 ties be placed in main track this year.

Bridges.

Bridge work on this line is in the same condition as when last inspected, except that two overhead bridges have been rebuilt, and at the present time another is under construction. The fourth is to be rebuilt this year.

All the bridges are good structures except the one at Crossman's, which is a temporary bridge in fair condition. Realignment of track is contemplated at this point in the near future, and when this is done, a new bridge will replace the present one.

South River Branch.

This branch extends from South River to one and one-quarter miles south. It is single track, laid with 60 pound rail, ballasted with gravel and cinders. It is in safe condition for the traffic, viz., two trains per day. It is used for freight purposes only.

Recommendation.

That not less than 400 ties be placed in track this year.

Serviss Branch.

This branch extends from Serviss Junction to within half mile of South River, a distance of four miles. It is single track, laid with one and one-half miles of 80 pound and two and one-half miles of 60 pound rail, ballasted with gravel and cinders.

There has been a large deterioration of ties since last inspection. Not less than 4,000 ties should be placed in track this year, a number of which are now on the ground.

The track is safe for the traffic, viz., two trains per day, and is used for freight purposes only.

Recommendation.

That not less than 4,000 ties be placed in track this year.

Bridges.

Three small wooden bridges on this branch have been replaced with pipe and filled in. The one at Lyle's has had beam seats and back walls repaired, as recommended. This is now the only open deck bridge on the branch.

Bridges.

The two small wooden bridges on the South Branch have been replaced with pipe and filled in, thus taking out all the bridges on the branch.

STONE HARBOR TERMINAL RAILROAD.

This road extends from Cape May Court House to Stone Harbor, a distance of four miles.

It is single track, laid with 90 pound rail, ballasted with gravel.

The track between Scotch Bonnett Bridge and Cape May Court House is out of line and surface, and badly so between Seashore Road and the Atlantic City connection.

The road is now being changed to overhead trolley.

Recommendations.

That the road be put in line and surface within the next thirty days, and that part between Seashore Road and the Connection be taken care of without delay.

Bridges.

Guard-rails have been placed across the trestle at Scotch Bonnett, as recommended.

At Great Channel, the trestle has been put in much better line and surface. A row of spur piles has been driven along the north end of bents, and reinforcing piling with cross caps near the east end of bridge. Inside guard-rails west of the drawspan are only spiked every fourth tie; these should have intermediate spikes driven so that the inside guard-rails will be held at every other tie. No guard-rails are laid across the drawspan, but speed is restricted at this point to six miles per hour.

At Scotch Bonnett, the stringers are shimmed up on the end bents, and on the east end they have very little bearing. New blocking should be placed at these points and the stringers brought to full bearing thereon.

Near the clubhouse is a cast iron pipe which is too short to properly retain the fill. A head wall should be built around this pipe so as to retain the embankment full width.

Recommendations.

- (1) At Great Channel, spike inside guard-rails at least every second tie.
- (2) At Scotch Bonnett, renew shims at ends of bridge with blocking of proper size, so that stringers will have full bearing on the caps.
- (3) Pipe near clubhouse: Build headwall and fill behind it, so that embankment will be maintained full width.

TUCKERTON RAILROAD.

This road extends from Whittings to Tuckerton, a distance of twenty-nine miles. The road is used for passenger and freight traffic. It is single track, laid with 70 lb., 80 lb. and 85 lb. rail, and is in good condition.

Bridges.

There are twelve wooden trestles on this line, which are in good condition except as noted.

Bridge No. 22.6—The stringers at north end do not have a proper bearing. Shims should be placed between stringers and cap, in order to provide proper bearing.

Recommendation.

Bridge No. 22.6—Provide proper bearing for stringers at north end.

WEST JERSEY AND SEASHORE RAILROAD.

Atlantic City Division—Main Line.

This Division extends from Camden to Atlantic City, including the Van Hook Cut-off in Atlantic City, a distance of sixty-one and one-tenth miles. It is a double track, ballasted with stone laid 100 pound rail, and is in first-class condition.

Bridges.

All the recommendations in report of April 23d, 1913, have been complied with, and the bridges are now all in good condition.

In Camden, work has started on track elevation which will ultimately extend from the junction with the Van Hook Street Cut-off line to the city limits. At the present time, nine grade crossings are to be eliminated by having the railroad carried over them on bridges. The present work extends for about one mile from the junction.

Medford Branch.

This branch extends from Haddonfield to Medford, a distance of eleven and nine-tenths miles. It is a single track, laid with 60 pound rail, ballasted with sand, gravel and cinders. A good amount of cinder ballast has been placed under track, also extensive tie renewals have been made since last inspection to keep the track in safe condition for the traffic.

Maximum speed 40 miles per hour.

Eight trains run over this branch each day.

Bridges.

With the exception of Bridge No. 115, over Cooper's Creek, the bridges on this branch have all been replaced with pipe and filled in, No. 117 being the last one so treated.

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At Cooper's Creek, bridge is maintained temporarily as a deck plate girder on pile supports. A 10 mile limit exists for trains over this bridge because it is on a curve and has no super-elevation of rail. Supports are all in good condition. It is the intention eventually to place a concrete arch over the creek at this point.

Camden Terminal Division—Bridges.

Bridges are all in good condition, except the overhead bridge at Pavonia Station. Plans for renewing this bridge have recently been approved, and part of the material for the new structure is at the site. The old structure is restricted to loading which is safe for the short time this bridge is to remain in service.

Through Camden the bridges are all new.

Van Hook Street Cut-Off—Bridges.

All the bridges on this line are comparatively new, and all of them are in good condition.

Cape May Division—Main Line.

This Division extends from Camden to Cape May, a distance of eighty-two and four-tenths miles. It is double track from Camden to Newfield; single from Newfield to Mount Pleasant; double from Mount Pleasant to Sea Isle Junction; single from Sea Isle Junction to Cape May. It is laid with 100 pound rail, ballasted with stone ballast for a distance of thirty-four miles, balance gravel and cinders.

After leaving Camden Yard overhead trolley wires are used through the City of Camden and Gloucester, and third rail from there to Millville.

Steam trains are also operated over this line between Millville and Cape May, also between Glassboro, Woodbury and Camden. There are four miles of third track between Camden and Glassboro.

The track has been well maintained and is in good condition.

Bridges.

No. 2, over Newton Creek, is to have new stringers placed in track this year.

The overhead bridge at Hunter Street, Woodbury, is closed to vehicular traffic. Contracts are let for its rebuilding, and work is soon to be started on it.

On the overhead bridge north of Sewell, some pointing is necessary in the masonry.

All the other bridges are maintained in good condition.

Recommendation.

Point masonry on overhead bridge north of Sewell.

Pennsgrove Branch.

This branch extends from Woodbury to Pennsgrove, a distance of twenty-one and seven-tenths miles. It is single track, laid one-half mile of 100 pound rail, three miles of 70 pound, balance 85 pound. It is ballasted with cinders in good quantity. The track has been well maintained, and is in good condition.

Bridges.

The bridges on this branch are all maintained in good condition. There are three drawbridges on the branch. No. 207, over Raccoon Creek, is soon to be replaced with a new steel drawspan, the material for which is already at the site. A speed limit of 6 miles per hour is in force over all drawbridges.

Southward from Pennsgrove, is the Pennsgrove Extension, used only for freight. The bridges are maintained in good condition for the service.

Salem Branch.

This branch extends from Woodbury to Salem, a distance of twenty-eight and seven-tenths miles.

It is single track laid with 85 pound rail, ballasted with gravel and cinders. The track has been well maintained, and is in good condition.

Bridges.

The bridges are receiving good maintenance. No. 20, over Raccoon Creek, is at present being rebuilt as a through plate girder span on concrete abutments. This replaces a wooden trestle.

The main track of bridge No. 28, over Fenwick Creek, has not yet been repaired, but plate girders are on the ground for placing over the main channel on May 10th, 1914. Immediately following this, the remainder of the main line bridge will be put in good condition.

Quinton Branch.

This branch extends from Alloway Junction to Quinton, a distance of four and three-tenths miles.

It is single track, ballasted with gravel and cinders, laid with one-half mile of 100 pound, balance 70 pound rail.

The track has been maintained in safe condition for the traffic.

Bridges.

Recommendations for Bridge No. 72, made last year, have been carried out, and the two bridges on this branch are in fair condition and safe for the traffic.

Elmer Branch.

This branch extends from Riddleton Junction to Elmer, a distance of ten and three-tenths miles. It is single track, laid with 70 pound rail, ballasted with gravel and cinders.

This track has been well maintained, and is in good condition.

Bridges.

There is but one bridge on this branch, an I-beam structure on concrete abutments. The concrete should receive some attention in the way of plastering up holes and rough places in its face. The wooden shims under the I-beams should be replaced with iron plates; otherwise, the bridge is in good condition.

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Recommendations.

Point and fill the holes and rough places in face of concrete walls, and put iron bearing plates under the I-beams in place of the present wooden shims.

Bridgeton Branch.

This branch extends from Glassboro to Bridgeton, a distance of twenty and seven-tenths miles. It is single track, laid with three miles of 100 pound, two and one-half miles of 85 pound, balance 60 pound rail. It is ballasted with gravel and cinders.

The track has been well maintained, and is in good condition.

Bridges.

On this branch the bridges are all in good condition.

No. 39, over Mill Creek, in Bridgeton, is to be replaced with a concrete slab, the skeletons for which are at the site.

Maurice River Branch.

This branch extends from Manumuskin to Maurice River, a distance of nine and eight-tenths miles. It is single track, laid with 85 pound rail, ballasted with gravel and cinders.

The track has been well maintained, and is in good condition.

Bridges.

There remain but two small bridges on this branch, both of them wooden trestles in good condition.

Ocean City Branch.

This branch extends from Sea Isle Junction to Ocean City, a distance of sixteen and four-tenths miles. It is single track, laid with five miles of 70 pound, one mile of 85, one mile of 100 and balance 60 pound rail, ballasted with gravel and cinders.

On account of the high water during the past winter, a large quantity of cinders were required on track. They will be placed under track before June 15th this year, which will place the Road in good safe condition for the traffic.

Bridges.

Recommendations made for repairs to Bridges Nos. 48 and 49 have been carried out.

The remaining bridges are in fair to good condition, and safe for the traffic.

Stone Harbor Branch.

This branch extends from Sea Isle City to Stone Harbor, a distance of eight miles. It is single track, laid with one mile 100 pound, half mile 70 pound, balance 60 pound rail. It is ballasted with gravel and cinders.

It has been well maintained, and is in safe condition for the traffic.

Bridges.

There is one bridge on this branch, over Townsend's Inlet. This bridge has been entirely rebuilt, except for the draw span, and at the present time is in first-class condition.

Wildwood Branch.

This branch extends from Wildwood Junction to Wildwood, a distance of seven and six-tenths miles. Two miles of double track, balance single.

It is laid with 100 pound rail, ballasted with gravel and cinders. Cinders have been placed on the entire line with the exception of one mile. This will all be placed under track prior to July 1st this year, which will place this branch in first-class condition. It is now in good condition for the traffic.

Bridges.

Bridge No. 56, over Grassy Sound, has been replaced with a through plate girder drawbridge with wooden trestle approaches. The new grade has been raised about seven feet higher than the old grade at this point.

Material is on hand for making maintenance repairs to Nos. 54 and 55, this year. When these repairs are made, the bridges on this branch will all be in good condition.

Newfield Branch.

This branch extends from Newfield to Atlantic City, a distance of thirty-four and two-tenths miles. It is double track, third rail, ballasted with cinders. The track is laid with 85 pound rail, and is in first-class condition.

In addition to the electric trains, there is one local freight train running over this line each day.

Bridges.

Repairs to the bridges over the meadows are under way. The drawbridge over Beach Thoroughfare and the bridge and trestle work approaches to the same are being repaired at the present time. Repairs will include new ties and such stringers and other timber renewals as are necessary.

Bridge No. 63, Fish Creek No. 1, seven new stringers and ties are at the site for repairs at this point.

No. 67, over Hay Creek, new ties are framed at the site for a new deck on this bridge. When these repairs are made, the bridges will all be in good condition.

Workmen are at present engaged in replacing the bridge on the cross-over near J-Tower.

Chelsea Branch—Bridges.

Two small bridges are on this branch, both of them wooden trestles in good condition.

WHARTON & NORTHERN RAILROAD.

This road extends from Wharton to Green Pond Junction, a distance of 15 miles. It is used for both passenger and freight traffic, is single track, and laid with 5 miles of 85 pound rail, and the remaining distance with 60 pound rail. The road is ballasted with stone, gravel and ashes.

Recommendations made last year regarding the need of shoulder on two curves on the high fill north of Wharton have been partly completed. The trains are restricted to 10 miles per hour over the high fill.

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There have been placed in track this year about 7,000 ties, 580 cubic yards of stone ballast, and 2,000 feet of switch timber; also 1.2 miles of 85 pound rail has been laid.

Bridges.

The bridges on this line are maintained in good condition except as noted below:

Bridge No. 1.—Wooden trestle at Wharton. Stringers and defective timber in bents are to be renewed. Material for making repairs is now at the bridge site.

There is only one overhead wooden highway bridge on the line, which is to be renewed next year.

Morris County Branch.

This line extends from Wharton Junction to Central Railroad of New Jersey, a distance of one mile. It is used for freight traffic only, is single track, and laid with 70 lb. rail. Ballast is gravel and cinders. The track is maintained in good condition.

Bridges.

The one bridge on this branch is in good condition.

Oreland Branch.

This branch extends from Oreland Junction to Oreland, a distance of 3.8 miles. It is used for freight only, is single track, and is laid with 60 pound rail. Ballast is gravel and ashes.

The line is maintained in first-class condition for the traffic.

Bridges.

The bridges on this branch are in good condition.

**WILDWOOD AND DELAWARE BAY SHORT LINE
RAILROAD.**

This road extends from Wildwood Junction to Wildwood, a distance of four miles. It is single track, laid with three miles of 100 pound rail, balance 90. It is ballasted with gravel and cinders, and is in good condition.

Two additional tracks have been laid at Wildwood; one for the use of passenger trains, the other to improve the freight facilities.

The terminal facilities at this point are very good.

A turntable or a wye is still required to make a better operation during the summer months.

Bridges.

There are three bridges on this line, all wooden trestles. Those at Old Turtle Creek and Sunset Lake have I-beam spans over the channel, and the bridge at Grassy Sound has a Scherzer Rolling Lift Drawbridge over the inland waterway.

The bridges are all in good condition, except that inside guard-rails do not extend far enough beyond the ends of the bridges to properly protect

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the approaches: they should be lengthened one rail length at each end, and have their points protected by properly sloped blocks.

Recommendations.

Extend the guard-rails on all three bridges at least one rail length more than they are now. Bring the ends of the guard-rails together in the center of the track, and protect each of the points by a block properly sloped off from the top of the guard-rails to the ties, and secured in place.

WEST SHORE RAILROAD.

This road extends in New Jersey from Weehawken to Tappan, a distance of nineteen miles. It is double track.

The track is laid with 105, 100 and 80 pound rail. All of the east bound and fourteen miles of the west bound track is laid with the heavy rail, leaving but five miles of the 80 pound rail in track. Eleven miles of the 105 pound rail laid since last inspection.

The track is ballasted with stone, and is in first-class condition.

The passenger station at Weehawken has been painted.

Bridges.

The recommendations have been carried out, except the renewal of defective ties and wood guards on draw span. Considerable amount of work and repairs are in progress at this bridge, including ties, wood guards, and painting. When these are finished, the recommendations will be complied with.

Bridge No. 10 is a light wooden highway bridge of three spans. The lower chord of southeast truss is split or broken, and should be renewed.

The remaining bridges are in good condition, except a few defective ties on Bridges Nos. 5 and 6.

Recommendations.

Renew defective ties on Bridges Nos. 5 and 6.

Renew broken lower chord of southeast truss on overhead Bridge No. 10.

New Jersey Junction Branch.

This branch extends from Weehawken to Jersey City, a distance of four miles.

It is double track laid with 80 pound rail, ballasted with gravel and cinders.

It is used for freight purposes only.

The track is in good safe condition for the traffic.

Bridges.

The bridges on this branch are in good condition except for a few defective ties on Bridge J-3, over 9th Street, Jersey City.

Bridge J-2 carries Newark Avenue over the West Shore R. R. This is an old structure reinforced with three timber bents. A detailed inspection will soon be made by an inspector of this Board and report filed.

Recommendation.

Renew defective ties on Bridge J-3.

Inspections of Utilities Other Than Steam Railroads.

The following are from reports of inspectors on inspections of street railway, gas, electric light and water utilities:

ATLANTIC & SUBURBAN RAILWAY.

There have been put in the line at least 4,000 ties. Six sets of switch timbers, and all switch guards have been replaced with standard 85-lb. rail.

The Company is gradually filling in the small trestles on the Meadows Line, and will probably have this accomplished within two or three years.

Owing to the high water on the Meadows, it has been necessary to elevate the track to some extent, and this work has been going on since the end of the winter. At least three miles have been raised and surfaced, and there is at present a large gang resurfacing the remainder.

The track and roadway in general was in splendid condition.

It was noted that a number of the octagonal pine side poles had rotted at the base and were in bad condition. At least 60 poles should be replaced along the Shore Road between Absecon and Somers Point. The location from Absecon to Somers Point is on the Shore Road. This is paved with Amesite, and the portion contiguous to the rails is in very bad condition, in many places being dangerous to any vehicular traffic which might attempt to turn out of the tracks.

This should of course be repaired.

The cars have been painted and generally overhauled as to equipment, and are in very good condition.

Recommendations.

That at least 60 side poles be placed on the Shore Road between Absecon and Somers Point, and that the paving contiguous to the tracks be repaired.

ATLANTIC CITY AND SHORE RAILROAD.

Inspection has been made of the track, roadway and overhead and general equipment of the Atlantic City and Shore Railroad operating between the Inlet and Longport in Atlantic City to Somers Point.

It is found that the track and roadway and overhead are in first-class condition, as considerable work has been done on this line within the last year. Approximately 5,000 ties have been placed in track, and the entire line from Ventnor to Longport, a distance of about five miles, has been resurfaced. Approximately 50 cars of gravel have been placed in track at Margate

and the entire line through Ventnor City has been top dressed with 1-inch stone.

Thirty cars of riprap have been placed in the bulkhead at the Longport Station, and the Station itself has been rebuilt.

There have been placed approximately six miles of 2/0 trolley wire, and a new type of trolley hanger is being placed on Atlantic Avenue. This hanger would seem to be of excellent construction and forms a protection against grounding.

The joints on Atlantic Avenue are being built up by a welding process, and are then ground smooth.

It is the intention of the Company to repair all joints which are in any way "cupped."

As to rolling stock, the Company has acquired 26 near-side cars and 6 13-bench open cars. The entire number of open cars have been thoroughly overhauled in every detail, and are in good condition.

The Company has also changed its telephone signal service, and now operates over the Bell Telephone lines.

Work is progressing rapidly on the car barn which is being built at the Inlet. On its completion, this will be the largest car barn in the State. As soon as operation commences, a further report will be made.

Bridges.

A general inspection of this road was made and general conditions were noted. In many cases it was found necessary to have additional detailed inspections made of the bridges. In 1913, no general inspection of this line was made, but a detailed inspection of the high trestle over the tracks of the Atlantic City R. R. and the West Jersey & Seashore R. R. was made and reported under date of February 18th, 1913. This report showed the trestle to be in fair to good condition and material enough ordered to maintain it so. Attention was called in that report to the fact that none of the recommendations in report of August 9th, 1912, had been carried to completion. The present inspection shows that except for some timber renewals in Beach Thorofare and High Trestle, the recommendations in report of August 9th, 1912, have not yet been carried out. They are therefore repeated in this report.

Detailed inspections of all the bridges on this line have since been made. Between Pleasantville and Somers Point there are no bridges. Over the bridges between Somers Point and Ocean City, P. R. R. engines of the D-16 class are often run. The stringers, all on 14' spans, are stressed under these engines to 1,750 lbs. per square inch on extreme fibers, which is 35% higher than good practice would allow. They should be kept in first-class condition at all times, in order to insure safety under these loads, but inspection shows that this is not the case. Stresses would be reduced to reasonable limits and some margin for deterioration provided for, if another 8" x 16" stringer were added under each rail on these bridges to provide for the engine loads. Under the electric cars in operation, the present two 8" x 16" stringers per rail are not overstressed.

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The trestles at Somers Point and Rainbow Channel could apparently be shortened by filling at ends the same as the highway bridge alongside, the former by about 300 feet and the latter by about 700 feet. Two steel overhead bridges in Somers Point are being painted. The three drawbridges on the line are in good condition. All the other bridges not mentioned in this report are in fair to good condition.

*Recommendations.**Beach Thorofare, Atlantic City.*

Make timber renewals in accordance with list submitted herewith.

Bring guard rails together to a point in center of track at ends of bridge facing the direction of traffic, and protect such point by a standard beveled block (Repeated from 1912 report).

High Trestle.

Continue guard rails so they will extend in double line full length of trestle on both tracks, and on facing ends two rail lengths beyond end of bridge. Bring facing ends together in center of track and protect them with a standard beveled block (Repeated from 1912 report).

Make timber renewals in accordance with list submitted herewith.

Scrape and paint all steel work.

Rainbow Channel.

Make timber renewals in accordance with list submitted herewith.

All bridges between Somers Point and Ocean City.

Add one 8" x 16" stringer per rail to properly provide for stresses from D-16 engines.

Limit speed for all locomotives to not over ten (10) miles per hour across bridges.

Bridges—Between Atlantic City and Pleasantville.

Beach Thorofare.—An entire new deck is to be placed on the trestle approach north of the draw span, and the best of the ties removed will be spotted in where needed on the south approach. The draw span is in good condition. All ties and guards that are poor have been marked for renewal. All timber and piling was examined, and that which is recommended for renewal at the present time is listed below. Bents are numbered consecutively, and the eight lines of stringers from the south to the north sides. New caps are recommended for bents No. 33 and No. 38. New stringers are recommended for the following places:

<i>Stringer No.</i>	<i>Between Bents.</i>
4	7-8
4	9-10
2	13-14
3	26-27
3	28-29

Guard rails should be fully bolted at all splices.

High Trestle.—The company has started to fill in part of this trestle. Four bays at the south end under south bound track, and two bays at north end

under both tracks, have been filled. The filling is to continue. The west column of south bound track of span over West Jersey & Seashore Railroad is loose and pounding. A shim plate is recommended to be placed under this column to take up the motion. Bents and stringers are numbered in the same order as on Beach Thorofare. Caps are recommended for renewal on bents Nos. 36, 43, 74, 90, 95, 115, 117, 135, 143, 158, 168, 174 and 177. Sills on bents Nos. 74, 104, 127, and 163. Post No. 5 in bent No. 151; and 10 pieces of bracing in various places. Stringers recommended for renewal are as follows:

<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>
2	6-7	1	71-72	8	108-109
7	6-7	1	75-76	1	121-122
2	21-22	6	77-78	7	125-126
4	27-28	6	81-82	1	130-131
4	32-33	4	82-83	1	142-143
1	35-36	2	84-85	1	143-144
7	36-37	1	85-86	6	150-151
5	56-57	2	97-98	2	152-153
3	63-64	4	98-99	8	152-153
2	63-64	2	103-104	1	161-162
4	64-65	5	105-106	7	177-178
7	69-70	8	107-108	7	178-179

Bridges—Between Somers Point and Ocean City.

The four bridges on this part of the line were inspected, all single track.

All but the trestle over Rainbow Channel were found to be in fair to good condition and not in need of immediate repairs. On Rainbow trestle, however, 200 defective ties are recommended for renewal, also repairs made to footwalk planking. Caps and blocking which are soft and need renewing are noted below, and stringers which need renewing are tabulated. In all spans the stringers are numbered from 1 to 4 beginning with the outside one on the north side of trestle, and bents are numbered from the end.

Stringer Renewals Recommended.

<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>
4	6-7	1	114-116	1	179-180
2	14-15	1	116-117	2	180-181
2	22-23	3	118-119	4	180-181
3	30-31	3	130-131	4	184-185
3	31-32	1	130-131	3	185-186
4	34-35	4	135-136	2	191-192
4	53-55	2	137-138	4	192-194
1	70-71	4	145-146	1	192-193
1	79-80	2	168-169	3	195-196
1	86-87	2	169-170	2	197-198
4	92-93	4	171-172	1	206-208

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<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>	<i>Str. No.</i>	<i>Between Bents.</i>
4	103-104	3	178-179	1	219-220
2	236-237	4	312-313	4	395-396
4	241-242	1	338-339	1	396-397
2	245-246	4	343-344	4	403-404
1	248-249	4	367-368	2	406-407
1	279-280	2	378-379	1	417-418
4	296-297	1	379-380	3	423-424
3	303-304	1	393-394	1	430-431
1	308-309				

Cap Renewals Recommended.

On bents Nos. 35, 144, 145, 198, 235 and 388.

New Blocking Between Caps and Stringers Recommended.

On bents Nos. 177, 188, 189, 192, 193, 207, 213, 215, 273, 277, 307, 367, 410, 413, 414 and 438.

Bridges—Between Atlantic City and Longport.

Due to a washout north of Longport, a double track pile trestle has been built over the break in the roadway. It is new, in good condition, and is the only bridge on this branch.

ATLANTIC COAST ELECTRIC RAILWAY.*Bridges.*

The Atlantic Coast Electric Railway is operated from the State Camp Grounds at Sea Girt to Pleasure Bay, a total distance of about thirteen and one-half miles. There are no bridges from West End to Pleasure Bay except where the Central R. R. of New Jersey passes overhead north of Long Branch. For the purpose of this report the bridges are numbered in order from Sea Girt, there being no designating numbers on the bridges themselves.

The first bridge is across Wreck Pond. It is a double track wooden stringer pile trestle of 60 spans; alignment, tangent. It is in good condition except as noted. A few of the ties need renewing, but new ties are delivered at the site for this purpose. The line and surface of track are only fair. There are no inside guard rails; these should be put on.

Bridge No. 2 is a double track wooden stringer pile trestle across the North Branch of Wreck Pond. It is on a slight curve and is in good condition except that it should have inside guard rails.

Bridge No. 3, across another branch of Wreck Pond, is a double track wooden stringer pile trestle which is now being partly filled in. It is in good condition.

Bridge No. 4, at Belmar, over the Shark River, is a single track metal stringer trestle on concrete filled cylinders. There are two half-through

plate girder spans, one at each end of the trestle. The southern plate girder span has been covered with concrete and concrete piles have been driven at both ends. The northern plate girder span is also to be covered with concrete. The alignment is tangent, and line and surface of track are fair. The metal stringers are 20" I-beams in fair condition. There are no inside guard rails; they should be put on.

Bridge No. 5 is a double track metal stringer pile trestle of 33 spans, over Deal Lake. It is in fair condition and is provided with guard rails on both tracks. They should be spiked to every tie, and a pointed and beveled block or standard casting put on south end. Alignment is tangent, with sharp curve at south end of bridge.

Bridge No. 6 is a single track wooden stringer pile trestle of 21 spans, over Sunset Lake, on the Belt Line in Asbury Park; alignment, tangent. This structure is in poor condition and should be repaired within a year. The line and surface of track are poor; wooden stringers are crushing in places; piles are in bad condition. Caps on some of the bents are decayed, and the wooden hand-rail is weak in places.

Bridge No. 7 is a double track through riveted plate girder over the New York & Long Branch R. R. south of Elberon Station. It was built in 1912 and is in good condition except for inside guard rails; those now on should be spiked to every tie. Alignment, tangent.

Bridge No. 8 is a double track through plate girder over highway south of Elberon Station. Alignment, tangent. New bridge was built in 1912, and is in good condition except for guard rails which are incomplete. They should be laid entirely across bridge on both tracks and have their ends brought together in the center of the track at least one rail length beyond ends of bridge facing traffic, and have such ends protected by a standard casting or wooden block properly beveled off and spiked to the ties.

Bridge No. 9 is a wooden trestle of 18 spans with steel stringers, forming the north approach to Bridge No. 8 above. It is located on curve and is in fair condition except for three sills which are quite soft and which were marked. Also in two places the transverse bracing on bents is loose and should be repaired. Guard rails are not laid completely across trestle. They should be completed and fully bolted and spiked.

Bridge No. 10 is a double track through plate girder over the New York & Long Branch R. R., north of Elberon Station. Alignment, tangent. Built new in 1912. It is all in good condition.

Bridge No. 11 is the wooden trestle approach on both ends to the steel bridge No. 10 above. Both approaches have sharp curves in them, and both are double track. Quite a number of the caps and sills are getting soft; six sills and three caps in particular were noted as needing renewal this year. Some of the stringers are beginning to show soft on top and will need renewals in the near future. Two stringers in particular near the north end of curve on north approach are poor and should be renewed within a year. Diagonal bracing should be gone over and all loose ends spiked or bolted fast. Guard rails are properly on both tracks.

Bridge No. 12, at Tackanassie, is a double track wooden stringer timber bent trestle with one 30 ft. I-beam span over highway. The wooden stringer

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trestle is in fair condition, but some of the bracing and sill timber is growing soft and will soon need renewing. Guard rails are only spiked every second tie.

Recommendations.

- Bridge No. 1.—Place inside guard rails across entire structure.
- Bridge No. 2.—Place inside guard rails across entire structure.
- Bridge No. 4.—Place inside guard rails across entire structure.
- Bridge No. 5.—Spike guard rails to every tie.
- Bridge No. 6.—Thoroughly overhaul and repair trestle before April 1st, 1915.
- Bridge No. 7.—Spike guard rails to every tie.
- Bridge No. 8.—Complete guard rails on both tracks.
- Bridge No. 9.—Complete guard rails and make timber repairs as indicated in report.
- Bridge No. 11.—Make timber repairs and renewals as indicated in report.
- Bridge No. 12.—Fully spike guard rails.

BRIDGETON & MILLVILLE TRACTION CO.

Inspection has been made of the Bridgeton & Millville Traction Company operating from Millville to Bridgeton, and from Bridgeton to Port Norris.

There have been placed in track approximately 4,500 ties in the last year, and in general the track and roadway is in good condition. It will be necessary, however, to place approximately 500 ties, which should be equally distributed over the line. This will put the entire line in first-class condition.

At this time it would seem pertinent to bring up the question of a derail in the Central Railroad Crossing west of Bridgeton, and following the policy of the Board to protect all such crossings, it is therefore RECOMMENDED that such a derail be placed in the tracks of the Traction Company.

BRIDGETON & MILLVILLE TRACTION CO. AND VINELAND & MILLVILLE TRACTION CO.

Main Street Bridge.

On July 8th, 1914, the new highway drawbridge over the Maurice River at Main Street, Millville, N. J., which was constructed by the Owego Bridge Company, of Owego, N. Y., for the County of Cumberland and the Bridgeton & Millville and Vineland & Millville Traction Companies, was formally opened to traffic, and the old iron drawbridge which had been moved about 150 feet south of the present structure and used temporarily for traffic during construction, was dismantled and taken away from the site.

As shown on the detailed plans, a single car track crosses the bridge, and this is used jointly by the lines of the Bridgeton & Millville Traction Co., the cars of which run from Bridgeton to the West Jersey & Seashore R. R. Station in Millville, and the Vineland & Millville Traction Co., whose cars operate between Vineland and Millville.

The bridge under construction was inspected on January 12th, 1914, at which time the center piers and abutments were being built, and the floor system of the superstructure was being erected. Another inspection was made on August 31st, 1914, and the bridge had been completed in a satisfactory manner, and in accordance with the plans on file with the Division of Bridges & Grade Crossings of this Board.

BURLINGTON COUNTY TRANSIT COMPANY.

Inspection of Line.

Annual inspection has been made of the Burlington County Transit Company, which operates from Burlington to Mount Holly and from Mount Holly to Moorestown. It is found that enormous improvement has been made in the line during the past year.

The equipment has been thoroughly overhauled in every particular, and the cars have all been undergoing a complete renovation. This will include general refitting and repainting.

There —have been approximately 3,000 ties placed in track within the last year, and all switches and turn-outs have been renewed.

The overhead also is in good condition, and although the work that has been done is satisfactory, it will be necessary to place at least 5,000 more ties in track in order to bring it up to proper line and surface.

It is therefore RECOMMENDED:

That at least 5,000 ties be placed in track, these to extend over the entire line.

BURLINGTON COUNTY TRANSIT COMPANY.

Interlocking Plant.

Following an inspection of the interlocking plant which had been installed on the crossing between the Pennsylvania Railroad and the Burlington County Transit Company at Mount Holly, a report was submitted to the Board condemning not only the operation of this plant, but also the principle on which the plant was supposed to operate.

At the time of the investigation it was necessary to completely overhaul the mechanism and make temporary repairs in order that the plant might operate for even a short time. At that time it was RECOMMENDED that a timing element be installed which should be actuated by a spring rather than by a column of mercury as in the original instrument.

A recent inspection has been made of this interlocking plant, and it was found that the recommendation of this Board has been accepted, and that the plant as now operated includes a timing element which is actuated by a spring. Several trials were made of this, and it was found that it operated with great accuracy, and is in every way satisfactory.

**CAPE MAY, DELAWARE BAY & SEWELL'S POINT R. R.
AND OCEAN STREET PASSENGER RAILWAY
COMPANY.**

Inspection has been made of the track, roadway and equipment of the Cape May, Delaware Bay & Sewell's Point Railroad and of the Ocean Street Passenger Railway.

It was found that considerable work had been done on this property since it has been taken over by the present Company, and the road in general is in good condition as to track, roadway and overhead.

There have been placed in the line within the last year over 10,000 ties, and much of the road has been rebalasted with crushed stone or gravel.

From Madison Avenue to Sewell's Point the overhead construction has been changed from bracket to span, and owing to the damage which was done to the line along the beach front, it has been necessary to rebuild this line and put in several thousand yards of riprap.

In 1913 the Company acquired two Gould storage battery cars, and these were operated on a one-hour schedule during the winter months. As these do not necessitate the operation of the large power plant, these cars have proven very successful, and will be used during the remainder of the year as short service cars to fill in during rush hours.

The most important construction which is going on is the continuation of the line from Sewell's Point to Schellinger's Landing, where it joins the Ocean Street Passenger Railway. This will enable the Company to operate on a loop to great advantage, and will undoubtedly be of great benefit to the community in East Cape May.

FIVE MILE BEACH ELECTRIC RAILWAY COMPANY.

Annual inspection has been made of the Five Mile Beach Electric Railway, and it is found that the road is generally in excellent condition.

At the time of last inspection it was called to the attention of the officials of the Company that the track through Wildwood Crest and the City of Wildwood was in need of resurfacing. This has been done, and approximately 1,500 continuous rail joints have been placed in track. This means practically every joint has been repaired. Moreover, approximately 3,500 ties have been placed in track within the last year, and the track itself is in excellent condition.

As to the overhead, the span construction in Wildwood Crest has been changed to center pole. The feeders are now being changed, and the side poles will be removed.

As to equipment, two second-hand cars in excellent condition have been purchased and new open cars will be placed on the line this summer. The entire rolling stock has been repainted and generally overhauled.

JERSEY CENTRAL TRACTION COMPANY.

An annual inspection has been made of the Jersey Central Traction Company from South Amboy to Keyport, Keyport to Matawan, Matawan to Freneau, Keyport to Atlantic Highlands, Atlantic Highlands to Highlands, and from Campbell's Junction to Red Bank. A portion of this operation is over the Public Service tracks, namely, from Woodbridge Creek to Smith and State Street, Perth Amboy. This is a distance of 2.15 miles, and is operated as a shuttle line. The next operating subdivision is from the Staten Island Ferry in Perth Amboy through South Amboy, Morgan, Keyport, Lockport, to Campbell's Junction, a distance of 17.11 miles. The next division is from Walnut Street, Keyport, to Matawan Station, a distance of 2.62 miles. The next division is from Red Bank to Highlands, a distance of 12.20 miles, the cars going in to Atlantic Highlands on each trip east and west. The last division is from Matawan to Freneau, a distance of 1.47 miles.

The track has been entirely rebuilt from Matawan to Freneau, there have been placed in the tracks approximately 6,000 ties during the past year, and a number of small culverts and trestles have been filled in. There have been four waiting stations built, and over 1,000 feet of second track installed, not including the spur track built on the Minnisink Park Fair Grounds which was 786 feet. There have been approximately 150 new poles set, and a car shed 50 by 150 feet has been built. The track for the most part was in good line and surface, but many tie renewals will be necessary within the next year. It is the intention of the Company to renew at least 15,000 ties, and 500 poles within the next year. This will put the track in excellent condition.

There are no recommendations to be made, with the exception of one relating to guard rails on the bridge across the Shrewsbury River at Red Bank. While this bridge is on tangent, there is a sharp grade on the north end and the guard rails should be extended at least 30 feet beyond the abutment. The steel guard rails do not carry entirely across the bridge, but are replaced by a wooden inside guard. In the case of a car leaving the running track while crossing the bridge, it is very doubtful whether this wooden guard would keep the car on the bridge, therefore the steel guard rail should be carried the entire length of the bridge.

It is therefore RECOMMENDED.

That the Jersey Central Traction Company take steps to install on their bridge over the Shrewsbury River at Red Bank, two inside steel guard rails the entire length of the structure, and moreover that these guard rails be extended at least 30 feet beyond the abutments.

MILLVILLE TRACTION COMPANY.

Annual inspection has been made of the track and roadway, overhead and equipment, of the Millville Traction Company, which operates from Vineland to Millville, and in the city of Millville. Considerable work has been done on this line within the last year on the line between Vineland and Millville, but it will be necessary to place at least 1,000 more ties in the track and to resurface in order to have the track in perfect condition.

The bridge over the West Jersey and Seashore Railroad has been rebuilt and painted, and is in excellent shape.

A new station has been erected at High Speed Junction, which is the junction between the Main Line from Vineland and the line which operates to the park.

In Millville city the entire line on High, Main and Broad Streets has been rebuilt with 70 pound Shanghai "tee" rail.

Work is also rapidly progressing on the new drawbridge, and when this is finished, an interchange of traffic will be possible between the Millville Traction Company and the Bridgeton and Millville Traction Company.

Since last inspection a derail has been placed in the track, in what is known as the Clayville Siding, between Vineland and High Speed Junction.

One new 46-seat Brill car has been put in service to replace the car which was demolished during the collision last year.

Generally, the track, roadway and equipment is in good condition, but it is RECOMMENDED:

That at least 1,000 ties be placed in track, and

That the track be resurfaced between Vineland and High Speed Junction.

MONMOUTH COUNTY ELECTRIC COMPANY.

Annual inspection has been made of the Monmouth County Electric Company, and it was found that while such work as has been done is satisfactory it will be necessary to place at least 9,000 ties in the track between Red Bank and Long Branch during the coming year. The track is also in need of realignment and surface. The recommendations which were made on the two-trestle bridges, one over the Southern Railroad of New Jersey at the car barn, and the other over the New York & Long Branch Railroad, are nearing completion. The latter bridge has been strengthened satisfactorily, and work on the former is progressing rapidly. The equipment is in general in poor condition and should be thoroughly overhauled and painted this season.

Recommendations.

That at least 9,000 ties be placed in the track between Red Bank and Long Branch.

That the track be realigned and resurfaced wherever needful, and

That equipment be thoroughly overhauled and repainted if it is intended that it shall stay in service for another year.

MORRIS COUNTY TRACTION COMPANY.

Bridges.

The line is operated from Elizabeth to Bertrand Island, Lake Hopatcong, and has the following branches—Milburn, State Hospital (Morris Plains), Boonton and Wharton, a total distance of 50 miles.

For the purpose of this report, the bridges are numbered consecutively on the Main Line, starting from Elizabeth, each branch having its own numbers, there being no designating numbers on the bridges themselves. All are in good condition except as otherwise noted.

All bridges over 30 feet long have inside guard rails except No. 9, over the Passaic River. Nearly all of them have their ends protected with a standard cast iron point, but the rails in many cases are not spiked to every tie as they should be, and in many cases the guard rail ends do not extend more than a few feet beyond the back walls of the bridge. In all such cases the guard rails should be lengthened so that they will extend at least one rail length beyond the back walls.

Main Line—Elizabeth to Bertrand Island, 40.8 Miles.

Bridges Nos. 1, 2, 3 and 4, are arch culverts in good condition; alignment is tangent in each case.

Bridge No. 5—Concrete and stone arch over stream at Springfield; alignment tangent; in good condition.

Bridge No. 6—Concrete arch culvert; alignment tangent; in fair condition.

Bridge No. 7—A new through plate girder of one span, over D., L. & W. R. R., at Summit; alignment tangent; is in good condition.

Bridge No. 8—Concrete arch culvert; alignment tangent; in fair condition.

Bridge No. 9, over Passaic River—A deck plate girder of three spans, built in 1911; alignment tangent; in good condition, but without inside guard rails.

Bridge No. 10—Concrete and stone arch of one span at Lafayette Street, Chatham; alignment tangent; in good condition.

Bridge No. 11—Concrete arch culvert; alignment tangent; in good condition.

Bridge No. 12—Concrete arch culvert; alignment tangent; under construction.

Bridge No. 13—Wooden stringer overhead highway bridge over both D., L. & W. R. R. and trolley, known as Sneed's Crossing; alignment tangent; under construction.

Bridge No. 14—Concrete and stone arch; alignment tangent; in fair condition.

Bridge No. 15—Stone arch over Whippany River; alignment tangent; in fair condition.

Bridge No. 16—Wooden stringer span; alignment tangent; in fair condition.

Bridge No. 17—Wooden stringer span; alignment tangent; in fair condition.

Bridge No. 18—A through plate girder span, with two deck I-beam approach spans, over the D., L. & W. R. R., between Morris Plains and Mt. Tabor. The bridge was built in 1910 and is in good condition. All spans are single track, and alignment is tangent. All are in good condition.

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Bridge No. 19, Powder Mill Gulch—A deck I-beam viaduct of 10 spans; alignment tangent; was built in 1910 and is in good condition. Now being painted.

Bridge No. 20—A short I-beam span in good condition; alignment tangent.

Bridge No. 21. Concrete arch, in good condition; alignment tangent.

Bridge No. 22. Concrete arch, in good condition; alignment tangent.

Bridge No. 23. Three span concrete arch bridge carrying both trolley and highway over the Rockaway River; alignment tangent.

Bridge No. 24. I-beam span in good condition; alignment tangent.

Bridge No. 25. A through plate girder span over the Morris Canal at Rockaway; built in 1910.

Bridge No. 26. A through plate girder over the Morris Canal; built in 1910, and is in good condition; alignment tangent.

Bridge No. 27. I-beam span over C. R. R. of N. J., alignment tangent; in fair condition.

Bridge No. 28. Concrete and stone arch, in good condition; alignment tangent.

Bridge No. 29. Through plate girder of two spans, over Rockaway River in Dover; alignment tangent; in good condition.

Bridge No. 30. New through plate girder over D., L. & W. R. R., at Dover; carries trolley and highway; is in good condition.

Bridge No. 31. Stone arch culvert, in fair condition; alignment tangent.

Bridge No. 32. Stone arch over stream at Wharton Junction; alignment tangent; in good condition.

Bridge No. 33. Concrete arch culvert, in good condition; alignment tangent.

Bridge No. 34. Short I-beam span, in good condition; alignment tangent.

Bridge No. 35. Short I-beam span, in good condition; alignment tangent.

Bridge No. 36. Through plate girder span over Morris Canal; was built in 1910, and is in good condition; alignment tangent.

Bridge No. 37. Morris Canal Aqueduct. At this point the trolley passes under the canal; the construction is stone, and is old, and needs pointing up in many places; it also leaks considerably. This bridge should be regularly and frequently inspected by the railway company to determine progress of leakage, and condition should be corrected as far as possible when water is next drawn out of this level.

Bridge No. 38. Concrete arch culvert, in fair condition; alignment tangent.

Bridge No. 39. Concrete arch culvert, in fair condition; alignment tangent.

Bridge No. 40. Concrete arch culvert, in good condition; alignment tangent.

Bridge No. 41. Concrete arch culvert, in good condition; alignment tangent.

Bridge No. 42. Concrete and stone arch, in fair condition; alignment tangent.

Bridge No. 43. Concrete and stone arch, in fair condition; alignment tangent.

Bridge No. 44. Two span concrete arch over the D. L. & W. R. R. and Morris Canal at Hopatcong Station. The bridge, which was built in 1907, carries both highway and trolley, and is in good condition; alignment tangent.

Bridge No. 45. Short wooden stringer span, in good condition; alignment tangent.

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Milburn Branch—Milburn Junction to Maplewood, 2.5 M.

Bridge No. 1M is an arch bridge in Millburn, and is in good condition; alignment tangent.

Bridge No. 2M. Deck plate girder at end of line in Maplewood, in good condition; alignment tangent.

Asylum Branch—Morris Plains Station to State Hospital, 1.5 Miles.

Bridge No. 1A. Concrete arch culvert, in good condition; alignment tangent.

Bridge No. 2A. Concrete culvert, in good condition; alignment tangent.

Boonton Branch—Boonton Junction to Boonton, 4 Miles.

Bridge No. 1B. Short I-beam span in good condition; alignment tangent.

Bridge No. 2B. A short I-beam span in fair condition; alignment tangent.

Bridge No. 3B. A stone arch in good condition; alignment tangent.

Bridge No. 4B. This is a three span I-beam bridge over the Rockaway River, also carrying the highway. Supported on concrete filled steel cylinders, and is in fair condition. Alignment, slightly curved.

Bridge No. 5B. I-beam span over Morris Canal in Boonton, located just below the lock; also carries highway; alignment, tangent. All in fair condition.

Wharton Branch—Wharton Junction to Wharton, 1.2 M.

There are no bridges on this branch.

Recommendations.

Place inside guard rails on Bridge No. 9.

Bridge No. 37, under Morris Canal—Point masonry, and when water is next drawn out of this level, stop the leaks as far as possible. Meanwhile, make regular and frequent inspections of arch to determine progress of leakage.

Spike guard rails to every tie on all bridges. On all bridges 30 feet or more between backwalls where guard rails are short, extend them at least one rail length beyond line of backwalls.

NEW JERSEY RAPID TRANSIT COMPANY.

Inspection has been made of the New Jersey Rapid Transit Company, which operates from Townsend's Inlet to Corson's Inlet, and it was found that the track is in very poor condition, as was the rest of the equipment.

The portion of the line through Sea Isle City proper is run through a paved street, and this part of the line is in fairly good condition, as is the portion of the line from Sea Isle City to Townsend's Inlet. The remainder of the line from Sea Isle City to Corson's Inlet is, however, in a dangerous condition, both as to track and overhead. In this portion of the line there should be placed at least 2,000 ties, and at least 25 side poles. There should also be a complete overhauling and renewal of the span wires on the entire line.

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As to the rolling stock, this is in extremely bad condition, and will probably only be available for use for a short time in its present condition. The cars are in such condition that it is doubtful whether it would pay to reconstruct them, as the cost would be more than second-hand equipment. In any event, it will be necessary to place new steps on the cars which are operated this summer; to repair the roofs, and to strengthen the stanchions and grab handles. As the road does not operate to full capacity until July, this work can be started at once and probably finished before the summer travel has increased to any great extent.

It is therefore RECOMMENDED:

That the New Jersey Rapid Transit Company renew at least 2,000 ties between Sea Isle City and Corson's Inlet;

That this track be put in proper line and surface;

That at least 25 side poles be placed, renewing those which are in a dangerous condition;

That the galvanized span wires be renewed wherever necessary;

That new running boards be placed on the cars which are to operate this summer;

That these cars be generally overhauled and put in safe condition; and that they be painted.

It is further RECOMMENDED that this equipment be replaced by suitable other equipment before the beginning of the season of 1915.

The above recommendations, with the exception of the replacement of cars, to be started immediately.

NORTHAMPTON, EASTON & WASHINGTON TRACTION COMPANY.

Bridges.

The Northampton, Easton & Washington Traction Company is an electric line operated between Phillipsburg and Port Murray, N. J., a total distance of seventeen (17) miles. The line is single track, and the bridges, for the purposes of this report, have been numbered consecutively starting from Phillipsburg.

Inspection was made November 17th and 18th, 1914. Bridges are all in fair to good condition except five of them where repairs should be made to decks and stringers, and inside guard rails placed on all bridges over 30 feet in length between backwalls. They are noted in detail below:

Bridge No. 1—Lehigh Valley R. R. overhead, a deck plate girder; not examined on this inspection.

Bridge No. 2—Central R. R. of New Jersey, concrete arch overhead, built in 1910; not examined on this inspection.

Bridge No. 3—A viaduct over the Delaware, Lackawanna & Western R. R., consisting of six deck steel spans with towers, having five wooden stringer approach spans on each side. The alignment is curved, and the bridge is on a skew.

In the most southerly span two of the stringers are rotten and crushing at bearings. The other two are twisted and do not have proper bearing on cap. The outside wooden guards are in poor condition, and, with the above mentioned stringers, should be renewed before April 1st, 1915. Otherwise the structure is in fair condition.

Bridge No. 4—An I-beam span over spring run, alignment tangent, in fair condition. Concrete abutments.

Bridge No. 5—A through riveted truss span about 40 feet long, west of Stewartsville, built in 1905, alignment tangent, in fair condition, except for outside wooden guards which should be renewed. Concrete abutments.

Bridge No. 6—A half-through riveted truss span near Stewartsville about 30 feet long, alignment tangent, built in 1905, and in fair condition except that it should have inside metal guard rails installed and outside wooden guards renewed.

Bridge No. 7—A short I-beam span, built in 1905, and in fair condition. Concrete abutments.

Bridge No. 8—A short I-beam span, built in 1905, and in fair condition. Concrete abutments.

Bridge No. 9—A 12" pipe culvert, in fair condition, alignment tangent.

Bridge No. 10—An I-beam span, built in 1905, and in fair condition. Concrete abutments.

Bridge No. 11—A half-through riveted truss span, over Morris Canal near New Village, built in 1905, alignment tangent, and in fair condition. Inside metal guard rails should be placed on the bridge, and the outside wooden guards should be renewed.

Bridge No. 12—A short I-beam span, over spring run, built in 1905, alignment tangent, and in fair condition. Concrete abutments.

Bridge No. 13—A stone culvert, over dry run, alignment tangent, in fair condition.

Bridge No. 14—A stone culvert over dry run near New Village, alignment tangent, in fair condition.

Bridge No. 15—An I-beam span over spring run, built in 1905, alignment tangent, and in fair condition. Concrete abutments.

Bridge No. 16—A stone culvert, between New Village and Broadway, built in 1905, alignment tangent, in fair condition.

Bridge No. 17—A short I-beam span over spring run, built in 1905, alignment tangent, in fair condition.

Bridge No. 18—An I-beam span near Broadway, N. J., over stream; alignment tangent, in fair condition.

Bridge No. 19—An I-beam span near Broadway, N. J., over stream; alignment tangent, in fair condition.

Bridge No. 20—A rail span over spring run near Pleasant Valley, alignment tangent, in fair condition.

Bridge No. 21—An I-beam span over dry run, built in 1905, alignment tangent, in fair condition.

Bridge No. 22—A rail span over spring run near Pleasant Valley, alignment tangent, in fair condition.

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Bridge No. 23—A rail span over dry run near Pleasant Valley, alignment tangent, in fair condition.

Bridge No. 24—An I-beam span, built in 1905, alignment tangent, in fair condition.

Bridge No. 25—An I-beam span, built in 1905, alignment tangent, in fair condition.

Bridge No. 26—A half-through riveted truss over stream near Washington, N. J., alignment tangent, and in fair condition except that it should have inside metal guard rails.

Bridge No. 27—An I-beam span over spring run at Washington, N. J., built in 1906, alignment tangent, in fair condition.

Bridge No. 28—A concrete arch carrying the Delaware, Lackawanna & Western R. R. overhead at Washington, N. J., built in 1910; alignment tangent, in good condition.

Bridge No. 29—A skewed concrete arch, built in 1906, alignment tangent, and in fair condition.

Bridge No. 30—Two concrete encased stringer spans east of Washington, built in 1906, alignment tangent, and in fair condition.

Bridge No. 31—Three concrete encased stringer spans east of Washington, N. J., on skew. Built in 1906, alignment tangent, in fair condition.

Bridge No. 32—A concrete encased stringer span, built in 1906, alignment tangent, in fair condition.

Bridge No. 33—A concrete encased steel stringer span over road at Port Gilden, N. J., built in 1906, alignment tangent, in fair condition.

Bridge No. 34—A concrete barrel culvert at Port Murray, N. J., built in 1906, alignment tangent, in fair condition.

Bridge No. 35—Shield's Crossing, is an overhead highway bridge at Port Murray, N. J., built in 1906, alignment tangent. The bridge is built of concrete and wood with concrete wing walls, and is in fair condition.

Bridge No. 36—A concrete box culvert over small stream at Port Murray, N. J., built in 1906; the top of the culvert is about 15 feet below the rails. Alignment tangent. The culvert is in good condition.

Recommendations.

Bridge No. 3—Renew decayed stringers of the south span and bring all of them to good and even bearing on cap; also renew wooden guard timbers by April 1st, 1915.

Bridge No. 5—Renew outside wooden guards.

Bridge No. 6—Place inside metal guard rails on bridge and renew wooden guards.

Bridge No. 11—Place inside metal guard rails on bridge, and renew wooden guards.

Bridge No. 26—Place inside metal guard rails on bridge.

Protect all guard rail ends by a block sloped off from the top of rail to ties so as to prevent anything from catching on the rail ends. Secure these blocks to the ties.

NORTH JERSEY RAPID TRANSIT COMPANY.

An inspection has been made of the North Jersey Rapid Transit Company running from Broadway, Paterson, to Suffern, New York. At Broadway, Paterson, this line connects with the Hudson River Line of the Public Service Railway, thus affording a through electric railway route from New York to Fairlawn, Glen Rock, Ridgewood, Hohokus, Waldwick, Allendale, Ramsey, Mahwah and Suffern.

The road was completed about two and one-half years ago, and was built in every particular to operate as a high speed electric line. As it goes through a somewhat unpopulated territory, however, it has proved up to the present time unprofitable, and is at the present time in the hands of receivers. All possible retrenchments have been made, the operating force has been reduced to a minimum, and the schedule is carried out by two cars on week days running at hour intervals from each end of the line, and on Sundays four cars are operated making a one-half hour schedule.

Although the expenses have been reduced as much as is consistent with proper operation, the maintenance work has been well kept up, and the entire track, roadway, overhead and rolling stock is in excellent condition. There have been a number of tie renewals during the past spring, and the line has been generally resurfaced and realigned. It is intended to put in approximately two thousand ties in the spring, and this will put the track in first-class condition.

At the time of the inspection by the inspector of this board, the subject of revenues was brought up, and it was suggested to the officials of the road that some considerable revenue might be derived from the carrying of parcels on the front platform of the cars. This is the practice on numerous other roads, many of which do not even enjoy a freight carrying franchise, and as it is an operation which incurs no added expense to the company, it is believed that, with some little trouble, a profitable business might be built up in this manner. The officials of the company welcomed this suggestion, and intend to place in their stations in the near future posters advertising this package carrying business.

Bridges.

For the purpose of this report, the bridges are numbered consecutively, starting from the Paterson end of line. All bridges on this line are single track, and are in fair to good condition as noted in detail below.

Bridge No. 1—This is a thirty-four span viaduct over the Erie Railroad, near Glenrock, N. J., and consists of deck and through spans in the following order: 23 deck plate girders, 1 through riveted truss, 7 deck plate girders, 1 through plate girder and 2 deck plate girders. There is a heavy grade at either end and alignment is curved. Abutments and piers are concrete. The bridge is now being painted. Ties and guards are in fair to good condition, and the bridge is otherwise in good condition.

Bridge No. 2—A short span concrete culvert, alignment tangent, and in fair condition.

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Bridge No. 3—A short span concrete culvert, alignment tangent, in fair condition.

Bridge No. 4—A reinforced concrete bridge of two spans over Hohokus Creek, having concrete center pier, alignment tangent, and in good condition.

Bridge No. 5—A reinforced concrete bridge of two spans over Hohokus Creek, having concrete center pier, alignment tangent, in good condition.

Bridge No. 6—A short span concrete culvert, alignment tangent, in good condition.

Bridge No. 7—Over Hohokus Creek, a reinforced concrete bridge of two spans with concrete center pier, alignment tangent, in good condition.

Bridge No. 8—A short span concrete culvert, alignment tangent, in good condition.

Bridge No. 9—A short span concrete culvert, alignment tangent, in good condition.

Bridge No. 10.—An eleven span I-beam viaduct over siding tracks of Erie Railroad near Waldwick, N. J., alignment tangent, and in good condition.

Bridge No. 11.—A short span concrete culvert, alignment tangent, in good condition.

Bridge No. 12.—A reinforced concrete bridge of one span, alignment tangent, and in good condition.

Bridge No. 13.—A short span concrete culvert, alignment tangent, in fair condition.

Bridge No. 14.—A short span concrete culvert, alignment tangent, in fair condition.

Bridge No. 15.—A two span deck I-beam bridge over Mahwah Creek, near State line at Suffern, N. Y., alignment tangent, in good condition.

OCEAN CITY ELECTRIC RAILROAD.

Considerable work has been done on this line during the past year, and approximately 5,000 ties have been placed in track. This does not include the portion of the line from Ninth Avenue north on Atlantic Avenue to Battersey Road, thence south on Bay Avenue, a distance of one and one-eighth miles, which has been built new with 60 pound "Tee" rail. Many of the joints have been put up, and the general track has been overhauled.

As to line, surface and overhead, it is at present in good condition.

There will be two new cars put into service this summer, and the remainder of the cars have been thoroughly overhauled and painted.

PHILLIPSBURG HORSE CAR RAILROAD.

Bridges.

The Phillipsburg Horse Car Railroad Company is an electric trolley line operated through the streets of the City of Phillipsburg and out to Alpha, a total distance of about 3.83 miles.

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The bridges on this line were inspected November 17th, 1914, starting from the Delaware River Bridge and going southeast to Alpha; the bridges were numbered consecutively for the purposes of this report. The bridges are in fair to good condition as noted below.

Bridge No. 1 is a through riveted truss span over the Central Railroad of New Jersey, near the station; alignment tangent; built in 1914, by the Phoenix Steel Co. The trusses are skewed, the floor is concrete, and the bridge is built on a vertical curve. The bridge carries the street and one trolley track and is in good condition.

Bridge No. 2.—Lehigh Valley Railroad deck truss over trolley and roadway was not examined on this inspection.

Bridge No. 3.—Central Railroad of New Jersey stone arch spans over trolley and roadway were not examined on this inspection.

Bridge No. 4, over the Morris Canal and feeder, a combination wooden and steel I-beam stringer bridge, used by the trolley and highway. There are two spans separated by a dirt filled masonry pier. The masonry, which is uncoursed ashlar, is in poor condition at the west end and should be repaired. The railings on the west side are also in poor condition; otherwise the structure is fair.

Bridge No. 5, a short span concrete arch culvert; alignment tangent, single track, in fair condition.

Bridge No. 6, near Alpha, consists of I-beams under a concrete slab about 18 feet long, single track, alignment tangent, in fair condition.

Bridge No. 7, Central Railroad of New Jersey overhead concrete arch, built in 1905, not examined on this inspection.

Recommendation.

Repair and point masonry at Bridge No. 4, on both abutments and pier.

POINT PLEASANT TRACTION COMPANY.

Annual inspection has been made over the Point Pleasant Traction Company operating in the Borough of Point Pleasant and thence to Bay Head.

It is found that considerable work has been done on this line during the past year, and in general the track is in the best condition that it has been for a number of years.

The line has been entirely re-tied within the last eighteen months, and as there is very light operation over this track it is in fairly good condition. There are, however, numerous places where it will be necessary to realign the track, principally on Ocean Avenue, the track there being removed from the side of the road to the centre for a distance of about 2,000 feet.

In the Borough of Bayhead, this work is progressing rapidly, and will probably be finished by the end of July, 1914.

There are also a number of low joints in the track on Atlantic Avenue in Point Pleasant.

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It was also noted that the trolley guard which was put up by recommendation of the Commission last year over the tracks of the New York & Long Branch Railroad on the Atlantic Avenue crossing had been thrown out of line, doubtless by the severe storms of this spring. This should be straightened before the summer traffic is resumed.

As to the rolling stock, the cars are being overhauled, and will be in good condition for this season as to general efficiency. They should, however, be painted.

It is therefore RECOMMENDED:

That the track be realigned and surfaced on Ocean Avenue between Atlantic Avenue and Beacon Hotel;

That the low joints on Atlantic Avenue be put in proper surface;

That the trolley guard over the tracks of the New York & Long Branch Railroad be set straight over the centre line of the crossing, and properly guyed.

TRENTON & MERCER COUNTY TRACTION CORPORATION.

Hamilton Square Line.

An inspection was made of this line and certain recommendations were made as to tie renewals and realignment and resurfacing. This work was to be finished by October 1st, 1913. Through some error this was not submitted to the company until a later period.

On October 30th, 1913, a communication was received from Mr. Rankin Johnson, President of the Trenton & Mercer County Traction Corporation, stating that this work would be taken up in the near future. An inspection of the line does not disclose that any considerable amount of work has been done on the line. It is true that probably less than 100 ties have been placed in the track in that portion east of the Hotel Hamilton. This covers a rehabilitation of approximately 400 feet, but the remainder of the line is in a dangerous condition and should be attended to immediately.

A more adequate system of track inspection should be introduced, as over the entire line there are places where the spikes are projecting from the base of the rail or from the splice bars, and should be driven home.

It is RECOMMENDED:

That the remainder of the 500 ties, previously recommended in that portion of the track between Hotel Hamilton and Hutchinson's Mills, be renewed.

That between Hutchinson's Mills and Mercerville at least 150 ties be placed.

That between the Public Service Fast Line crossing and the beginning of the tram rail, at least 200 ties be replaced.

That the track be aligned and surfaced practically over its entire length, and

That especial and immediate attention be given to that portion of the track over and continuous to the small ridge between poles 231 and 233.

Princeton Line.

It was found that work had been done on this line within the past year and the line is in fair shape, but that between and alongside of a majority of the track grass had been allowed to grow, making a proper inspection of the conditions of the track nearly impossible. If this were all, there possibly could not be any just cause for complaint, but it is well known that grass and weeds growing up in between tracks hold moisture and shorten the average life of the tie considerably through rot.

It is therefore RECOMMENDED that the track be cleared of vegetation for all that portion lying between a line one foot beyond end of ties.

Attention should also be given to proper ditching on the side away from the highway in order that the track may have proper drainage.

ATLANTIC CITY ELECTRIC COMPANY.

A wall standard has been installed on a new slate switchboard equipped for meter testing. The load applied to meters under test is a form of phantom load. A series transformer of the type used in connection with ammeters on high tension circuits, is used with a small lamp bank on the primary side. The secondary side of the transformer, as used, is connected in series with the meters under test, but when several instruments are connected in series the voltage of the secondary side is so low that it is impossible to obtain sufficient load through the current coils for testing.

It is the inspector's opinion that if a load in the form of a lamp bank or resistance grids is used, the meter testing facilities of this company will be greatly improved.

The wall standard was tested, but the maximum load obtainable, using a portable load box, was only 56% of the capacity of the meter.

A detailed report of the test is attached and should be always accessible to the local meter tester. A further test will be made.

Wall Standard of Company.

Kind of Instrument—Integrating Wattmeter.

Manufacturer—Fort Wayne Electric Co.

Type—K3; Form SBE; No. 816215.

Amperes—25.

Volts—110.

Disc Constant—.125.

Current—A. C.; 60 cycles.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Company.

No. 2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

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<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
1	102.0	+ 2.0
2	100.4	+ 0.4
4	100.6	+ 0.6
6	100.6	+ 0.6
10	101.5	+ 1.5
14	101.5	+ 1.5

This wall standard is hereby accepted as the temporary wall standard of this company until such time when further test will be made and then sealed with the seal of this Board.

ATLANTIC COUNTY ELECTRIC COMPANY.

No meter history records are kept and there is no complete record of meter tests.

The rotating standard used for testing has no calibration curve from any laboratory of recognized standing, but was checked in February, 1913, by a rotating standard of the Atlantic City Electric Company.

There is no wall standard installed.

When meters are found to be inaccurate, constants are applied to the bill to bring the billed amount within the 4% limit allowed by the Board.

It is RECOMMENDED:

First, that meter history and test records be kept on forms similar to those approved by the Board, and of which samples are attached. (These may be procured from the Library Bureau.)

Second, that the rotating standard be checked by some laboratory of recognized standing.

Third, that a wall standard be installed.

Fourth, that all meters be adjusted to accuracy, and that no constants be used other than marked by the manufacturer on the face of the meter dial.

BOONTON ELECTRIC COMPANY.

Meter tests are not recorded in connection with the meter history.

There is no wall standard installed.

The rotating standard has not been checked since date of purchase, February 24th, 1910.

It is RECOMMENDED:

First, that meter tests be recorded either on the back of the company's own meter history cards, or that a system similar to that approved by the Board be adopted. Samples of same are attached and may be purchased from the Library Bureau.

Second, that the rotating standard be checked by some laboratory of recognized standing so that a calibration curve of recent date be obtained.

BRANCHVILLE ELECTRIC POWER, WATER & LIGHT- ING COMPANY.

An inspection was made of the company's electric lighting plant and system.

The power plant consists of a Morgan-Smith water-wheel, with a governor, a 2400 volt 100 K. W. Warren generator, a 4 K. W. Warren exciter and necessary switchboard apparatus. The apparatus and surroundings are kept clean and in good operating condition.

This plant supplies only night service, and on the day of this inspection started up at 5:30 P. M. and shut down about 7:00 A. M. The Board's Inspector stayed in the plant and watched the operation of same until 10:30 P. M. The governor on the water-wheel gives excellent service, much better than those the Inspector saw elsewhere. One-half of the street lights were cut out to show that there would be no noticeable variation on the commercial lights. The plant is run by three boys about fifteen or sixteen years of age, who attend high school during the day and operate the plant at night in four-hour shifts. Two cots are provided for the boys who sleep while the other one operates the plant. Mr. Crisiman, President and General Manager of the company, sometimes stays with the boys.

During the past year 1913 the end bearing of the generator was burnt out twice, causing interruptions of service, the first time for two nights, and the second for five nights. In the summer, when water is scarce, the plant is not run all night. The load is exceptionally heavy at all times, probably due to the fact that all services are supplied at flat rate, and so the customers use carbon lights, and many are never turned off, but are lighted at all times while plant is running. It is the opinion of the Board's Inspector that the load would be cut down at least 60 per cent. if the services were metered, which would make the customers more careful with using lights, and, also, use more efficient lights. In the summer, when water is scarce, this would be quite a saving in water, and would probably enable the plant to operate all night every night.

BRIDGETON ELECTRIC COMPANY.

The electric meters of this company are tested, adjusted and repaired in a meter shop over the company's office.

The test meters are hung on the wall, and the rotating standard is supported by a special little platform on a table. A portable load bank and a phantom load box are used. When the inspection was made the phantom load was not in working order, and the portable load bank had to have additional sockets added to put full load on the wall standard. It is suggested that a permanent load bank be installed of at least 15 amperes capacity.

The wall standard is installed on the wall, and was tested and sealed by the Board's Inspector. A detailed report of same is attached, and should be kept in the meter shop, accessible at all times by the local meter tester.

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Practically all the service meters were tested since the previous inspection, and the results of these tests are written on the back of the meter readers' cards. It is recommended that these tests be recorded on the meter history cards as soon as same are procured.

Wall Standard of Utility.

Kind of Instrument—Integrating Wattmeter.
 Manufacturer—Westinghouse Electric Company.
 Type—C.
 Serial Number.
 Amperes—15.
 Volts—100.
 Disc Constant—1.0.
 Current—A. C.; 60 cycles.

Public Utility Commission Standard.

Kind of Instrument—Portable Rotating Standard Wattmeter.
 Manufacturer—General Electric Company.
 Serial Number—2205972.
 Amperes—1, 5, 10, 50 and 100.
 Volts—110 and 220.
 Current—A. C.; 60 cycles.

Result of Test.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
1.0	100.3	+ 0.3
5.0	100.5	+ 0.5
10.0	100.0	0
15.0	99.5	— 0.5

The wall standard was sealed by two lead seals marked N.J.P.U.C. and is hereby accepted as the wall standard of this utility.

CAPE MAY LIGHT & POWER COMPANY.

This company has a form of meter history record but no meter test record. Service meters are tested by indicating wattmeters but same have no calibration cards or record of last test.

No wall standard is installed.

The utility should see that all of the rules of this Board are complied with, especially the following:

Rule XVII—Section 2, which requires that standards be tested and calibrated; also requires certificates showing same.

Rule XVII—Section 5, which requires that a meter test record be kept.

Rule XXI—Which requires that a wall standard be installed and a rotating standard wattmeter be procured.

It is RECOMMENDED that if test records cannot be kept on back of present history cards, that same be kept on cards similar to approved form as per attached samples, which may be purchased from the Library Bureau.

**CLEMENTON TOWNSHIP UNITED ELECTRIC
IMPROVEMENT COMPANY.**

This company has no meter history or test records and no wall standard is installed.

The utility should see that all of the rules of this Board are complied with and especially the following ones:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Sample of an approved form is enclosed and may be purchased from the Library Bureau.

Rule XXI, which requires that a wall standard be installed.

ELECTRIC COMPANY OF NEW JERSEY (Salem).

This company keeps meter history records but does not record index readings at the time of setting, removal and testing. There is no wall standard installed or rotating standard used.

The utility should see that all the rules of this Board are complied with, especially the following:

Rule XXI, which requires that the utility shall equip itself with a rotating test meter of suitable range and shall install a wall standard; and Rule XXII—"Each electric meter shall be tested and adjusted for accuracy before installation or within thirty days after being set."

It is RECOMMENDED that the index readings at the time of setting, removal and testing be recorded on meter history record cards. If same cannot be done on present card system, cards similar to samples may be purchased from the Library Bureau.

ELECTRIC COMPANY OF NEW JERSEY (Pitman).

This company keeps meter history records but does not record index readings at the time of setting, removal and testing. There is no wall standard installed.

The utility should see that all the rules of this Board are complied with, especially the following:

Rule XXI, which requires that a wall standard be installed, and Rule XXII—"Each electric meter shall be tested and adjusted for accuracy before installation or within thirty days after being set."

It is RECOMMENDED that the index readings at the time of setting, removal and testing be recorded on meter history record cards. If same cannot be

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done on present card system, cards similar to samples may be purchased from the Library Bureau.

ELECTRIC COMPANY OF NEW JERSEY.

(Electric Meter Testing Department, Pitman.)

In the old power house now used principally as a transformer substation, a small meter shop has been built in which a test table has been installed. This test table is built with a high back on which is mounted several banks of lamps for load for testing the meter; there is also an upright board, to the back of which is installed the wall standard, and on the front is place for hanging test meters. The flat part of the table is convenient for the rotating standard, tools, records, etc. Both 110 and 220 volt A. C. 60 cycle service is supplied and controlled through several switches.

A new rotating standard has been purchased but no correction card came with same.

The meter history records were inspected and found to be kept according to the recommendations made after the inspection of February 18th, 1914.

The wall standard was tested and adjusted and found to be acceptable as the wall standard of the Pitman District of this utility. A detailed report of the test is attached and should be kept in the meter shop, accessible at all times to the local meter tester.

Wall Standard.

Kind of Instrument—Integrating Wattmeter.

Manufacturer—Westinghouse Electric Co.

Type—OA.

Serial Number—1433092.

Amperes—10.

Volts—100.

Disc Constant—.666.

Current—A. C.; 60 cycles.

Public Utility Commission Standard.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

Result of Test.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
1.0	99.8	—0.2
2.5	99.7	—0.3
5.0	99.8	—0.2
9.5	98.8	—1.2

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The wall standard was sealed by two lead seals marked N.J.P.U.C. and is hereby accepted as the wall standard of Pitman District of the Electric Company of New Jersey.

ELECTRIC LIGHT & POWER COMPANY OF HIGHTS-TOWN.

This company does not keep any meter history records in its local office but the superintendent said that the records were kept in Philadelphia. No wall or rotating standards are in service. Service meters were tested two or three years ago by a meter man from Philadelphia who was hired to test all the meters on the system and none have been tested since.

This utility should see that all the rules of this Board are complied with, especially the following:

Rule XVII in regard to the testing of watt-hour meters which also includes the records of same.

Rule XXI which requires that each utility shall equip itself with a rotating standard test meter of suitable range and shall install a wall standard.

It is also RECOMMENDED that all meter records be kept in the local office, and, if found necessary, a duplicate system might be kept in the Philadelphia office.

FLEMINGTON ELECTRIC LIGHT, HEAT & POWER CO.

This company does not keep any meter history records and there is no wall standard installed.

The utility should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires meter history records. Samples of approved form are enclosed, and may be purchased from the Library Bureau.

Rule XXI which requires that a wall standard be installed.

FRENCHTOWN ELECTRIC LIGHT & POWER CO.

This company has only six metered services and there are no meter history or test records for same.

Rule XVII of the Board requires the testing of watt-hour meters.

Rule XXI requires each utility to equip itself with a rotating standard test meter and install a wall standard, unless an application is made for modification of this rule.

Cards on which meter history and test records are kept are enclosed herewith.

HACKETTSTOWN ELECTRIC COMPANY.

This company keeps a somewhat incomplete meter history record and there is no wall standard installed.

The utility should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires that meter history and test records be kept; samples of approved form are enclosed herewith and may be purchased from the Library Bureau.

Rule XXI, which requires that a wall standard be installed.

HAMMONTON ELECTRIC COMPANY.

This company has no meter history records and test records are not recorded.

A rotating standard is also used by the Pleasantville Heat, Light & Power Company. There is no wall standard installed.

The utility should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires that meter history and test records be kept; samples of approved form are enclosed and may be purchased from the Library Bureau.

HARRISON HEIGHTS IMPROVEMENT COMPANY.

This company has no meter history or test records. There are twenty-three metered services of which eleven are metered by Bastian Meters. These meters are of the electrolytic type and measure the power consumed by gassing the water in a glass tube. They are claimed by the manufacturers to be very accurate, but have never been tested by the Board's Inspector. It is his opinion, however, that they may be excellent ampere hour meters, but not watt-hour meters, as the scale of a 220-volt meter is graduated with twice as many divisions as 110-volt meter. If any intermediate voltage is used the scale is graduated accordingly, but all other parts are the same. If, therefore, the voltage varies 4% from the rated voltage of the scale, the meter is incorrect just that 4%. Another bad feature is that it is not a continuous recording meter, that is, the reading of the meter taken a year previous subtracted from the present reading would not give the power consumed for one year, because water is to be added from six to twenty-four times a year to replace that which has been gassed. Another point is that there are two chances of error when water is added due to misreading before and after filling, and this error cannot be checked in any way.

No standards for testing are used as this company has been granted a modification of the rules regarding the testing of meters.

This utility should comply with Rule XVII, which requires that a meter history record be kept. Cards for same are enclosed herewith.

HUNTERDON ELECTRIC LIGHT & POWER COMPANY.

This company has no wall standard installed. The record of checking the rotating standard is dated February 21st, 1911.

The company should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 2, which requires that portable standards, if not tested and calibrated in the laboratory of the electrical utility owning the same shall be tested and calibrated in any properly equipped laboratory of revised standing. Each standard shall at all times be accompanied by a certificate giving the date it was last checked, the correction to be applied at various loads and signed by the proper authorities.

Rule XXI, which requires that a wall standard be installed.

JAMESBURG ELECTRIC COMPANY.

The plant is a small hydro-electric plant consisting of one water wheel, one generator, one exciter, switchboards and street light transformer.

The governor on the water wheel is not working and as the voltage is regulated by hand, there is a wide variation of voltage, when the load is variable. During the inspection, 1914, this variation at several times was over 30 volts. The exciter was sparking badly, but is the only one in the plant, and if anything should happen to it, the entire plant would have to shut down. The switchboard is in bad condition as the panels were broken and are now patched with plaster of paris. The wiring on the back is in fair condition. The inside of the power house is not as neat and clean as it should or could be. This is probably due to the fact that the plant is run by one man all night, and in the daytime it is his duty to read meters, collect bills, make both electric and water service connections, wire houses and take care of poles and pole lines.

The distribution system is hampered, to a certain extent, by poles of the electric company that rendered service previous to the present company.

The records of all meters are sent to the Philadelphia office and not kept on file in the local office. It is RECOMMENDED that these records be kept in the local office. If the company desires all such information in its Philadelphia office, duplicate records should be kept in the local office.

* * * * *

P. S.—This company has been in hard luck, a fire having caused serious damage in the combined water and electric plant. The present condition of the governor is undoubtedly due to causes connected with the fire. Notwithstanding this, all conditions of operation ought to be arranged so that good service with proper regulation can be furnished from this plant. The fluctuation of voltage referred to above is entirely beyond reason, and should be remedied as promptly as possible.

It is RECOMMENDED that conditions regarding cleanliness which involves safety from fire be improved; and it is further RECOMMENDED that steps be

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taken as promptly as possible to put the governor in order, and improve the conditions regarding voltage fluctuation. In my opinion, this ought to be completed not later than May 1st.

KENNEDY ELECTRIC COMPANY.

This company has but fourteen metered services, and does not keep meter history or test records. No rotating standard is used nor is a wall standard installed.

The company should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept; cards on which to keep same are enclosed herewith.

Rule XXI, which requires a rotating standard and a wall standard, unless application is made for a modification of this rule.

LAKEWOOD WATER AND LIGHT COMPANY.

This company has a meter history and test record. The index readings are not recorded at the time of testing. There are no wall standards installed; the meter dials are set back to zero when the meters are tested in the shop.

The company should comply with Rule XXI of this Board, which requires that a wall standard be installed.

It is RECOMMENDED that dial readings be recorded when meters are tested, and that the meter dials should not be set back to zero, in order that a complete history record may be kept.

LAMBERTVILLE HEAT, LIGHT & POWER COMPANY.

This company has no meter testing apparatus or wall standard.

The meter history record was not inspected because the manager was out of town, and records were locked up.

In compliance with Rule XXI of this Board, the company should procure a rotating standard test meter and install a wall standard.

If the company is not keeping a meter history and test record of approved form, same should be started on cards similar to attached samples, which may be purchased from the Library Bureau.

MIDDLESEX & MONMOUTH LIGHT, HEAT & POWER COMPANY.

This company does not keep a meter history record.

There are no wall standards installed, and the rotating standard has not been checked since date of purchase—December 17th, 1909.

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The company should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form are enclosed herewith and may be purchased from the Library Bureau.

Rule XXI, which requires that wall standards be installed.

Rule XVII, Section 2, which requires "all portable standards be tested and proved as to their accuracy as often as is necessary to insure their maintenance in proper condition." A period of over four years since last check seems too long a time to trust a portable rotating standard to maintain its accuracy.

MILLBURN ELECTRIC COMPANY.

A test was made on the Portable Rotating Standard used by this company for testing of the meters in service. The result of the test is as follows:

Maker—General Electric Company, Type I B 4.

Serial Number 2284299—Cycles 125.

Amperes 1, 5, 10, 50 and 100. Volts 120.

Standard used—Westinghouse No. 157938.

<i>Coil.</i>	<i>Amp.</i>	<i>Per Cent. of Full Load.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
5	2	40	100.9	+ 0.9
5	5	100	100.2	+ 0.2
10	10	100	100.3	+ 0.3
50	15	30	101.0	+ 1.0
50	20	40	100.8	+ 0.8

This meter is acceptable as a Portable Standard to be used in testing service meters. The above correction should be applied and if other points on the coils are required same can be determined by comparison with the wall standard.

A copy of this test should be kept in the meter shop for reference.

MILLBURN ELECTRIC COMPANY.

The wall standard for this company is installed on the wall of meter shop. The meter shop is a room in the attic of the residence of the meter tester, corner of Spring and Main Streets.

The wall standard was tested and found to be 2.3 per cent. fast on 25 per cent. of full load. It was adjusted and tested. The result of the test is as follows:

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Maker of meter—Westinghouse Electric and Manufacturing Company.
 Type—C with glass cover.
 Serial number—684360.
 Amperes—20 Volts, 100 Cycles 125.
 Standard used—Westinghouse No. 157938.

<i>Load in Amperes.</i>	<i>Per Cent. of Full Load.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
2	10	99.8	— 0.2
5	25	100.1	+ 0.1
10	50	100.1	+ 0.1
15	75	100.8	+ 0.8
20	100	100.8	+ 0.8

The meter was sealed with lead seals marked "N.J.P.U.C.", and is hereby accepted as the wall standard of this company.

A copy of this test should be kept with the meter so that the meter tester may use the corrections when checking the rotating standard.

MILLVILLE ELECTRIC LIGHT COMPANY.

The meters tested since the first of this year have not been tested by comparison with a rotating standard, but only by comparison with a common service meter whose per cent. accuracy was not known. This matter was taken up; the rotating standard will be used in the future and the records will be kept on the cards recommended in the last report.

A wall standard has been installed and was tested and sealed to-day by the Board's Inspector. A detailed report of the test is attached, and should always be accessible to the local meter tester.

The wall standard is installed on the wall of the local office but no convenient load in the form of a lamp bank, resistance box or phantom load had been arranged for. Although the wall standard is only a 10 ampere meter, only 80 per cent. of full load was obtainable. The intention of providing an adequate lamp bank was expressed, and it is recommended that same be installed as soon as possible.

Wall Standard of Utility.

Kind of Instrument—Integrating Wattmeter.
 Manufacturer—Sangamo Electric Company.
 Serial Number—272707.
 Type—H.
 Amperes—10.
 Volts—110.
 Disc Constant—5/12.
 Current—A. C.; 60 cycles.

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Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.
 Manufacturer—General Electric Company.
 Serial Number—2205972.
 Amperes—1, 5, 10, 50 and 100.
 Volts—110 and 220.
 Current—A. C.; 60 cycles.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
1.0	100.0	0
2.5	99.4	— 0.6
5.0	100.2	+ 0.2
8.0	101.0	+ 1.0

This meter is hereby accepted as the wall standard of this utility.

MONMOUTH LIGHTING COMPANY.

This company does not keep meter history or test records in their local office, and only a form of history record in the Perth Amboy office.

No meter-testing apparatus is used and no wall standard has been installed.

The company should see that the rules of the Board are complied with, especially the following:

Rule XVII, Section 5, which requires that meter history and test records be kept. Samples of an approved form are enclosed and may be purchased from the Library Bureau.

Rule XXI, which requires that a rotating standard be procured and a wall standard installed.

It is recommended that the meter records be kept on file in the local office, and, if necessary, duplicates to be sent to the main office.

MOORE BROTHERS GLASS COMPANY.

An inspection was made with the intention of testing the wall standard of this company, but it was found that nothing had been done in reference to the order of the Board requiring that a wall standard be installed.

The company has had its rotating standard checked by the manufacturer, and has the correction curves for same.

No records are kept of the meters tested this year, or even since the first inspection, which was made in February, 1914.

In view of the fact that this is a small company, the previous recommendations should not be ignored, and it is again recommended that the meter history and test records be accurately kept, in order that such reports may

be rendered quarterly to the Board; and that a wall standard be installed as soon as possible and the Board notified when same is ready for testing.

NEW EGYPT LIGHT, HEAT, POWER & WATER COMPANY.

A general inspection of the New Egypt Light, Heat, Power & Water Company's electric plant on Oakford Lake Avenue, New Egypt, was made.

The building is about 30 feet by 50 feet with common red brick walls about 10 feet high, gable roof covered by tar paper supported by wood trusses.

The generating equipment consists of two 40-horse power De LaVergne crude oil engines to which are belted two Direct Current Ohio Electric Company's generators—Type L, Frame 4, Form A, KW 27, Volts 250, Amperes 108, Rev. 1075, Spec. 2383, individual numbers 3685 and 3684. Each engine is belted to but one of the generators. The engines are both belted to a *shaft* supported by hangers from the roof trusses, and supply power to run a Deming triplex water pump 7 inch by 8 inch cylinders which lift water from well to Water Company's water tower. This pump is located in a small extension to the above-mentioned building.

Oil storage consists of a steel tank 22 feet long by 9 feet diameter, located outside the building. The tank is connected to the Standard Oil Company's oil station and supplied by pipe line either by gravity or under pressure.

The switchboard consists of three slate panels 21 inches wide by five feet high and one panel 26 inches wide by 5 feet high manufactured by Rumsey Electric Company, Philadelphia, Pa. Mounted on these panels are:

- 3 Dongan 300 volt Voltmeters.
- 2 Dongan 150 ampere Ammeters.
- 2 Dongan 100 ampere and 30 ampere Ammeter used for battery charging and discharging.
- 2 Roller & Smith 150 ampere 250 Volt circuit Breakers—one for each generator.
- 1 GE type C form G 100 ampere circuit Breaker on battery.
- 1 GE type C form G 150 ampere circuit Breaker on battery.
- 2 Hand operated voltage regulators for generators.
- 1 Battery charging rheostat.
- 1 Integrating Sangamo 200 ampere 250 volt wattmeter which measures total output of plant.

Necessary main, auxiliary and battery charge and discharge switches.

Auxiliary apparatus consists of 128 storage battery 7 plate cells, 96 ampere hour capacity and 18 counter cells of 9 plates.

Line protection apparatus consists of Westinghouse lightning apparatus outside type installed on pole just outside building.

In general operation the batteries are charged after heavy load at night, drops down and then the day load is carried by the batteries. This allows the engines to be repaired in the daytime and then the water pump is used so

that the engine will not have to carry both electric load and pump load at the same time. Electric power is also supplied to a small motor which is geared to 4 by 6 inch Smith Vaile triplex pump for use of water company.

The street lighting is a 220 volt multiple incandescent system, operated till midnight.

There are no recording charts on either electric load or pressure. According to the operator the highest load carried at any one time is about 95 amperes of which 15 amperes are used by the moving picture show.

The company has a set of portable indicating instruments, but no stop watch, so that meters cannot be accurately tested.

It is RECOMMENDED that a stop watch be purchased.

No meter history records are kept.

The company should comply with the rules of the Board, especially in reference to testing of meters and keeping of meter history records on the forms which have been supplied by the Board or on similar cards.

A verbal recommendation was made to John Meirs, that for the safety of the employees of the company, guard rails be installed around belting, especially by the belt near the pump room, as a man coming up from the pump room could easily step on the belt and be carried under the wheel of the engine. This recommendation was apparently favorably received, but on March 25th, 1914, another Inspector of the Board inspected the plant and found no guard rails had been installed. He reported also that the pulleys of the generators were giving trouble, due to the high speed at which they are run, exerting a centrifugal force of sufficient strength to burst the pulleys.

It is RECOMMENDED that guard rails be installed around belts and if nothing can be done to remedy the bursting of pulleys, at least screens should be built around same to protect employees and apparatus from the flying pieces.

NEW JERSEY WATER & LIGHT COMPANY.

This company does not keep the meter test records in its local office. The rotating standard used was checked in 1913 but the certificate of same is kept in the Jersey City office. There is no wall standard installed.

This utility should see that all of the rules of this Board are complied with, especially the following:

Rule XVII, Section 2, which requires that a certificate of the last check of rotating standard with the corrections applied at various loads should be kept on file at the Utility's office, that is to say its local office.

Rule XVII, Section 5, which requires that meter history and test records be kept. Samples of approved form are herewith enclosed.

Rule XXI, which requires that a wall standard be installed.

This company maintains a nicely equipped meter shop at its local office. A wall standard has been installed and was tested by the Board's Inspector on April 28th, 1914. By a combination of a lamp bank and resistance grids, it was easy to vary the load as desired on meters to be tested. The result of

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the test on the wall standard is attached and should be kept in the meter shop, accessible at all times to the meter tester.

In the last report covering the inspection made January 27th, 1914, it was recommended that the meter test reports be kept in the local office. This is now being done in a satisfactory form.

In reply to the letter of Floyd Ramsay, Treasurer of the Company, dated May 6th, 1914, an answer was made in the form of a visit by the Board's Inspector, to the main office in Jersey City. The forms of the "Summary of Electric Meter Tests" were explained and it is RECOMMENDED that these forms be made out monthly, and signed by the meter tester, at Deal.

Wall Standard of Company.

Kind of Instrument—Integrating Wattmeter.

Manufacturer—Westinghouse Electric Co.

Type C—Serial Number 689770.

Amperes—5.

Volts—100.

Current—A. C.; 60 cycles.

Disc Constant—0.333.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.5	99.3	—0.7
1.0	100.0	0
2.5	99.8	—0.2
5.0	99.9	—0.1

This meter was sealed by the company's seal but will be sealed with seals marked N.J.P.U.C., and is hereby accepted as the wall standard of this company.

NEW ORANGE PARK WATER, HEAT, LIGHT & POWER CO.

The power plant was built about five years ago, and is housed in a building 60 by 80 feet, made of concrete blocks, about 15 feet to eaves; the roof is corrugated galvanized iron supported by iron trusses.

One Coatesville steam boiler of 150 H. P. supplies steam to both water and electric departments.

Electricity is generated by one 35 K. W. 140 amp. Sprague machine, No. 75919, at 125 and 250 volts D. C., direct connected to one Ames horizontal steam engine of 300 R. P. M.

The switchboard consists of two slate panels, mounted on iron pipe stands, and has two ammeters, one voltmeter, one hand operated voltage regulator and necessary knife switches. The wiring on the back of same is clean and put up in good workmanlike manner, and is safe for the low tension voltage generated and supplied.

There is no auxiliary equipment for the generation of electric power, but the system is tied in with the Public Service Electric Company through a 50 ampere 200 volt meter.

The water plant consists of one steam-driven horizontal Clayton air compressor, 10" x 12" x 10", No. 179458, with a 2" Erie governor. This compressor supplies compressed air to well 275 feet deep, located near the power plant, which forces the water up to a concrete reservoir 10' x 10' x 20'. From here the water is lifted by a duplex, compound, horizontal Worthington steam pump 8" and 12" x 7" x 10", No. 350189, to a standpipe 60 feet high by 20 feet diameter.

About 25 houses are supplied with water, and the consumption is so small water is only pumped about once a week.

The electric plant is run only from dusk till about 10 P. M. in the winter, and the rest of the night and in summer it is supplied by the Public Service Electric Company.

As above stated, the plant is about five years old, but, because of the little that the same is used and good condition in which it is kept, does not look over two years old.

All the electric services, of which there are about thirty, are metered by General Electric Company meters of the Thompson D. C. type. The company pays the regular rate of ten cents per K. W. H. for the power, and charges the customer the same, with a minimum of \$1.00 per month. The company, therefore, has to stand the line loss and maintenance and meter loss. The latter is considerable, due to the fact that D. C. meters are used when the A. C. is supplied when the plant is not running, and the Public Service is tied in. The manager, James J. Dixon, said that this loss is about 2 per cent., although it may be more.

In the winter months heat is supplied to two houses near the plant by the exhaust steam from pump, compressor and engine. In order to have sufficient steam, water is pumped oftener in the winter than in the summer.

A copy of the rules of this Board for Electrical Supply Utilities was left, so that this utility may be able to comply with same. No apparatus is on hand for testing meters, no poles have been marked for identification, and other rules have not been followed.

OCEAN GROVE CAMP MEETING ASSOCIATION.

This company has no meter history or test records and there is no wall standard installed.

This utility should see that all the rules of this Board are complied with, especially the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of approved form are enclosed and may be purchased from the Library Bureau.

Rule XXI, which requires that a wall standard be installed.

This association maintains a meter shop over the Arc Lamp Repair Shop and has installed there a wall standard over the meter test table. A lamp bank is arranged to supply load for meters under test. The wall standard was tested and a copy of the results of the test are attached and should be kept in the meter shop, always accessible to the meter testers.

Wall Standard of Company.

Kind of Instrument—Intergrating Wattmeter.

Manufacturer—Westinghouse Electric Co.

Type C—Serial Number 268541.

Amperes—5.

Volts—100.

Current—A. C.; 60 cycles.

Disc Constant—0.333.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Approx. Load In Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.5	99.7	—0.3
1.0	99.9	—0.1
2.5	99.6	—0.4
5.0	99.6	—0.4

This meter was sealed by the company's seal, but will be sealed with seals marked N.J.P.U.C., and is hereby accepted as the standard of this company.

PENNS GROVE ELECTRIC LIGHT, HEAT & POWER CO.

This is a new company, and they have as yet no meter history or test records, nor a rotating or wall standard.

In compliance with the rule of this Board, the company should take special consideration of the following:

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Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form may be purchased from the Library Bureau.

Rule XXI, which requires that a rotating standard be used for testing meters, and a wall standard be installed.

PLEASANTVILLE HEAT, LIGHT & POWER COMPANY.

A wall standard has been installed in the meter shop near the power house and in connection with same a lamp bank of 5 amperes capacity, as a load for checking the rotating standard and testing service meters.

The rotating standard now used by the company was received from the manufacturer since the previous inspection made in February, 1914. No correction curve was received with the instrument, and, by request of the meter tester, it was checked at three different points by comparison with the Board's rotating standard. The wall standard was also tested. The details of these tests are attached and should be kept in the meter shop, always accessible to the local meter tester.

Wall Standard of Company.

Kind of Instrument—Integrating Wattmeter.

Manufacturer—General Electric Co.

Type—I 10. Serial Number—3242839.

Amperes—5.

Volts—110.

Current—A. C.; 60 cycles.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.5	100.5	+0.5
1.0	100.6	+0.6
2.5	100.7	+0.7
5.0	100.6	+0.6

This meter was sealed by two common lead seals with a private mark, and will be sealed with seals and marked N.J.P.U.C., and is hereby accepted as the wall standard of this company.

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Portable Standard of Company.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial No. 1420418.

Amperes—1, 10 and 20.

Volts—110 and 220.

Current—A. C.; 60 cycles.

Disc Constant—0.25.

Standard of Board of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Amperes.</i>	<i>Coil.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
1	1	100.0	0
5	10	99.8	— 0.2
5	20	99.0	— 1.0

This instrument is hereby accepted as a portable standard of this company, to be used for testing customer's meters, provided it is checked as often as necessary with the wall standard, to see that nothing interferes with the various parts to have it register inaccurately.

This instrument was not sealed by the Board's Inspector.

POINT PLEASANT ELECTRIC LIGHT & POWER COMPANY.

The meter shop is located in the rear of the local office, and the installation of a meter test table has just been completed. This table is of good size, and ample room is allowed for hanging of test meters. On the face of the upright a wall standard has been installed, and numerous connections are possible.

The only disadvantages of the present arrangements are that all the current used at the test board is metered by the wall standard and the fuses at the main switch are too small. The latter can be easily remedied and the former may be remedied in either of two ways; the first and best method is to have a double throw switch installed on the board so that power is supplied to the meter only when the rotating standard is being checked. The second method is to short circuit the current coil of the wall standard with a switch and open the potential circuit when the standard is not in use.

The wall standard was tested by the Board's Inspector, and a copy of the results are attached hereto, which should be kept in the meter shop, always accessible to the meter testers.

Wall Standard of Company.

Kind of Instrument—Integrating Wattmeter.
 Manufacturer—Westinghouse Electric Co.
 Type C; Serial Number 850073.
 Amperes—20.
 Volts—100.
 Current—A. C.; 60 cycles. (Name plate marked 133 cycles, but has been recalibrated to 60 cycles.)
 Disc Constant—1.333.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Wattmeter Standard.
 Manufacturer—General Electric Co.
 Serial Number—2205972.
 Amperes—1, 5, 10, 50 and 100.
 Volts—110 and 220.
 Current—A. C.; 60 cycles.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.5	100.4	+ 0.4
1.0	100.4	+ 0.4
5.0	99.3	— 0.7
10.0	99.9	— 0.1
20.0	99.3	— 0.7

This meter is sealed with seals bearing a private mark, but will be sealed with seals marked N.J.P.U.C., and is hereby accepted as the wall standard of this company.

ROCKLAND ELECTRIC COMPANY OF NEW JERSEY.

The Rockland Electric Company of New Jersey supplies electric light and power to towns in the northeastern part of this State. The power houses are at Hillburn, N. Y., and Orangeburg, N. Y., and are operated by the Rockland Light & Power Company, and expenses are paid by the Rockland Electric Company of New York and the Rockland Electric Company of New Jersey in proportion to the returns of each company. There is no power house in New Jersey, and only a small substation is located in Closter, N. J., to take care of the street lighting only.

The two companies are operated from the same office, located at No. 2 North Broad Street, Nyack, N. Y. The records and meter shop were inspected June 11, 1914. The records in all cases were found complete, and kept up to date with new construction and renewals. Complaint records are kept in duplicate, are signed by complainant and filed alphabetically. A good card system, of an approved form, is in use for keeping meter history and test records.

In the meter shop a test table is in use and on which loads up to 50

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amperes at 110 volts and 25 amperes at 220 volts can be obtained. For higher values standard transformers are used.

The three Westinghouse rotating standards are checked weekly against the indicating instruments in shop. Within a week, a wall standard will be installed in the Nyack shop, and also one in the shop at Hillburn, in order that the rotating standards may be checked daily.

The rotating and indicating standards are all kept in New York State, as most of the work is done there, and these instruments are checked by the Public Service Commission of the Second District of New York State every six or eight weeks. The other instruments, such as current and potential transformers, are checked on request of the company.

No recommendations are considered necessary at this time, as the regulations of the Board are being followed as applying to companies operating within the State.

SAYREVILLE ELECTRIC LIGHT & POWER CO.

This company has no meter history or test records, but will start a card system of an approved form.

No meter testing has been done, but a rotating standard will be procured, a wall standard installed, and the Board notified when same is ready for testing.

Of the 119 meters in service about 100 are owned by the customers, and the others rented at thirty-five cents per month. The company will endeavor to purchase the meters owned by the customers by January 1st, 1915, but a minimum charge will then be required in the opinion of the company.

SEA ISLE CITY ELECTRIC COMPANY.

This company keeps no meter history or test records.

In compliance with the rules of this Board the company should take special consideration of the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form may be purchased from the Library Bureau.

Rule XXI, which requires that a rotating standard be used for testing meters, and a wall standard be installed.

H. B. SMITH MACHINE COMPANY.

This company supplies electricity to a few customers in town. Several indicating instruments are used in the plant for testing, and same could be used for testing service meters.

It is not deemed necessary to offer any recommendations pertaining to the Meter Department of this company.

STONE HARBOR ELECTRIC LIGHT & POWER CO.

No rotating standard is used for testing service meters and no wall standard is installed. Although meter history records are kept, samples of an approved form of the combination meter history test records are enclosed, and if the company desires to use this system, copies may be purchased from the Library Bureau.

In compliance with the rules of this Board, the company should use a rotating standard and install a wall standard, as per Rule XXI.

TOMS RIVER & ISLAND HEIGHTS ELECTRIC LIGHT & POWER CO.

In the report of the Inspector it was stated that the company did not have a customers' record, nor a meter history record. This appears to have been based on statements made to the Inspector, or upon his interpretation of the statements.

The company has submitted a blank form which shows the name of the customer, location, a full list of the complaints and the disposition of the same, the tests made of the meter, and various other incidental information concerning the particular customer. Thus on one form is a complete history of the customer's relation with the company, including a record of complaints.

This form is somewhat unique, and is probably entirely satisfactory for a company the size of the one under consideration.

The data concerning meters, however, is not sufficient to constitute a full meter history, and it is again RECOMMENDED that in addition to the form which the company now keeps, a meter history record be kept in general, in the form suggested in previous reports. A sample of this form is submitted herewith, and it is suggested that these cards can be obtained in bulk, without delay, from the Library Bureau, 316 Broadway, New York.

VULCAN ELECTRIC LIGHT, HEAT & POWER COMPANY.

No rotating standard is used for testing service meters and no wall standard is installed. Although meter history records are kept, samples of an approved form of the combination meter history test records are enclosed, and if the company desires to use this system, copies may be purchased from the Library Bureau.

In compliance with the rules of this Board the company should use a rotating standard and install a wall standard, as per Rule XXI.

WASHINGTON ELECTRIC COMPANY.

This company has a form of meter records but not a complete meter history record.

Meters that are tested in the shop have the dials set back to zero.

The rotating standard has not been checked by a laboratory of recognized standing since 1906, but was checked December, 1913, by the standard used in Hackettstown.

No wall standard is installed.

The utility should see that the following rules are complied with:

Rule XVII, Section 2, which requires that rotating standards "shall be tested by a laboratory of recognized standing," and "be accompanied by a certificate giving the date it was last checked, the corrections to be applied at various loads and signed by the proper authority."

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form are enclosed, and may be purchased from the Library Bureau.

Rule XXI, which requires a wall standard be installed.

It is also RECOMMENDED that the meter dials shall not be set back to zero when tested in the meter shop, but allowed to record continuously for the purpose of obtaining a complete meter history record.

WARREN WOOD WORKING COMPANY.

This company keeps no meter or test records.

In compliance with the rules of this Board the company should take special consideration of the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form may be purchased from the Library Bureau.

Rule XXI, which requires that a rotating standard be used for testing meters, and a wall standard be installed.

WEST JERSEY ELECTRIC COMPANY.

This company uses a rotating standard which has record of being checked September 15th, 1911, but not since then.

Meter history records are not kept, but the meters have date of last check on face of dials.

Meters that are tested in shop have the dials set back to zero.

The utility should see that the following rules are complied with:

Rule XVII, Section 2, which requires that rotating standards "shall be tested by a laboratory of recognized standing," and "be accompanied by a

certificate giving date it was last checked, the corrections to be applied at various loads and signed by the proper authority."

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form are enclosed, and may be purchased from the Library Bureau.

It is also RECOMMENDED that the meter dials shall not be set back to zero when tested in the meter shop, but allowed to record continuously for the purpose of obtaining a complete meter history record.

WEST JERSEY ELECTRIC COMPANY.

The meter shop of this company is located in a part of the power house. The test table has a bank of lamps attached and controlled through switches to put a load on meters under test. The wall standard is installed on a board directly over the table and space is left for hanging meters to be tested.

The wall standard installed has a diamond jewel, and was tested by the Board's Inspector.

At the request of E. T. Nye, Superintendent of the company, the portable rotating standard was also tested on a few points of the smallest coils.

Details of both tests are attached and should be kept in the meter shop, always accessible to the local meter tester.

Wall Standard of Company.

Kind of Instrument—Integrating Wattmeter.

Manufacturer—Fort Wayne Electric Co.

Serial Number—44031.

Amperes—10.

Volts—110.

Current—A. C.; 60 cycles.

Disc Constant—0.5.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Approx. Load in Amperes.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.5	99.2	—0.8
1.0	100.7	+ 0.7
5.0	100.9	+ 0.9
10.0	100.6	+ 0.6

This meter was sealed with two common lead seals with a private mark, but will be sealed with seals marked N.J.P.U.C., and is hereby accepted as the wall standard of this company.

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Portable Standard of Company.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—Fort Wayne Electric Company.

Serial Number—634841.

Amperes—5, 10, 25, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

Standard of Public Utility Commission.

Kind of Instrument—Portable Rotating Standard Wattmeter.

Manufacturer—General Electric Co.

Serial Number—2205972.

Amperes—1, 5, 10, 50 and 100.

Volts—110 and 220.

Current—A. C.; 60 cycles.

<i>Amperes.</i>	<i>Coil.</i>	<i>Per Cent. Accuracy.</i>	<i>Per Cent. Error.</i>
0.3	5	99.8	—0.2
1.0	5	100.2	+0.2
5.0	5	101.4	+1.4
10.0	10	101.4	+1.4

This instrument was not sealed but is acceptable as the portable standard of the company for testing service meters.

It is RECOMMENDED that the corrections at 5 and 10 amperes be applied when testing meters.

WILLIAMSTOWN ELECTRIC COMPANY.

This company keeps no meter history or test records; no rotating standard is used and no wall standard is installed.

In compliance with the rules of this Board the company should take special consideration of the following:

Rule XVII, Section 5, which requires that a meter history and test record be kept. Samples of an approved form may be purchased from the Library Bureau.

Rule XXI, which requires that a rotating standard be used for testing meters, and a wall standard be installed.

WOODBINE LAND AND IMPROVEMENT COMPANY.

This company has kept no meter or test records and has just ordered a rotating standard test meter. No wall standard is installed.

In reference to compliance with the rules of this Board, special attention is called to Rule XVII, Section 5, in reference to keeping meter history and test records (samples of an approved form are attached and may be pur-

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chased from the Library Bureau), and to Rule XXI, in reference to the installation of a wall standard.

WILLSBROOK ELECTRIC LIGHT COMPANY.

No meter history or test records have been started; no wall standard has been installed, but a rotating standard for testing meters has been ordered.

In compliance with the rules of this Board, special attention is called to Rule XVII, Section 5, in reference to keeping meter history and test records (samples of an approved form are attached herewith and may be purchased from the Library Bureau), and Rule XXI, in reference to the installation of a wall standard.

WOODSTOWN ICE & COLD STORAGE COMPANY.

This company has about 200 metered services, about 12 of which are owned by individuals. No test apparatus is used, but the company has all meters tested and adjusted by a meter tester hired for the purpose once every two years.

No wall standard has been installed.

In compliance with the rules of this Board the company should give special attention to the following:

Rule XVII, Section 5, which requires that a meter test record be kept.

Rule XXI, which requires that a rotating standard be used and wall standard be installed unless application is made for a modification of this rule.

Rule XV, which requires all meters to be owned by the company.

Samples of an approved form of meter history and test records are attached hereto. A supply may be purchased from the Library Bureau.

WOODBOURNE ELECTRIC LIGHT, HEAT & POWER COMPANY.

This company supplies only thirty-two customers through meters. No meter history or test records are kept and no testing apparatus is used.

In compliance with the rules of this Board, special attention is called to Rule XVII, Section 5, in reference to keeping meter history and test records, and Rule XXI, which requires a rotating standard and a wall standard, unless application is made to the Board for a modification of the latter rule.

Attached herewith are cards of an approved form for keeping meter history and test records.

ATLANTIC CITY GAS COMPANY.

This is a carburetted water gas plant supplying Atlantic City, Ventnor City, Margate City and Longport. Atlantic City is supplied under the low pressure distribution system and the other municipalities under the intermediate pressure system, the pressure being reduced by district governors, and in some cases by individual service regulators.

The normal generating capacity of the plant is 5,000,000 cubic feet per day with a reserved capacity of 1,000,000 cubic feet, making a total generating capacity of 6,000,000 cubic feet per day.

Ample provision has been made for cooling, purifying and measuring the gas and ample provision has been made for the storage of coal and gas oil. Coal is received from both the Atlantic City and the West Jersey & Seashore Railroads by means of elevated trestles, the coal being unloaded by gravity and stored under the trestles, provision having been made for the storage of from 1,000 to 1,500 tons. Coal is carried from the storage bins to the generators and boilers by means of coal buggies, being conveyed to the operating floor of the generator house by a hydraulic elevator.

The oil storage capacity consists of one steel tank 59'-3" x 20'—having a capacity of 408,960 gallons, and one steel tank 26' x 20' having a capacity of 80,989 gallons, making a total capacity of 489,949 gallons.

The holder capacity is as follows:

Storage Holders.

One steel tank, two lift holder 103' in diameter, capacity,.....	300,000 cu. ft.
One steel tank, three lift holder 103' in diameter, capacity,...	500,000 " "
One two lift steel tank holder 80' 6" in diameter, capacity,....	200,000 " "
One steel tank, three lift holder, 129' in diameter, capacity,..	1,000,000 " "
	2,000,000 cu. ft.

Relief Holder.

One steel tank, two lift holder 94' in diameter, capacity, ...250,000 cu. ft.

The maximum daily output for the year 1912 was 3,029,000 cubic feet on August 31st, and the minimum was 1,286,000 cubic feet on March 17th, the total gas sent out during the year being 661,075,000. The maximum daily output during the year 1913 was 2,871,000 on August 19th, the minimum was 1,310,000 on February 21st, and the total output during the year was 627,494,100 cubic feet.

It is apparent from the above figures that the capacity of this plant is ample to meet any demands which may be expected during the next few years.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that there are no meters in service which have not been checked for accuracy during the last six years.

The company has installed two standard meter provers which have been tested and sealed by the Board's Inspectors.

Tests are made of meters before installation and upon receiving them from the services in accordance with Rule III, and a record of these tests is kept in the meter shop, in the rear of the office, which is located at the corner of Atlantic and Michigan Avenues, Atlantic City.

A report made up from this record giving a summary of the results of the meter tests has been filed with the Board as prescribed by this rule.

Company states that no charge is made for testing consumers' meters upon request, and that a report giving results of such tests is made to the consumer as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly, and comply fully with Rule VII.

Company states that no charge is made for changing meters as prescribed by Rule VIII.

The company has equipped itself with a standard calorimeter outfit as prescribed by Rule X, with which periodic tests of the gas are made. A record of these tests is kept on file in the works' office of the company, and a summary of these results is filed with the Board every month.

An examination of the results of the calorimeter tests would indicate that the heating value of the gas was within the limits prescribed by Rule IX.

Daily measurements of pressure are made at the following points, and the records are on file at the works' office, as prescribed by Rule XII:

- 1st—Longport.
- 2d—Office on Michigan Avenue, Atlantic City.
- 3d—Connecticut Avenue and Beach.
- 4th—No. 7 South Brighton Avenue.
- 5th—Ventnor and Montgomery Avenues.
- 6th—Governor outlet at the works.

An examination of the charts obtained from the gauges located at the above points would indicate that gas pressures are kept within the limits of Rule XI.

A complaint record is kept in accordance with Rule XIV, a card system being used and the records made in duplicate, the original record being given to the employee, who investigates the complaint and who reports the nature of the complaint and the remedy on the original card and returns it to the office where it is filed. The duplicate copy is held at the office as a record of complaint having been attended to.

Company has complied with Rule XVI by printing a card explaining the method of reading consumers' meters.

These cards are furnished upon request, although no notice that such a card is available is given to the consumers.

Summing up, it would appear that the company has complied with all of the above rules.

BOONTON GAS LIGHT & IMPROVEMENT COMPANY.

This is a carburetted water gas plant supplying the town of Boonton under the low pressure distribution system. No additions to the plant or changes in the method of operation of the plant have been made since inspection of December 31st, 1913, and the relation between the capacity of the plant and the demand was covered in a report dated January 15th, 1914.

Examination of the company's records on December 31st, 1913, showed that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas had been complied with, with the following exceptions:

Rule II—No record was kept of the length of time during which a meter is allowed to remain in service without checking it for accuracy.

Rule III—No record is kept of tests made on meters other than meters tested upon the complaint of the consumer.

Rule IV—Company had not provided itself with a standard meter prover.

Rule XII—No measurements were made of pressure and pressure variations.

Rule XIV—No records were kept of complaints in regard to service. No method has been adopted by the company to inform its customers as to the reading of meters and it was recommended in this report that the company provide itself with the equipment necessary for testing meters as prescribed by Rules III and V. Also that the company equip itself with a portable recording pressure gauge, and that frequent measurements be made of pressure and pressure conditions as prescribed by Rule XII.

Further, that the company keep a record of complaints as prescribed by Rule XIV.

An inspection made on August 27th, 1914, shows that no record is kept of the length of time during which a meter is allowed to remain in service without testing it for accuracy as prescribed by Rule II. The company states, however, that they propose to make an inventory of their meters immediately with a view of removing and testing all meters which have been in service for a period of over six years.

The company has not as yet provided itself with a standard meter prover as provided by Rule IV, and as recommended in the last report, and consequently no record is kept of meter tests other than meters which are sent to the manufacturer's shop for test upon the complaint of consumer.

The company has not as yet provided itself with a recording pressure gauge as required by Rule XII, and as recommended in the previous report, but has made tests of pressure conditions at various points on their distribution mains, and has found that the pressures are within the limits prescribed by Rule XI.

A record is now kept of complaints in regard to service as required by Rule XIV, the record showing the name of the complainant, the address, the nature of the complaint and the remedy.

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The company has not as yet adopted any method of informing its customers as to the reading of meters, but stated that they propose to print on the back of their regular monthly bills instructions as to the reading of meters.

The company has at present a small stock of billheads, and has requested that it be relieved from complying with this rule until this supply is exhausted.

Summing up, it would appear that the following rules have not as yet been complied with:

Rule II—No record is kept of the length of time during which a meter is allowed to remain in service without testing it for accuracy. The company states, however, that steps will be taken immediately to comply with the requirements of this rule.

Rule III—No record is kept of tests made on meters other than meters which are tested upon the complaint of the consumer.

Rule IV—Company has not provided itself with a standard meter prover.

Rule VII—No slips are left with prepayment meter consumers.

Rule XVI—No method has been adopted by the company to inform its customers as to the reading of meters.

As mentioned above, the company will take steps to comply with the requirements of this rule.

In reference to the installation of a standard meter prover as prescribed by Rule IV, and of a portable recording pressure gauge, the company has requested that they be relieved of complying with the recommendations of the previous report, and in view of the financial conditions of the company, it is RECOMMENDED that the company be relieved of purchasing a standard meter prover, and a portable recording pressure gauge until January 1st, 1915.

CAPE MAY ILLUMINATING COMPANY.

This is a carburetted water gas plant supplying the city of Cape May under the low pressure distribution system.

The normal generating capacity of this plant is 500,000 cubic feet per day, with a reserve capacity of 300,000 cubic feet per day, making a total normal generating capacity of 800,000 cubic feet per day. The purifying capacity consists of four water seal simplex boxes 8' x 10' x 3', having a capacity of approximately 150,000 cubic feet per day, the maximum capacity of which is about 200,000 cubic feet per day. A station meter has been provided for measuring the amount of gas made, and has a capacity of approximately 10,000 cubic feet per hour.

The storage holder capacity consists of one steel tank holder having a capacity of 40,000 cubic feet and one brick tank holder having a capacity of 37,500 cubic feet, making a total storage capacity of 77,500 cubic feet. The relief holder capacity consists of one steel tank holder which has a capacity of 15,000 cubic feet. Ample provision has been made for the storage of coal and gas oil, coal being received from a siding on the

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Atlantic City Railroad, and is carried to the generators and to the boilers by means of coal buggies, being conveyed to the operating floor of the generating house by means of a steam elevator. The oil storage capacity is 16,000 gallons.

The maximum daily output during the year 1912 was 137,000 cubic feet on August 17th, and the minimum daily output was 32,000 cubic feet on January 6th, the total output for the year being 23,176,000 cubic feet.

The maximum daily output for the year 1913 was 158,000 cubic feet on August 2d, an increase of about 15% over the year 1912. The minimum daily output was 32,000 cubic feet on February 16th, and the total output for the year was 23,963,000 cubic feet, which is an increase of less than 1% over the total output for the year 1912.

From the above figures it would appear that the capacity of this plant is ample to meet the present demands, although the purifiers and the station meter are taxed to their maximum capacity during the summer months.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that no meters are allowed to remain in service for a period of over three years without removing and testing them for accuracy.

The company has provided itself with a standard meter prover in compliance with Rule IV, which has been tested and sealed by the Board's Inspectors.

The company keeps a record of all tests made on meters before installation and upon receiving them from the services. The original of this report is kept in the meter shop and a report has been made from the record each month, giving a summary of the meter tests, and has been filed with the Board as prescribed by Rule III.

The company states that it makes tests of consumers' meters upon request in compliance with Rule V, and that a report of the results of such tests is made to the consumer.

Meter dials read directly in cubic feet, and bills are rendered monthly and designate the reading of the meter at the beginning and at the end of the time for which the bill is rendered, and complies fully with the requirements of Rule VII.

Where prepayment meters are in use the meter reader leaves a slip with the customer showing the meter number, the reading of the meter, the date and the amount of money collected from the meter and is signed by the collector.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

The company has equipped itself with a standard calorimeter in accordance with Rule X, and daily tests are made of the heating value of the gas at the company's office on Washington Street, which point is approximately the distribution center. A summary of the results of these tests is filed with the Board each month and the results of the tests would indicate

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that the heating value of the gas is within the requirements of Rule IX. The tests made on the day of inspection by the Gas Inspector gave a total heating value of 595 Btu.

Daily measurements of pressure are made at the office of the company in Cape May and at times at the home of the Superintendent at Cape May, by means of a recording pressure gauge. Measurements are made from time to time at other points on the distribution system. Examination of the charts obtained from these gauges, and which are on file in the company's office, would indicate that the pressure conditions are within the requirements of Rule XI. A complaint record is kept in accordance with Rule XIV, the complaints being recorded and filed by means of a duplicate card system, the original being given to the employee who investigates the complaint and who returns the card to the office when the work in connection with the remedying of the complaint has been finished, writing on the card the nature of the work done and date on which work was completed. This card is then filed in the company's office. An examination of the cards on file in the office would indicate that complaints are given prompt attention.

The company has complied with Rule XVI by printing on the back of the regular monthly bills and prepayment meter slips instructions as to the reading of meters.

Summing up, it would appear that the company has complied with all the rules of the Board.

CITY GAS LIGHT COMPANY.

This is a carburetted water gas plant supplying Ocean City under the low pressure distribution system.

There have been no additions to the equipment of this plant nor any changes in the operation of this plant since the previous inspection on March 27th, 1914, and the relation between the capacity of the plant and the demand was covered in the report dated April 3d, 1914.

An examination of the company's records made by the Gas Inspector on March 27th, 1914, showed that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas had been complied with, with the following exceptions:

Rule XII.—The company had not equipped itself with a standard calorimeter outfit.

Rule XVI.—No instructions were given to consumers using prepayment meters as to the reading of same, and it was recommended that the company purchase a standard calorimeter outfit, and that periodic tests be made of the heating value of the gas, and that a record of these tests be kept on file at the office of the company.

Examination made by the Gas Inspector on August 6th shows that the company has purchased a standard calorimeter outfit and that this equipment has just been received at the plant, but that so far no tests of the heating value of the gas have been made. The company states, however,

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that the calorimeter will be erected and put in use immediately and that the records of the tests will be kept on file in the office of the company as prescribed by Rule X.

It would therefore appear that the company has complied with all of the rules adopted by the Board with the exception of Rule XVI, as no instructions are apparently given as to the reading of meters to consumers using prepayment meters.

COAST GAS COMPANY.

This is a carburetted water gas plant supplying the municipalities of Belmar, Spring Lake, North Spring Lake, Bradley Beach, Avon-by-the-Sea, Neptune Township, Neptune City Borough, Point Pleasant, Wall Township, Sea Girt and Ocean Grove, under the low pressure distribution system.

Gas is sold to the Lakewood Gas Company and to the Shore Gas Company. It is pumped in a high pressure main to the Lakewood holder and distributed to the consumers in Lakewood under holder pressure. The gas is delivered to the Shore Gas Company from the Belmar holder in a low pressure main, and the amount sold is determined by a summation of the consumers' meters.

The community of Allenwood is served from the Lakewood high pressure line, the pressure being reduced by means of a district governor. Gas is delivered to a storage holder in Point Pleasant under high pressure and distributed to the consumers under the holder pressure. During the summer months when the output is at a maximum an intermediate pressure line is used to transmit the gas from the Belmar holder to the municipalities of Avon, Bradley Beach and Ocean Grove, the gas passing from the intermediate pressure lines through district governors into the low pressure mains in these municipalities.

The normal generating capacity of this plant is 900,000 cubic feet per day, with a reserved capacity of 300,000 cubic feet, making a total capacity of 1,200,000 cubic feet.

The storage holder capacity is as follows:

Belmar—1-lift steel tank holder, ...	20,000 cu. ft.
Belmar—1 3-lift steel tank holder, ...	500,000 cu. ft.
Point Pleasant—1-lift steel tank holder, ...	100,000 cu. ft.
Total, ...	620,000 cu. ft.

The relief holder capacity at Belmar works consists of 1 2-lift steel tank holder having a capacity of 110,000 cubic feet.

Coal is received from the Long Branch Railroad by means of an elevated siding and the coal is unloaded by gravity and carried to the generators by means of buggies and a hydraulic elevator. The coal is carried to the steam boilers by means of buggies and the boilers are fired by hand.

Ample provision has been made for the cooling, purifying and measuring of the gas, the company having recently installed "additional purifiers" and

an additional station meter at their Belmar works. Provision has been made for the storage of approximately 50,000 gallons of gas oil.

The maximum daily output of the plant during the year 1913 was 627,077 cubic feet on August 19th, and the minimum output was 122,747 cubic feet on March 30th, the total output during the year being 106,050,785 cubic feet. The maximum daily output during the year 1912 was 650,000 cubic feet on August 20th, the minimum daily output being 70,000 cubic feet on January 10th. The total gas sent out during the year was 76,857,566 cubic feet.

The above figures would indicate that the capacity of this plant is ample to meet any demands which may be expected during the next year unless an accident should occur to the large generating set during the summer months when the output is at a maximum, in which event the smallest set would be unable to meet the demands if the damage to the largest set was such as to necessitate its being shut down for more than thirty-six hours. The company proposes, however, as soon as the financial condition will permit, to remove the smallest set and install a set of such capacity so as to provide ample reserve capacity in case of an accident to either set.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that no meters are allowed to remain in service for a period of over three years without testing them for accuracy, in compliance with Rule II.

A record of meter tests made by the company is on file at the meter shop at Sixteenth Avenue, Belmar, and duplicate copies are at the office of the company on Ninth Avenue, Belmar, as prescribed by Rule III. Reports made up from these records giving a summary of the meter tests have been sent to the Board each month as prescribed by this rule.

The company has installed a standard meter prover in accordance with Rule IV which has been tested and sealed by the Board's Inspector.

The company states that it makes tests of consumers' meters on request in compliance with Rule V and a statement showing the results of such test is sent to the complainant. Further that a definite time is set for making the test and the complainant is invited to witness the test if he so desires.

Meter dials read in cubic feet and bills are rendered monthly and designate the readings of the meter at the beginning and at the end of the time for which the bill is rendered, and comply fully with the requirements of Rule VII.

Where prepayment meters are used a tag is attached to the meter, and the date reading of the meter, the gas consumed, the amount due and the amount collected are written thereon by the gas inspector. The company proposes, however, to discontinue this system and in its place leave a slip which shows the index of the meter and the amount of money lifted.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

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The company has equipped itself with a standard calorimeter outfit in accordance with Rule X, and daily tests are made of the gas as required by this rule.

A record of these tests is on file at the office of the company at Belmar, and a summary showing the results obtained is sent each month to the office of the Commission. An examination of the company's records showing the results of the calorimeter tests would indicate that the heating value of the gas as furnished by this company is within the requirements of Rule IX.

Daily measurements of pressure are made at the following points with recording pressure gauges, and the records are on file at the office of the company:

- One in Belmar works.
- One in Belmar office.
- One in Ocean Grove.
- One in Bradley Beach.
- One in Point Pleasant.
- One portable gauge.

An examination of a number of the charts obtained from these gauges would indicate that the gas pressures at these points are within the limits prescribed by Rule XI.

A complaint record is kept as required by Rule XIV and shows the name and address of the consumer, the date, the nature of the complaint and the remedy. All complaints are recorded in duplicate, the original copy being given to the employee who investigates the complaint, the duplicate going to the foreman of the distribution department, and the triplicate copy is filed at the office. On the original copy the employee makes his report as to the cause of the complaint, remedy, etc., and returns it to the office, where all copies are finally filed.

The company has complied with Rule XVI by printing on the back of the monthly bills a description as to the reading of meters. No instructions as to the reading of meters has been given, however, to consumers using prepayment meters, and this appears to be the only rule which the company has not complied with.

CONSOLIDATED GAS COMPANY OF NEW JERSEY.

This is a carburetted water gas plant, supplying the municipalities of Eatontown, Shrewsbury, Long Branch, West Long Branch, Monmouth Beach, Seabright, North Long Branch, Branchport and Oceanport, under the low pressure distribution system. Gas is pumped to holder stations at Red Bank and Allenhurst under intermediate pressure. The Red Bank holder supplies the municipalities of Red Bank, Fairhaven and the northern part of Little Silver, the southern part being served by the intermediate pressure line, the pressure being reduced and regulated by means of house governors. The Allenhurst holder supplies the municipalities of Asbury Park, Bradley Beach,

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Deal and Allenhurst. Some of this territory is also supplied by the intermediate pressure line, the pressure being reduced and regulated by means of house governors. The intermediate pressure lines are also used to increase the pressure and supply of gas at certain points on the low pressure distribution system, the pressure being reduced by means of district governors.

The generating capacity of this plant consists of one 10'-6" carburetted water gas set, and two 7'-6" carburetted water gas sets. The 10'-6" set is used during the summer months at the time of maximum output, and one of the 7'-6" sets is used during the winter months.

The normal generating capacity of the largest set is 2,000,000 cubic feet per day, and the normal generating capacity of each of the smaller sets is 1,000,000 cubic feet per day, so that during the summer months the normal generating capacity is 2,000,000 cubic feet per day with a relief capacity of an equal amount; during the winter months the normal generating capacity is 1,000,000 cubic feet per day with a relief capacity of 3,000,000 cubic feet.

Ample provision has been made for cooling, purifying and measuring the gas.

During the past year the company has erected two dry seal duplex purifying boxes having a daily capacity of approximately 700,000 cubic feet, which, added to the former capacity, makes the total purifying capacity of the plant approximately 1,500,000 cubic feet per day.

The holder capacity is as follows:

Long Branch—1 double-lift steel tank, storage holder capacity,	400,000	cu. ft.
Shrewsbury Township—Just outside Town of Red Bank—		
1 double-lift steel tank, storage holder capacity, ...	200,000	" "
Allenhurst—1 double-lift steel tank, storage holder capacity,..	300,000	" "
Total, ...	900,000	" "
Long Branch—1 single-lift steel tank, relief holder capacity,..	57,000	" "
Long Branch—1 double-lift steel tank, relief holder, ...	100,000	" "
Total, ...	157,000	" "

The yard connections have been so arranged that, if necessary, the larger relief holder can be used as a storage holder.

The oil storage capacity of the plant is 55,000 gallons.

The company has erected during the past year a 500 H. P. tubular boiler and a concrete stack 175' high 9' in diameter, making the total boiler capacity of the plant of 2,000 H. P. The boiler plant supplies both the gas and electric plants of this company.

An additional exhaustor has recently been installed, which will be used to pump the gas to the Allenhurst and Red Bank holder. This exhaustor has a total capacity of 150,000 cubic feet per hour, which, added to the capacity of the present exhaustor, gives a total pumping capacity of 270,000 cubic feet per hour.

The maximum daily output during the year 1912 was 1,236,000 cubic feet on August 8th. The minimum daily output was 350,000 cubic feet per day on April 21st, and the total output for the year 1912 was 240,772,000 cubic feet.

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The maximum output during the year 1913 was 1,261,000 cubic feet on August 1st, and the minimum daily output was 372,000 cubic feet on March 30th. The total output for the year 1913 was 246,187,000 cubic feet.

From the above figures it would appear that the capacity of this plant is ample to meet any demands which may be expected during the next few years.

In addition to the water gas plant, the company has a coal gas plant located at Long Branch, consisting of five benches of horizontal retorts, together with the necessary condensers, scrubbers, exhausters, etc., and having a capacity of approximately 300,000 cubic feet per day.

This plant is not in operation, but could be used if necessary, provided certain repairs were made to the apparatus, and especially to the buildings in which this apparatus is installed.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations, to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that no meters are allowed to remain in service for a period of more than three years, and that all meters which are set for summer customers are tested every year.

The company has installed three standard meter provers, in compliance with Rule IV, which provers have been tested and sealed by the Board's Inspectors. These provers are located at Red Bank, Long Branch and Asbury Park.

A record of meter tests made by the company is on file at the meter shops, as prescribed by Rule III, and a summary of the results of these tests has been filed with the Board each month, as prescribed by this rule.

The company states that it makes tests of consumers' meters on request, in compliance with Rule V, and that the results of such tests are reported to the consumer.

Meter dials read directly in cubic feet, and bills are rendered monthly, and designate the reading of the meter at the beginning and end of the time for which the bill is rendered, and comply fully with the requirements of Rule VII. Where prepayment meters are in use a slip is left with the consumer showing the reading of the meter and the amount of money collected, as prescribed by this rule.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

The company has equipped itself with a standard calorimeter outfit in accordance with Rule X, and tests are made at least twice each day. A record of the results of these tests is on file at the works' office of the company. The company files each month with the Board a summary of the results of the calorimeter tests, and an examination of the reports so filed would indicate that the heating value of the gas as furnished by this company is within the limits prescribed by Rule IX.

In accordance with Rule XII daily measurements of pressure are made at the following points with recording gauges, and the records are on file at

the Long Branch office of the company. One gauge is located at the Asbury Park office; one at the outlet of the holder in Asbury Park; one in the Long Branch office; one in Seabright; one at No. 64 South Fifth Avenue, Long Branch; one at the Red Bank office; one at the outlet of the holder in Red Bank, and another located on Fairhaven Road.

In addition to the above, the company has four portable gauges which are used in making tests at various points on the distribution system, and from July 1st to September 15th a gauge is installed at the Plaza Hotel, Asbury Park.

An examination of a number of the charts obtained from the pressure gauges would indicate that the gas pressures are maintained in accordance with the requirements of Rule XI.

A complaint record is kept in each of the three offices of the company. The complaints are recorded in duplicate, the original copy being given to the employee who investigates the complaint, and the duplicate copy filed in the office. On the original copy the employee makes his report as to the cause of the complaint, the remedy, &c., and returns it to the company's office, where it is filed, as prescribed by Rule XIV.

The company has complied with Rule XVI by printing on the back of the monthly bills a statement that instructions as to the reading of meters will be furnished on application at the office.

Where prepayment meters are used, an information card is attached to each meter sent out.

Summing up, it would appear that the company has complied with all of the above rules.

CRANFORD GAS LIGHT COMPANY.

This company supplies the municipalities of Kenilworth, Cranford, Garwood, Westfield, Fanwood and Clark Township under the low pressure distribution system, with the exception of some consumers in Clark Township, who are served directly from the high pressure mains, the pressure being reduced by high pressure service regulators.

This company does not manufacture the gas delivered to its customers, the gas being purchased from the Elizabethtown Gas Light Company and is delivered from the Elizabeth works of this company to the distribution mains of the Cranford Company by means of both low and high pressure transmission mains, the pressure being reduced where the gas passes from the high pressure transmission mains to the low pressure distribution mains by means of district governors.

The total gas purchased from the Elizabethtown Company is measured by summing up the total gas used by consumers as indicated by the readings of their meters.

The company is erecting a storage holder at Westfield which will be completed during the coming year and which will have a capacity of 750,000 cubic feet. When this holder is completed, gas will be delivered directly to the holder by a high pressure main which is being laid from the Elizabeth

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works for this purpose. This holder will provide a gas storage which will insure the consumers against an interruption in service which might happen in the event of a break in any of the high pressure transmission lines from Elizabeth.

An examination of the company's records show that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII, pertain to the testing and setting of meters.

Company states that no meters are allowed to remain in service for a period of over three years without checking them for accuracy.

Company has installed a standard meter prover which is located in the rear of their office in Westfield and which has been tested and sealed by the Board's inspectors. A report of meter tests made by the company using this prover is on file at the office as prescribed by Rule III. A report made up from this record giving a summary of the results of these tests has been sent to the Board every month as prescribed by this rule.

The company states that it makes tests of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly designating the reading of the meter at the beginning and at the end of the time for which bill is rendered and comply fully with Rule VII.

Where prepayment meters are used a slip is left with the consumer at the time of reading of meter, and shows the reading of the meter and the amount of money collected from the meter.

Company states that no charge is made for changing meters as prescribed by Rule VIII.

Company has not equipped itself with a standard calorimeter outfit as prescribed by Rule X, but daily tests are made of the gas before it leaves the Elizabeth works of the Elizabethtown Gas Light Company from whom it is purchased, and for this reason it does not appear necessary at this time for the company to install a calorimeter outfit.

A recording pressure gauge has been installed at the gas office in Westfield and four U-gauges have been installed at the various points on the distribution system. The charts obtained from the recording pressure are on file at the gas office. Examination of the pressure charts would indicate that the gas pressure at this point was within the limits as prescribed by Rule XI.

Complaints of poor service are recorded and filed at the office of the company at Westfield showing the name and address of the consumer, the date and nature of the complaint and the remedy as prescribed by Rule XIV.

Company has complied with Rule XVI by printing on the regular monthly bills instructions as to the reading of meters. No instructions are given, however, to consumers using prepayment meters, and this appears to be the only rule which has not been complied with by the company.

DOVER, ROCKAWAY & PORT ORAM GAS COMPANY.

This is a carburetted water gas plant, supplying the Town of Dover under the low pressure distribution system, and the Borough of Wharton under the intermediate pressure system, pressure being reduced at the consumer's meter by means of individual pressure service regulators.

There have been no additions to the equipment of this plant nor any changes in the operation of the plant since the previous inspection on December 31st, 1913, and the relation between the capacity of the plant and the demand was covered in the report dated January 5th, 1914.

An examination of the company's records on December 31st, 1913, showed that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas had been complied with, with the following exceptions:

Rule III—Reports giving summary of meter tests have not been filed with the Board since June, 1912.

Rule X—The company had not provided itself with a standard calorimeter outfit.

Rule XVI.—No method had been adopted by the company to inform its customers using prepayment meters as to the reading of same. It was recommended that the company equip itself with a standard calorimeter outfit, and that periodic tests be made of the heating value of the gas, as prescribed by Rule X.

An examination of the company's records on August 19th shows that the reports giving summary of meter tests have been filed with the Board in compliance with Rule III; that the company gives its consumers using prepayment meters instructions as to the reading of meters at the time the application is made for setting the meter.

In connection with the installation of a calorimeter outfit, the company has petitioned the Board to relieve it of complying with this rule, owing to the financial condition of the company, and the Board has relieved the company of complying with Rule X until January 1st, 1915.

ENTERPRISE GAS COMPANY.

This is a water gas plant supplying Egg Harbor City under the low pressure distribution system. The normal generating capacity of the plant is 150,000 cubic feet per day.

Ample purifying capacity has been provided, although no provision has been made for cooling the gas before it enters the purifiers, the gas after leaving the generating apparatus passing through two scrubbers and then through the purifiers to the storage holders. The storage holder capacity consists of one steel tank single-lift holder having a capacity of 25,000 cubic feet, and one steel tank single-lift holder having a capacity of 51,000 cubic

feet, making a total holder capacity of 76,000 cubic feet. Ample provision has been made for the storage of coal and oil.

There being no station meter at this plant, there are no records available as to the maximum daily output, but from figures obtained from observations of the height of the holders and from a summation of consumers' meters it would appear that the maximum daily output during the year was not over 40,000 cubic feet, so that the capacity of the plant is ample to meet any demands which may be expected for some years.

The present methods of purifying the gas are not in accordance with good practice. As mentioned above, the purifiers receive the gas directly from the generating apparatus, and are of little value in removing the sulphur impurities from the gas, due to deposits of tar and oily matter in the oxide contained in the purifiers and to the irregular rate of flow of gas through the purifiers. With slight changes in the yard piping, the small storage holder could be used as a relief holder, and would eliminate these unfavorable conditions, as most of the tar and oily matter would be deposited in the holder before entering the purifiers, and the relief holder would also provide a uniform rate of flow through the purifiers.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the setting and testing of meters.

The company states that they have purchased a portable test meter and that they expect to test all of their meters during the coming year in order to comply with Rule II.

The company has not provided itself with a standard meter prover as provided by Rule IV and consequently there are no records of tests made of meters as prescribed by Rule III, with the exception of the records of a few tests made with the portable test meter, upon the request of the consumer.

The company states that it makes tests of consumers' meters upon request, in compliance with Rule V, using the portable test meter, and that the results of such tests are reported to the complainant.

Meter dials read directly in cubic feet and bills are rendered monthly, and designate the reading of the meter at the beginning and at the end of the time for which the bill is rendered and comply fully with the requirements of Rule VII.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

As the output of this company for the year 1913 was less than 20,000,000 cubic feet, it is not necessary that the company equip itself with a standard calorimeter outfit as prescribed by Rule X.

No measurements are made of the pressure and pressure variations as required by Rule XII.

A book has been provided in which to keep a record of complaints in accordance with Rule XIV, but the company states that they have received

no complaints in regard to service, with the exception of a few minor complaints which were attended to by their plant superintendent.

No method has been adopted to inform its customers as to the reading of meters as prescribed by Rule XVI.

Summing up, it would appear that the company has not complied with the following rules:

Rule IV—The company has not equipped itself with a standard meter prover.

Rule XII—No measurements are made of pressure and pressure variations.

Rule XVI—No method has been adopted to inform consumers as to the reading of meters.

It is RECOMMENDED:

1—That the company purchase a recording pressure gauge so that daily records may be made of pressure and pressure variations at various points on its distribution system.

2—That the company adopt some method to inform its customers as to the reading of meters either by printing on the bills a description of the method of reading meters, or a notice to the effect that the method will be readily explained on application.

3—That a record be kept of all complaints received in regard to service, whether the complaint is made at the office of the company or to some employee of the company outside of the office.

4—That the company be relieved from purchasing a standard meter prover at this time, as the total number of meters in service is less than 400.

5—That the small holder be arranged for use as a relief holder, and that the necessary rearrangement of piping be made so as to provide for cooling the gas before purification.

Sixty days is thought to be a reasonable time within which to carry out the above recommendations.

FREEHOLD GAS LIGHT COMPANY.

This is a coal gas plant supplying the town of Freehold under the low pressure distribution system. Coal is received at the plant by horse and cart, being carted from railroad siding in another section of the town and is stored under cover, provision having been made for the storage of approximately 600 tons. Coal is carried from the storage to the benches in coal buggies and the retorts are fired by hand. The coke from the retorts is used for boiler fuel.

The normal generating capacity of the coal gas benches which are of the horizontal retort type is 100,000 cubic feet per day.

Ample provision is made for cooling, purifying and measuring the gas.

The storage holder capacity consists of one steel tank holder with a single lift and having a capacity of 33,000 cubic feet, and a masonry tank holder with a single lift having a capacity of 12,000 cubic feet, making a total gas storage capacity of 45,000 cubic feet.

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The maximum daily output of the plant during the year 1913 was 56,600 cubic feet on December 24th and the maximum daily output during the year 1912 was 50,300 cubic feet on December 18th. The total output during the last three years has been as follows:

1911, ...	11,976,000
1912, ...	12,692,400
1913, ...	14,662,000

Examination of the above figures would indicate that the capacity of this plant was ample to meet the demands that might be expected for at least five years.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the setting and testing of meters.

The company states that meters are not allowed to remain in service for a period of over six years.

The company has installed a standard meter prover in accordance with Rule IV and this prover which is located in the Superintendent's office at the company's plant has been tested and sealed by the Board's inspector. A record of meter tests made by the company is on file in the superintendent's office and reports made up from these records, giving a summary of the results of the test, have been sent to the Board as prescribed by this rule.

Company states that it makes tests of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly, designating the reading of the meter at the beginning and at the end of the time for which the bill is rendered. Bills rendered do not give the date on which the meter readings are taken, but as all meters are read on the first day of the month, it is generally understood that the period for which bill is rendered is from the first of the previous month to the first of the month in which bill is rendered.

Where prepayment meters are used a slip is left with the consumer at the time of reading of meter which shows reading of meter, the amount of gas consumed and the amount of money collected.

Company states that no charge is made for changing meters as prescribed by Rule VIII.

As the total gas output from this company's plant during the year was less than 20,000,00 cubic feet, it is not required of this company to install a calorimeter as prescribed by Rule X at this time.

No measurements are made of pressure and pressure variations as prescribed by Rule XII, the company not having equipped itself with a recording pressure gauge.

No record is kept of complaints as prescribed by Rule XIV.

Company has complied with Rule XVI by issuing a pamphlet explaining the methods of reading meters. This pamphlet is sent to the consumer at

the time of rendering monthly bills. No provision has been made, however, to instruct consumers using prepayment meters as to the reading of same.

Summing up, it would appear that the company has complied with the rules and regulations of the Board with the following exceptions:

Rule XII—No measurements are made of pressure and pressure variations.

Rule XIV—No record is kept of complaints in regard to service.

Rule XVI—No instructions are given to consumers using prepayment meters as to the reading of same.

In connection with the measurements of pressure conditions as referred to in Rule XII, it is RECOMMENDED that the company purchase a recording pressure gauge, preferably of the portable type, so that measurements of pressure and pressure variations can be made at various points at Freehold, and it is also RECOMMENDED that such records shall be kept on file at the office of the company.

LAKEWOOD GAS COMPANY.

This company supplies Lakewood Township under the low pressure distribution system. The company does not manufacture the gas delivered to its customers, the gas being purchased from the Coast Gas Company, and is delivered from the Belmar Works of this Company to a storage holder located at the old works of the Lakewood Gas Company at the corner of Laurel Avenue and Clover Street, Lakewood.

The gas is delivered from Belmar in a 4" high pressure main, and before entering the Lakewood holder is measured by means of a station meter.

In case of a break in the high pressure transmission line, or an interruption in the delivery of the gas from Belmar, there is provided at the Lakewood works a water gas set, having a generating capacity of 300,000 cubic feet per day. Ample provision has been made for cooling and purifying the gas.

The storage holder capacity at Lakewood consists of one brick tank, single-lift holder, having a capacity of 100,000 cubic feet, and one steel tank, single-lift holder, having a capacity of 20,000 cubic feet, making a total storage capacity of 120,000 cubic feet. The smaller holder is used as a relief holder when the water gas set is in operation.

The maximum daily output for the past three years has been as follows:

1911, 105,500 cubic feet on December 30th; 1912, 114,400 cubic feet on January 16th; 1913, 115,000 cubic feet on December 17th.

The total gas sent out from the plant for the past three years was as follows:

1911, 26,463,000; 1912, 26,923,000; 1913, 22,000,000.

The above figures would indicate that the capacity of the Lakewood plant was ample to supply the maximum demand in the event of an accident to the pumping main to Belmar.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to

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be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that no meters are allowed to remain in service for a period of over three years without checking them for accuracy.

The company has installed a standard meter prover, which is located in the meter shop at the plant, and which was tested and sealed by the Board's Inspector on October 16th, 1913. No meter tests have been made with this prover, however, the meters having been tested by the Coast Gas Company at Belmar. The company states that when certain alterations are made in their meter shops that all their meters will be tested in Lakewood.

The company states that it makes tests of consumer's meters upon request, as prescribed by Rule V.

Meter dials read directly in cubic feet, and bills are rendered monthly, designating the reading of the meter at the beginning and at the end of the time for which the bill is rendered.

No slips are left with consumers using prepayment meters.

Company states that no charge is made for changing meter as prescribed by Rule VIII.

The company has purchased a standard calorimeter outfit as prescribed by Rule X, but no tests have been made as required by this rule. Tests of the gas are made, however, by the Coast Gas Company at Belmar. The company has recently constructed a new office on Laurel Avenue, and the construction of a cabinet in which the calorimeter will be placed has not as yet been completed. Company states that when this work is completed daily tests of the calorific value of the gas will be made at Lakewood.

No measurements of pressure and pressure variations have been made as required by XII.

Complaints of poor service are recorded and filed at the company's office on Laurel Avenue, showing the name and address of the consumer, the date, the nature of the complaint and the remedy. All complaints are recorded in duplicate, the original copy being given to the employee who investigates the complaint, and the duplicate copy filed at the office. On the original copy the employee makes his report as to the cause of the complaint, remedy, etc., and returns it to the office, where both copies are filed.

The company has complied with Rule XVI by printing on the back of the monthly bills a description of the method of reading meters. No instructions as to the reading of meters have been given, however, to consumers using prepayment meters.

Summing up it appears that the company has complied with the above rules with the following exceptions:

Rule III. No record is kept of results of meter tests, and consequently no summary of the records has been filed with the Board. Company states, however, that these tests have been made at the meter shop of the Coast Gas Company in Belmar, and that in the future all tests will be made at Lakewood.

Rule VII. No slip is left with consumers using prepayment meters. Company states, however, that these slips have been printed, but have not yet been delivered to the Lakewood office.

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Rule X. Tests of the calorific value of the gas have not been made as required by this rule, although frequent tests have been made of the gas before leaving the works at Belmar. As mentioned above, the company has provided itself with a standard calorimeter outfit, which will be used to measure the calorific value of the gas in Lakewood as soon as provision has been made for its installation at the new office on Laurel Avenue.

Rule XII. No measurements are made of pressure and pressure variations. Company states, however, a recording pressure gauge has been purchased, and will be installed at the office.

Rule XVI. No method has been adopted to inform consumers using prepayment meters as to the reading of same.

MEDFORD GAS COMPANY.

This is a carburetted water gas set and supplies the Township of Medford under the low pressure distribution system.

There have been no additions to the equipment of this plant nor any changes in the operation of this plant since the previous inspection on May 23d, 1913, and the relation between the capacity of the plant and the demand was covered in the report dated May 24th, 1913.

An examination of the company's records by the Gas Inspector on May 23d, 1913, showed that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, had been complied with, with the following exceptions:

Rule III. No record was kept of meter tests.

Rule IV. The company had not provided itself with a standard meter prover.

Rule VII. No slips were left with prepayment meter consumers.

Rule XII. No measurements were made of pressure and pressure variations.

Rule XIV. No records were kept of complaints in regard to service.

Rule XVI. No method has been adopted by the company to inform its customers as to the reading of meters.

In connection with the installation of a meter prover it was recommended that the company be relieved of complying with this rule for a period of one year from January 1st, 1914, as there are but 240 meters in service.

An investigation made by the Gas Inspector on May 29th, 1914, shows that the company has provided a slip, which is left with prepayment meter consumers, and which shows the reading of the meter and the amount of money collected as required by Rule XII.

The company stated that they have made provisions to keep a record of complaints in regard to service, as required by Rule XIV, but that as yet no such complaints have been received.

The company has complied with Rule XVI by printing on the back of

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their regular bills, and on the back of their prepayment slips, instructions as to the reading of meters.

The company has not as yet installed a standard meter prover, but has purchased a portable test meter and as the number of meters in service is so small, it is recommended that the company be relieved of installing a meter prover for a further period of one year from January 1st, 1914.

The company has not as yet equipped itself with a recording pressure gauge as required by Rule XII and as the territory supplied by this company is so small, it would appear that adequate information could be obtained as to the pressure conditions in Medford, by the means of a water gauge, if the pressures were taken at the time of maximum output.

METUCHEN GAS LIGHT COMPANY.

This company supplies the municipalities of Metuchen, Menlo Park, Raritan Township and Iselin under the low pressure distribution system, the gas being purchased from the Elizabethtown Gas Light Company and delivered from the Elizabeth works of this company to the distribution mains of the Metuchen Company by means of a high pressure transmission line, the pressure being reduced by means of a district governor.

The total gas purchased is measured by summing up the total gas used by consumers as indicated by readings of their meters.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

Company states that no meters are allowed to remain in service for a period of over three years without checking them for accuracy.

The company has not installed a standard meter prover as required by Rule III, consumers' meters being tested by A. F. Reitemeyer or some one engaged by him using a prover which has been tested and sealed by the Inspectors of the Board, said prover being the property of The Perth Amboy Gas Light Company. A summary of the results of these tests, however, has not been sent to the Board since September, 1912.

Company states that it makes tests of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly and designate the reading of the meter at the beginning and at the end of the time for which the bill is rendered and comply fully with Rule VII.

Where prepayment meters are used a slip is left with the consumer at the time of reading of meter and shows the reading of the meter and the amount of money collected from the meter.

Company states that no charge is made for changing meters as prescribed by Rule VIII.

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As the total yearly output of this company is less than 20,000,000 cubic feet it is not necessary that the company equip itself with a standard calorimeter outfit as prescribed by Rule X.

Daily tests are made of the gas, however, before it leaves the Elizabeth works of the Elizabethtown Gas Light Company, from whom it is purchased, and a summary showing the results of these tests is filed with the Board each month by the Elizabeth company.

A recording pressure gauge has been installed at the company's office in Metuchen as prescribed by Rule XII and the charts obtained from this gauge are on file at this office.

Complaints of poor service are recorded at the Metuchen office and are transmitted to A. F. Reitemeyer at Perth Amboy, where a record is kept showing the name and address of the consumer, the date and nature of the complaint and the remedy as prescribed by Rule XIV, said A. F. Reitemeyer, or some one engaged by him doing the necessary work in connection with all complaints.

The company has complied with Rule XVI by printing on the regular monthly bills instructions as to the reading of meters. No instructions are given, however, to consumers using prepayment meters.

Summing up, it appears all of the above rules have been complied with with the exception of Rule III—"Gas Meter Test Summaries" have not been filed with the Board since September, 1912, and Rule XVI—No instructions are given to consumers using prepayment meters as to the reading of same.

MILLVILLE GAS LIGHT COMPANY.

An examination of the company's records by the Gas Inspector showed that the following rules adopted by the Board October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, had not been complied with:

Rule II—There did not appear to be any definite period during which meters were allowed to remain in service without being tested.

Rule III—All meters removed from the service had not been tested.

Rule X—Water entering calorimeter was taken directly from the street mains and was not at all times at room temperature.

A later investigation by the Gas Inspector shows that the company had provided a water tank in their testing room, so that when calorimeter tests are made, the water enters the calorimeter at approximately room temperature. The company states that they propose to remove all meters for tests during the coming year, and that a meter history record will be kept, so that no meters are allowed to remain in service for a period of over six years, as prescribed by Rule II.

NEWTON GAS & ELECTRIC COMPANY.

In a former report in connection with an inspection of this plant made on December 16th, 1913, it was recommended that the company take immediate steps to complete the work in connection with the erection of a water gas set, so that this set would be ready for operation when it became necessary to shut down the coal gas bench for repairs.

This work was completed about July 1st, 1914, and the set was put in operation on July 8th, at which time the coal gas bench was shut down for repairs. The work of resetting the coal gas bench has been completed, and when the mouth pieces, standpipes, etc., are erected, the bench will again be ready for operation, at which time the water gas set will be shut down.

In the last report it was recommended that the larger boiler should be put in operation as soon as possible, as the smaller boiler was in need of certain repairs. The work in connection with the erection of a larger boiler has been completed and the boiler was put in operation on August 15th, 1914, at which time the smaller boiler was shut down.

Certain work in connection with the erection of the water gas set has been made in a more or less temporary manner, and should be removed and made permanent when the coal gas bench is again put in operation. For example, the tar overflow from the seal pots connected to the wash box condenser and scrubber, at the present time runs in a ditch to a tar pit in the yard. The company has a tar separator which was used at the old plant and which should be erected together with the necessary piping, so that the tar may be collected and not allowed to run in the yard, as it gives the yard a very untidy appearance and at the same time this tar could be used for boiler fuel.

There appears to be a portion of the operating floor and railing which has not been erected, and it might also be well to extend the floor from the set to the wall of the building, as very little space is allowed at the present time for charging and cleaning the generator.

The pipe connections from the oil storage tank to the set, which are of steel pipe, at the present time are laid in ashes, and unless some protection is made for this piping, the corrosion of the metal caused by the ashes and water will soon necessitate a new pipe line.

Repairs should also be made to the storage holder which was damaged last winter, as mentioned in a previous report, and the holder should also be scraped and painted.

In a former report it was recommended that the company provide itself with the equipment necessary for testing meters as prescribed by Rule IV of the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by gas companies, and that the company keep a record of meter tests as prescribed by Rules III and V. On the day of inspection, August 18th, 1914, this recommendation had not been observed.

In addition to the above, the former report showed that:

I—No slips were left with consumers using prepayment meters as prescribed by Rule VII, and

II—Complaint records were not kept in accordance with Rule XIV.

III—No method had been adopted by the company to inform its customers as to the reading of meters as prescribed by Rule XVI.

The company has complied with Rules XVII and XIV, but has not as yet complied with Rule XVI, stating that when the present supply of gas bills is exhausted they will print on all bills rendered instructions as to the reading of meters, or statement to the effect that such instructions will be gladly given upon application to the office. In the last report it was suggested that the company provide a regular form to be left with prepayment meter consumers in place of the present method of using a small blank strip of paper, on which the collector writes the meter reading and the amount of money which he collects.

The company states that they will take steps to comply with this suggestion immediately. The company has also arranged to keep their complaint record in a larger book and in the manner suggested in the last report.

In connection with the permanent erection of the water gas set, it was suggested that the second blower unit and the second oil pump should be erected, so that in case of an accident to the blower or pump which are now in operation it would not interfere with the operation of the water gas set. In a letter to the Board, dated July 23d, 1914, W. L. Keplinger, receiver of the company, states that the second blower is an exact duplicate of the one in operation at present, and could readily be put in operation if anything should happen to the present blower, also that the second oil pump is at the present time in use in the electric lighting plant, and could also be removed and used for pumping oil if an accident should happen to the present pump. This arrangement would be satisfactory, as the chances of accident to the blower or to the pump are very remote, and the installation of a second blower will necessitate considerable changes in the blast piping from the blowers to the set.

On August 18th tests were made by the Board's Inspectors of the heating value of the gas in Newton, using the Board's portable calorimeter. An average of ten tests showed a total heating value of 665 Btu.

Rule IX states:

The company furnishing gas which, within a one-mile radius from the distribution center, gives a monthly average total heating value of not less than 600 Btu, with a minimum which shall never fall below 550 Btu, may be considered as giving adequate service as far as the heating value of the gas is concerned.

PERTH AMBOY GAS LIGHT COMPANY.

This is a coal gas plant supplying the municipalities of Perth Amboy, Woodbridge, Sewaren and Roosevelt. In addition to the gas manufactured at the plant, gas is purchased from the Elizabethtown Gas Light Company. Gas is delivered from the Elizabeth plant in high pressure mains to the storage holder at Perth Amboy, passing through a rotary station meter before entering the holder.

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The gas supplied to the township of Woodbridge is purchased from the Elizabeth Company and is transmitted from Elizabeth to Woodbridge in high pressure mains, the pressure being reduced at Woodbridge by means of a district governor and the gas being measured by station meter before entering the low pressure means. Some consumers are served directly from the high pressure mains, the pressure being reduced by means of individual service regulators.

Coal is received at the company's dock on Raritan Bay and is carried by horse and cart to the coal storage, whence it is carried to the coal gas benches in buggies, the retorts being fired by hand.

The normal generating capacity of this plant is 135,000 cubic feet and ample provision has been made for cooling, purifying and measuring the gas.

The maximum storage holder capacity is 106,000 cubic feet, the company having erected two holders, one a steel tank double lift holder having a capacity of 85,000 cubic feet and the masonry tank, single lift holder having a capacity of 21,000 cubic feet.

The maximum daily output for the past three years has been as follows:

1911,	259,400 cubic feet on Nov. 28th.
1912,	308,100 cubic feet on Sept. 17th.
1913,	345,000 cubic feet on Dec. 24th.

The total gas sent out of the plant for the past three years was as follows:

1911,		72,171,400
1912,		88,914,200
1913,		107,510,100

The above figures show that the capacity of this plant is not sufficient to supply the maximum demand and it has therefore been necessary to purchase a large amount of gas from the Elizabethtown Gas Light Company.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII, pertain to the setting and testing of meters.

The company states that no meters are allowed to remain in service for a period of over three years, without checking them for accuracy.

The company has installed a standard meter prover which is located in the meter shop at the plant and which has been tested and sealed by the Board's Inspector. A record of meter tests made by the company using this prover is on file in the meter shop as prescribed by Rule III, and a report made up from this record giving a summary of the results of these tests has been sent to the office of the Board every month as prescribed by this rule.

Company states that it makes tests of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly, designating the reading of the meter at the beginning and at the end of the time for which the bill is rendered, and comply fully with Rule VII.

Where prepayment meters are used a slip is left with the consumer at the time of reading of meter. This slip is made out in duplicate, one copy being

left with the consumer and the other copy taken to the office, and shows the reading of the meter and the amount of money collected from the meter.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

The company has equipped itself with a standard calorimeter outfit as prescribed by Rule X, but periodic tests have not been made as required by this rule.

Measure of pressure and pressure variations are made by the company with recording gauges, recording gauges having been installed at the company's office on Smith Street and at the works' office on Linden Street. The charts obtained from these gauges are on file in the company's office.

Examination of the pressure charts would indicate that the gas pressures in Perth Amboy were within the limits prescribed by Rule XI.

Complaints of poor service are recorded and filed at the Smith Street office of the company and show the name and address of the consumer, the date and nature of the complaint and the remedy as prescribed by Rule XIV. When a complaint is received at the office a card is made out in duplicate giving the name and address of the complainant and stating the trouble reported by him.

The original copy is given to the gas inspector, who investigates the complaint and returns the card to the office after investigation is made, writing on it the nature of the complaint and the remedy. This card is then filed at the office. In addition to the card system a loose leaf complaint book is kept at the office which is made up from the data obtained from the complaint cards.

The company has complied with Rule XVI by printing on the regular monthly bills instructions as to the reading of meters. No instructions are given, however, to consumers using prepayment meters.

Summing up, it appears that the following rules have not been complied with:

Rule X. Company has installed a standard calorimeter outfit but has not made periodic tests upon the gas, consequently there is no record of heating value of the gas as supplied to consumers.

Rule XVI. No instructions are given to consumers using prepayment meters as to the reading of same.

PLEASANTVILLE HEAT, LIGHT & POWER CO.

This is a carburetted water gas plant supplying the municipalities of Absecon, Pleasantville, Northfield, Linwood and Somer's Point, under the low pressure distribution system.

The normal generating capacity of the plant is 300,000 cubic feet per day with a reserved capacity of 100,000 cubic feet, making a total capacity of 400,000 cubic feet per day.

Ample provision has been made for cooling, purifying and measuring the gas and ample provision has been made for the storage of coal and gas oil.

Coal is received on the Atlantic City Railroad on a siding near the plant. The coal is unloaded by hand and is carried to the generators and boilers in coal buggies, being carried to the operating floor in generator house by means of a hydraulic elevator.

The company has erected an oil tank having a capacity of 80,000 gallons. The maximum daily output for the year 1913 was 140,000 cubic feet, on August 28th. The minimum daily output was 52,000 cubic feet on February 16th and the total output for the year was 34,432,000 cubic feet, as compared with 31,005,000 cubic feet during the year 1912.

From the above figures it would appear that the capacity of this plant is ample to meet any demands which may be expected during the next few years.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that they have removed and tested over 50 per cent. of the total number of meters in service during the last four years and that the remainder will be removed and tested during the coming year so as to comply with the requirements of Rule II.

The company has installed a standard meter prover in accordance with Rule IV which has been tested and sealed by the Board's Inspectors.

Records of tests made of meters before installation and upon receiving them from the services are on file in the meter shop at the plant and a report made up from these records has been filed with the Board each month as prescribed by Rule III.

The company states that no charge is made for testing a meter upon request of the consumer and that a report giving the result of the test is made to the consumer.

Meter dials read directly in cubic feet and bills are rendered monthly and comply fully with Rule VII.

Company states that no charge is made for changing meters as prescribed by Rule VIII.

The company has not as yet equipped itself with a standard calorimeter outfit as prescribed by Rule X, although its total output during the year 1913 was considerably over 20,000,000 cubic feet.

Daily measurements of pressure are made at the office in Pleasantville, and records are also made from time to time at different points on the distribution system as required by Rule XII.

An examination of the pressure charts which are on file at the office would indicate that the pressure conditions are within the requirements of Rule XI.

A complaint record is kept in accordance with Rule XIV, complaints when received being recorded in a book at the office of the company, and from this record an order is made to the distribution superintendent on a special form upon which the employee who investigates the complaint reports the

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nature of the work, and the remedy. The card is then returned to the office and placed in the files.

The company has complied with Rule XVI by printing on the back of its bills instructions as to the reading of meters. No instructions have been given, however, to consumers using prepayment meters.

Summing up, it would appear that the following rules have not been complied with:

Rule X. The company has not equipped itself with a standard calorimeter outfit.

Rule XVI. No instructions have been given to consumers using prepayment meters as to the reading of same.

On January 17th, 1913, the company wrote a letter to the Board calling attention to the financial condition of the company and requested that it be relieved from the necessity of installing a calorimeter.

As a result of this request the chief inspector of the Board recommended that the company be exempted from the operation of Rule X, requiring the installation of calorimeter, until May 1st, 1914, at which time the matter would be taken up again for consideration. This recommendation was subsequently approved by the Board.

**PUBLIC SERVICE GAS COMPANY—PATERSON
PLANT.**

This is a carburetted water gas plant supplying the municipalities of Acquackanonk, Garfield, Haledon, Hawthorne, Little Falls, Lodi Borough, Nutley, Passaic, Paterson, Prospect Park, Saddle River Township and Totowa, comprising what is known as the Passaic division of the Public Service Gas Company. In addition to the above municipalities, the Paterson plant also supplies the municipality of Ridgewood, which is located in what is known as the Bergen division of of this company.

The gas is distributed in general under the low pressure system, the consumers being supplied from storage holders located in Paterson, Passaic and Ridgewood, the Passaic and Ridgewood holders being supplied by high pressure mains from the Paterson plant. Some consumers are supplied directly from these high pressure mains, the gas pressure being reduced by means of individual service regulators. The high pressure mains are also used to reinforce certain sections of the low pressure system, the pressure being reduced by district regulators.

Coal is received at the plant by means of an elevated siding or trestle which allows the coal to be unloaded by gravity and stored in bins under the trestle. This siding is on the main line of the Erie Railroad. Coal is carried from the coal storage bins to the boiler and water gas generators by means of an industrial railway, being carried to the operating floor of the water gas generator houses by means of hydraulic elevators.

Provision has been made for the storage of approximately 7,500 tons of coal.

The maximum daily generating capacity of the Paterson plant is 8,000,000 cubic feet, the generating equipment consisting of 2-10'-6" United Gas Improvement Company's carburetted water gas sets, having a normal daily generating capacity of 2,200,000 cubic feet each and 3-8'-6" United Gas Improvement Company's carburetted water gas sets, having a normal daily generating capacity of 1,200,000 cubic feet each. Allowing for one set being shut down for repairs, the normal daily generating capacity of the plant would be 6,800,000 cubic feet or 5,800,000 cubic feet, depending upon whether one of the small sets or one of the large sets were shut down.

The generating plant at Passaic, which formerly supplied a portion of this territory, consisting of one 6' United Gas Improvement Company's carburetted water gas set (and one 5' Hanlon Ledley water gas set, having a normal daily generating capacity of 350,000 cubic feet each, has been dismantled and the Passaic works are now used as a meter shop and storehouse. At Ridgewood there are provided two coal gas benches having a capacity of approximately 60,000 cubic feet and one 4' Western Gas Construction Company's water gas set, having a daily capacity of approximately 100,000 cubic feet. This plant is not in operation, however, but in the event of a break in the high pressure line from Paterson the plant could be put into operation on short notice.

Ample provision has been made for cooling, purifying and metering the gas, and ample provision has also been made for the storage of gas oil, the total oil storage capacity being 850,000 gallons, which would be equivalent to approximately thirty days' supply if the plant was generating 6,800,000 cubic feet per day.

The maximum storage holder capacity is as follows:

Paterson Plant, ...	2,170,000	cubic feet.
Passaic Plant, ...	250,000	" "
Passaic Holder Station, ...	1,500,000	" "
Ridgewood Plant, ...	50,000	" "
Total, ...	3,970,000	" "

The relief holder capacity at the Paterson plant is 650,000 cubic feet.

The maximum daily output of the Paterson plant during the year 1912 was 4,770,000 cubic feet on December 24th and for the year 1913 was 4,785,000 cubic feet on December 24th. The total gas sent out during the year 1912 was 1,342,784,000 cubic feet; during the year 1913 was 1,378,878 cubic feet, an increase of 2.7 per cent.

An examination of the above figures would indicate that the capacity of this plant is ample to meet the maximum demand which may be expected during the next few years.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that no meters are allowed to remain in service for a period of over four years.

The company has installed two standard meter provers at their meter shop, located at 188 Ellison Street, Paterson, two provers at the meter shop of the old Passaic works, and one prover at the office of the company in Ridgewood, all of which have been tested and sealed by Inspectors of the Board.

A record of meter tests made by the company is on file in each of the above mentioned meter shops, as prescribed by Rule III, and a report made up from these records, giving a summary of the results of all meter tests has been filed with the Board each month, as prescribed by this rule.

The company states that it makes test of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly and designate the readings of the meter at the beginning and end of the time for which the bill is rendered; they also give the dates on which readings were taken and comply fully with Rule VII.

Where prepayment meters are used, a slip is left with the consumer at the time of reading of meter and shows the reading of the meter and the amount of money collected from the meter.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

Company has installed a standard calorimeter outfit at the Paterson plant and daily tests are made of the heating value of the gas. A record of these tests is kept on file in the work's office of the company and a summary of the results is filed each month with the Board.

An examination of these results shows that the heating value of the gas as sent out from this plant is well above the requirements of Rule IX. Daily measurements of pressure are made at the various points on the distribution system, the company having installed in this division 73 recording pressure gauges. The pressure charts are on file at the Paterson works, as required by Rule XII.

Complaints of poor service are recorded and filed in the offices of the company and show the name and address of the consumer, the date, the nature of the complaint and the remedy as prescribed by Rule XIV. When a complaint is received at the office, the record is made in triplicate, the original copy being given to the employee who investigates the complaint and who returns the card to the office after the investigation is made, stating on the card the nature of the complaint, and the remedy. This card is then filed at the office. The duplicate copy of the complaint is sent to the superintendent of the shop from which employee is sent out and the third copy is filed at the office.

The company has complied with Rule XVI by printing on the regular monthly bills and on the slips left with consumers using prepayment meters, instructions as to reading the meters.

Summing up, it would appear that all of the rules adopted by the Board are being complied with by this division of the company.

RAHWAY GAS LIGHT COMPANY.

This company supplies the city of Rahway under the low pressure distribution system.

The company does not manufacture the gas delivered to its customers, the gas being purchased from the Elizabethtown Gas Light Company, and is delivered from the Elizabeth works of this company to a storage holder located at the old works of the Rahway Gas Light Company at the corner of Central Avenue and Hamilton Street, Rahway. The pressure of the gas is reduced by means of a governor and the quantity of the gas delivered is measured by means of a station meter before the gas enters the holder.

The storage holder at this plant was erected during the past year and has a capacity of 146,000 cubic feet.

An examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

Company states there are some meters which have been in service for a period of over six years without checking them for accuracy.

Company has installed a standard meter prover which is located at its old works in Rahway and which has been tested and sealed by the Board's Inspectors. A report of the meter tests made by the company using this prover is on file at the company's office as prescribed by Rule III. A report made up from this record giving a summary of the results of these tests has been sent to the Board every month as prescribed by this rule.

Company states that it makes tests of consumers' meters upon request as prescribed by Rule V.

Meter dials read directly in cubic feet and bills are rendered monthly, designating the reading of the meter at the beginning and at the end of the time for which the bill is rendered and comply fully with Rule VII.

Where prepayment meters are used a slip is left with the consumer at the time of reading of meter and shows the reading of the meter and the amount of money collected from the meter.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

Company has not equipped itself with a standard calorimeter outfit as prescribed by Rule X, but daily tests are made of the gas before it leaves the Elizabeth works of the Elizabethtown Gas Light Company, from whom it is purchased, and for this reason it does not appear necessary at this time for the company to install a calorimeter outfit.

A recording pressure gauge has been installed in the meter room of the old works located at the corner of Central Avenue and Hamilton Street, in accordance with Rule XII, and records the pressure of the gas which is delivered to the distribution mains. An examination of the pressure charts, obtained from this gauge, which are on file in the office of the company,

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would indicate that the gas pressure at this point was within the limits prescribed by Rule XI.

Complaints of poor service are recorded and filed in the office of the company in Rahway and show the name and address of the consumer, the date and nature of the complaint and the remedy as prescribed by Rule XIV.

The company has complied with Rule XVI by printing on their regular monthly bills instructions as to the reading of meters. No instructions are given, however, to consumers using prepayment meters.

Summing up, it would appear that the company has complied with all the above rules with the exception of the following:

Rule II. Company has allowed some meters to remain in service for a period longer than six years without checking them for accuracy.

Rule XVI. No instructions have been given to consumers using prepayment meters as to the reading of same.

STANDARD GAS COMPANY.

A general inspection of the Standard Gas Company's plant, located at Atlantic Highlands, was made by the Gas Inspector, and in a report to the Board it was recommended that the following apparatus be installed, the Board having previously authorized the company to issue bonds to provide for the erection of same:

- 1 200,000 c.f. Storage Holder,
- 1 25,000 gallon Oil Tank,
- 1 150 H. P. Boiler,
- 1 No. 8 Gas Exhauster,
- 1 Station Meter,
- 1 20' x 12' Purifier,
- 1 12" x 16" x 12" Compressor.

An inspection of this plant by the Gas Inspector on August 14th, 1914, shows that during the past year the company has complied with the inspector's recommendations by the erection of the following apparatus:

- 1 Double Lift Steel Tank Holder, capacity, 200,000 cu. ft.
- 1 Steel Oil Tank of the cheese box type, 18' in diameter, 14'-6" high, having a capacity of 27,600 gallons.
- 1 Horizontal Return Tubular Boiler 72" x 18' rated at 150 H. P.
- 1 Wilbrahan-Green No. 6 Gas Exhauster.
- 1 10" Venturi Gas Meter, having a capacity of 1,500,000 cu. ft. per day.
- 2 10' x 10' Duplex Gas Purifiers.
- 1 Laidlaw-Dunn Gordon Compressor 12" x 16" x 12".

In addition to the above apparatus, the company has increased the generating capacity of the plant by replacing a 5-foot water gas set with a 6-foot set, so that the normal generating capacity of the plant is now 550,000 cubic feet per day, with a reserve capacity of the same amount, making the total normal generating capacity 1,100,000 cubic feet per day. The company has also

installed a P. & A. Tar Extractor having a capacity of 750,000 cubic feet per day, which with the installation of the apparatus as mentioned above, the company has provided ample capacity for the cooling, purifying, measuring, storing and pumping the gas.

Before the installation of this apparatus, this plant was badly handicapped by insufficient purifying capacity, insufficient compressor or pumping capacity, and insufficient oil storage capacity, and was also badly handicapped in not having a storage holder. The gas, after leaving the generating apparatus, passed through a scrubber and condenser, which removed the tar and oily matter, thence to the holder, and from the holder the gas was pumped directly to the street mains. This method of operation necessitated delivering the gas to the mains at too high temperatures during the hours of maximum demand which occur in the summer months, at which times it was necessary to manufacture the gas at practically the same rate as the rate at which the gas was used by the consumers.

On August 3d, 1913, the output of the plant was approximately 372,000 cubic feet and the holder capacity was but 50,000 cubic feet. The installation of the storage holder, which has a capacity of 200,000 cubic feet, allows the gas to be made at a more uniform rate, as it provides an ample supply of gas to meet the demands during the hours of maximum demand.

As mentioned above, the normal capacity of this plant is now 550,000 cubic feet per day, with a reserve capacity of an equal amount. The relief holder capacity is 50,000 cubic feet, and the storage holder capacity 200,000 cubic feet. The maximum daily output during the year 1913 was approximately 372,000 cubic feet, on August 3d.

The maximum daily output during the present year will probably approach 450,000 cubic feet, so that it would appear that the capacity of this plant is now ample to meet the demands which may be expected for a number of years.

STANDARD GAS COMPANY OF SOUTH JERSEY.

When the previous inspection of this plant was made on April 10th, 1913, the plant was not in operation owing to a bad settlement in the foundation of the gas holder which necessitated the moving of the holder from its foundation and additional piling under the concrete work. This work was completed shortly after the date of the first inspection and the plant was in operation during the latter part of June, 1913.

This is a carburetted water gas plant supplying Sea Isle City under the high pressure distribution system, the pressure being reduced before entering the consumers' meters by means of individual pressure regulators.

The normal generating capacity of the plant is 125,000 cubic feet per day, and ample provision has been made for cooling and purifying the gas. The holder capacity consists of one steel tank single lift holder having a capacity of 20,000 cubic feet (this holder is used as a relief holder); and one steel pressure storage tank having a capacity of 17,000 cubic feet.

The company has installed a compressor for the purpose of pumping the

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gas to its compression tank thence to its distribution mains. The rated capacity of this compressor is 10,000 cubic feet per hour.

At the present time the coal is carted to the plant from a siding on the Atlantic City Railroad near the plant. The company proposes, however, to have the siding extended to their plant. Ample provision has been made for the storage of coal and gas oil, the company having erected an oil storage tank having a capacity of about 9,000 gallons.

As there is no station meter at this plant, it is impossible to determine the exact relation between the maximum demand and the maximum capacity of the plant. From the gas maker's reports, it would appear, however, that the capacity will be sufficient to meet any demands which may be expected during the next few years.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

As this company did not start to sell gas until the year 1913 there have been no meters in service for a period longer than six years as required by Rule II. The company has not provided itself with a standard meter prover as prescribed by Rule IV, and consequently no tests have been made of meters as prescribed by Rules III and V.

Meter dials read directly in cubic feet and bills are rendered monthly and designate the reading of the meter at the beginning and end of the time for which the bill is rendered and comply fully with Rule VI.

The company has not as yet complied with the last part of this rule, however, which states that a slip showing the reading and the amount of money collected shall be left with consumers using prepayment meters.

As the output of this company during the year will be considerably less than 20,000,000 cubic feet, it is not required that the company equip itself with a standard calorimeter outfit as prescribed by Rule X.

No measurements are made of pressure and pressure variations as required by Rule XII.

No record is kept of complaints in regard to service as prescribed by Rule XIV.

The company has not as yet adopted any method to inform its customers as to the reading of meters.

Summing up, it would appear that the following rules have not been complied with:

Rule III—No record of tests made of consumers' meters.

Rule IV—The company has not provided itself with a standard meter prover.

Rule VII—No slips are left with consumers using prepayment meters.

Rule XII—No measurements are made of pressure and pressure variations.

Rule XIV—No records are kept of complaints in regard to service.

Rule XVI—No method has been adopted to inform customers as to the reading of meters.

As this company has considerably less than 500 meters in service and has been in operation less than a year, it is recommended that the company be relieved from complying with Rules III, IV and XII, for a period of one year, from January 1st, 1914. The company should, however, take immediate steps to comply with Rules VII, XIV and XVI.

WASHINGTON GAS COMPANY.

This is a carburetted water gas plant supplying the Borough of Washington under the low pressure distribution system. There have been no additions to the equipment of this plant nor any changes in the operation of this plant since the previous inspection on December 30th, 1913, and the relation between the capacity of the plant and the demand was covered in report dated January 5th, 1914.

An examination of the company's records at the time of the previous inspection, December 30th, 1913, showed that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas had been complied with, with the exception of the following rules:

Rule III—No record was kept of meter tests.

Rule IV—Company had not provided itself with a standard meter prover.

Rule XIV—Complaint records did not show what work was done to remedy cause of each complaint.

Rule XVI—No instructions as to the reading of meters were given to consumers using prepayment meters.

It was recommended that the company provide itself with the equipment necessary for testing meters as prescribed by Rule IV, and that the company keep a record of meter tests as prescribed by Rules III and V.

An examination of the company's records on August 19th shows that the company is now keeping their complaint record in accordance with Rule XIV, and that they have complied with the requirements of Rule XVI, by attaching to the slip which is left with the prepayment meter consumers, instructions as to the reading of meters.

Company has not as yet provided itself with equipment necessary for testing meters as required by Rule IV and as recommended in the previous report of the Gas Inspector.

As mentioned in the last report, the company has installed a recording pressure gauge at the office and has occasionally moved this gauge to various points on its distribution system, and the charts obtained are on file at the office of the company. The company has also made tests of pressure during the time of maximum demand, using a water gauge, and the information obtained from these tests would indicate that at certain points on the distribution system the pressure approaches the minimum pressure allowed by Rule XI. An examination of the map of the distribution system would indicate that these pressures could be improved by the addition of short lengths of main, tying in some of the extreme points on the distribution system.

WILDWOOD, ANGLESEA & HOLLY BEACH GAS COMPANY.

This is a carburetted water gas plant supplying the municipalities of North Wildwood, Wildwood and Wildwood Crest under the low pressure distribution system. The normal generating capacity of the plant is 300,000 cubic feet per day, with a reserve capacity of 300,000 cubic feet, making a total generating capacity of 600,000 cubic feet per day.

Ample provision has been made for cooling and purifying the gas. The holder capacity consists of one double-lift steel tank storage holder having a capacity of 100,000 cubic feet, and one single-lift steel tank relief holder having a capacity of 25,000 cubic feet. The gas oil storage capacity is 8,000 gallons. There being no station at these works, no figures are available as to the daily output, but from a summation of gas sales as indicated by consumer's meters the total output during the year 1912 was 20,000,000 cubic feet, and the maximum daily output was approximately 230,000 cubic feet. The total output during the year 1913 was approximately 31,500,000 cubic feet, and the maximum daily output was approximately 270,000 cubic feet. These figures would indicate an increase of 50 per cent. in the yearly output during 1913 over the yearly output of 1912, while the maximum daily output of 1913 shows an increase of less than 20 per cent. over the maximum daily output during the year 1912. These figures, however, are all based upon observations of the heights of the gas holders, and a summation of consumption through consumers' meters, as there is no station meter at this plant.

It would appear, however, that the capacity of this plant is ample to meet the present demands. In a former report it was recommended that a station meter be installed before the commencement of the summer season of 1914, and this recommendation has not as yet been complied with.

Examination of the company's records shows that the rules adopted by the Board on October 17th, 1911, as establishing standards and regulations to be followed by utilities engaged in the production, sale and distribution of gas, have been complied with as follows:

Rules I to VIII pertain to the testing and setting of meters.

The company states that during the past year it has removed and tested many of its meters, so that at the present time there are probably no meters in service which have not been tested during the last two years.

A record of meter tests made by the company is on file in the meter shop at the gas works as prescribed by Rule III, and monthly reports showing a summary of the results of these tests have been filed with the Board as prescribed by Rule III.

The company has installed a standard meter prover in compliance with Rule IV, which has been tested and sealed by the Board's Inspectors. The company states that it makes tests of consumers' meters upon request in compliance with Rule V, and that a report giving the result of such test is made to the consumer, and a record of the test is kept on file at the office of the company.

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Meter dials read directly in cubic feet, and bills are rendered monthly and designate the reading of the meter at the beginning and at the end of the time for which the bill is rendered, and complies fully with Rule VII.

Where prepayment meters are in use, a slip is left with the consumer, and shows the reading of the meter and the amount which has been collected.

The company states that no charge is made for changing meters as prescribed by Rule VIII.

This company has not as yet equipped itself with a standard calorimeter outfit as prescribed by Rule X. While there are no accurate records available as to the annual yearly output of the company, there is no doubt that the yearly output exceeds 20,000,000 cubic feet, and the company should equip itself with a standard calorimeter with which periodic tests upon the gas should be made.

The company has made frequent measurements of pressure and pressure variations throughout its distribution system, as prescribed by Rule XII, and has had a recording pressure gauge installed at its office until recently, when the office was moved and the gauge disconnected.

The company states, however, that this gauge will be set up in the new office, where daily records will be made. An examination of the pressure records on file in the office would indicate that the pressure conditions were within the requirements of Rule XI.

A complaint record is kept in accordance with Rule XIV, the complaints being recorded and filed by means of a duplicate card system. The original card is sent to the employee, who investigates the complaint and is returned to the office. When the work in connection with the complaint is completed, the employee writes on the card the nature of the complaint and the date on which the work was completed, this card is then filed in the office of the company.

The company has complied with Rule XVI by printing on the back of the regular monthly bills and on the back of the slips left with prepayment meter consumers instructions as to the reading of the meters.

Summing up, it would appear that the company has complied with all of the above rules with the exception of Rule X, and it is RECOMMENDED that the company comply with the requirements of this rule by equipping itself with a standard calorimeter outfit, and that periodic tests of the heating value of the gas be made.

BLACKWOOD WATER COMPANY.

The pumping equipment, first installed in 1906, consisted of a vertical triplex 7" x 8" pump, with a 4" discharge, built by the Deane Steam Pump Company, and pumped the water from three 60' wells, adjacent to the plant, to a 60' steel water tower located about one-quarter of a mile from the plant and 60' to 100' higher. The pump is belt driven by a water turbine in an old grist mill. The flume of the turbine is an iron pipe about 30" in diameter, from the lake directly across the road, and leads to a wooden sluice box around the turbine. The outlet of the sluice box is controlled by a wooden

sluice gate geared to a rod which extends into the mill, and has a wheel attached for the operator to handle.

The pumping equipment is housed in a substantial red brick building which has a room that could be used as an office. An additional well has been dug 300' deep but has never been used, although a supply of good water continually flows from a one-inch pipe which is the outlet of same. The water tower is built with four legs supported by stone foundations covered with cement. The capacity or size of tower was not ascertained.

This year a filter bed and Gould rotary pump have been installed. The filter bed consists of rock, sand and charcoal contained in a concrete basin with a small galvanized iron tower with trays. The Gould pump is also belted to the water turbine and is used to pump the water from the filter tank to the water tower, and the triplex pump lifts it from the wells to the filter tank.

Condition of Equipment.

The water turbine is apparently working all right. The sluice box is leaking badly and has not been cleaned out or repaired for three years. The sluice gate is very hard to operate as the support for the cogs is so weak that they slip out of mesh. The triplex pump has recently had one new plunger installed, and is in good condition. The rotary pump will not fill the water tower from the filtering bed and the inside of the belt has had the rubber burnt off by friction when the pump could not buck the head of water any longer. The filter bed is apparently in good condition but is not in use because of the rotary pump trouble just mentioned. A recording pressure gauge has been in use but is now disconnected and apparently has been so for some time. The same is true of a large mercury pressure gauge. The only means of determining the pressure is an old steam gauge which has not been calibrated within three years and is unreliable in determining the amount of water in the water tower. The water tower had been painted with aluminum paint but is now peeling off. The supply pipe to the tower had been covered with a wooden sheathing, the space between sheathing and pipe filled with asbestos wool and the outside covered with tin. At present the sheathing is torn off the pipe about twelve feet from the ground, no asbestos wool surrounds the pipe and about six feet of the pipe, including an expansion joint, is exposed. The reason for this condition of the supply pipe is that during a cold spell last winter, the expansion joint burst and for about six weeks it was impossible to use the water tower. During this period the pump was kept going day and night, and in order to prevent too great a pressure on the mains, a fire hydrant at a high point of the system was kept open to relieve the pressure.

The dam and overflow seem to be in good condition but a portion of the forebay near the mill is in bad condition and has been so for over three years. Piling has been left there ready to be driven but same has not been installed. The mill itself is over 100 years of age and one of the grinding stones, weighing at least a ton, is leaning toward the turbine and sluice box, and if same should fall would take the turbine with it.

The town has been without water several times due to the fact that it was not known when the water tower was full or only partially filled, and the supply ran low before the operator returned to operate the pumps.

Recommendations.

1. The piping should be changed so that the rotary pump will lift the water from the wells to the filter bed and then have the heavy duty triplex pump lift the water from the filter bed to the water tower.
2. Repair and clean the sluice box.
3. Either repair and support firmly the control of the sluice gate or change same around to be operated from within the pumping station to make it more accessible and safer.
4. Reconnect and put in order the mercury gauge, and it is advisable to put the recording gauge in working condition.
5. Paint the water tower and recover the supply pipe to prevent same from freezing.
6. Drive piling and put sheathing on same in forebay.
7. Support the grinding stone in the mill or remove same.
8. Endeavor to determine whether there are any bad leaks in the mains.
9. It is also suggested that a valve be put in the flume to shut off the water in an emergency and control same from the pumping room.

Inspectors' Reports on Accidents.

LEHIGH VALLEY RAILROAD—Crossing Accident—November 26th, 1913 —Goodmans.

A Lehigh Valley passenger train, at 4:35 P. M., November 26th, struck an automobile which was stalled on the crossing at Goodmans. The machine was demolished and two occupants injured. The crossing was protected by an automatic bell, which was ringing at the time of the accident. The Inspector reports that the occupants of the automobile saw the train approaching about one mile distant, but evidently made no effort to leave the automobile before the train reached the crossing. The engineer sounded the whistle for the crossing, and observing the machine put on the emergency brake and brought the train to speed of ten miles per hour, but could not stop in time to prevent collision.

It was recommended that standard crossing signs be erected at both approaches, and that the bank on the northwest and southwest corners be cut down.

The recommendations were adopted by the company.

PENNSYLVANIA RAILROAD—Crossing Accident—November 26th, 1913 —Mount Holly.

Pennsylvania Railroad freight train, while passing over Pine Street crossing, Mount Holly, at 10:15 P. M., November 26th, struck and demolished a wagon, killing the horse, fatally injuring the driver and seriously injuring two occupants of the vehicle. The crossing was not protected at the time of the accident. There are two tracks at this crossing. The view is obstructed at both approaches by buildings and embankment. The crossing is protected from 6:30 A. M. to 9:10 P. M. by a flagman. The train reached the crossing before the wagon, which ran into the fourth car from the engine. The Inspector reported that the company is to install gates at the crossing, and in addition to the gates, the Inspector recommended the installation of a bell in order that the crossing will be protected when the gateman is not on duty. The Inspector also recommended the installation of standard grade crossing signs instead of the small signs already there.

The recommendations were adopted by the company.

ATLANTIC CITY RAILROAD—Crossing Accident—December 24th, 1914 —Hammonton.

A passenger train on the Atlantic City Railroad, while passing over 11th Street crossing, Hammonton, at 11:29 A. M., December 24th, struck a wagon,

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demolishing same and killing three occupants, who were boys aged respectively 17, 10 and 12 years. There are two main tracks at this crossing, which is unprotected. It was reported that the view of trains was somewhat obstructed by embankment on southwest and northwest corners until a point is reached fifteen feet west of nearest rail, at which point there is a view of northbound trains for one mile and of southbound for two thousand feet; that the view from the easterly approach is only fair, it being possible to observe southbound trains for a distance of one thousand feet, and northbound trains seven hundred and fifty feet when at a point thirty feet from the nearest rail. Travel over the crossing was reported to be light, the road being unimproved. It was reported by the Inspector that an automatic alarm bell has been installed since the accident.

The Inspector recommended, in addition, the erection of a "Caution" sign to be located near the top of grade on the westerly side of right of way, about two hundred feet distant from the southbound rail. Also that banks on the northwest and southwest corners be cut down to afford a better view. It was suggested by the Inspector that the grade of the street on the westerly side be sloped to lessen the heavy grade in order to render the situation less dangerous to vehicular travel.

The company advised it would comply with the recommendations in so far as same apply to the company, and would endeavor to secure the consent of the local authorities in connection with the work of changing the grade as recommended. The Board was later advised that the Town of Hammonton had completed this work.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD—Man struck by car—December 30th, 1913—Athenia.

This accident occurred at Athenia, on the tracks of the Magor Car Works. An employee was working under the car, which was resting on skids; the skids were knocked from under the car by a drilling engine, allowing car to fall on the man, who was fatally injured.

It was recommended that no car be moved on the tracks of the Magor Car Works until the conductor or man in charge knows positively that no men are working thereon.

The recommendation was adopted by the company, which issued instructions concerning same to employees who switch cars on this side track.

CENTRAL RAILROAD COMPANY—Crossing Accident—January 7th, 1914—Elizabeth.

A drill engine of the Central Railroad, moving north over Third Street, Elizabeth, was struck by trolley car of the Public Service Railway, at 6:15 A. M., January 7th. The crossing is protected by gates from 6 A. M. to 12 P. M. As the car reached the railroad track the gateman, who was on the ground taking the weights off the gates, seeing same, called out to the

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conductor not to pull the derail. The conductor did not obey the gateman's instructions, and car started over the crossing, and ran into side of engine. There were no passengers in the trolley car at the time. The Inspector suggested that as the gateman knew a trolley car was due he should have lowered the gates to protect the crossing before adjusting the weights.

It was recommended that as the crossing should be protected from 6 A. M. gates be put in proper condition for operation at that hour.

The recommendation was adopted by the company.

PENNSYLVANIA RAILROAD—Crossing Accident—January 15th, 1914—
East Spotswood.

Freight train, while passing over the crossing west of East Spotswood Station, at 10:35 A. M., January 15th, struck a wagon, demolishing same, killing the horse and injuring the driver. The crossing is sharply diagonal, one main track and protected by automatic bell.

It was recommended that as the crossing is diagonal, standard crossing signs should be placed at both approaches, also "Caution" signs should be placed at a point 250 feet from the track.

The company advised it was willing to comply with the recommendations, and would endeavor to obtain permission of the Township Committee for permission to erect the distance signs.

ERIE RAILROAD—Man struck by train—February 8th, 1914—Paterson.

As a passenger was waiting to board train No. 710 at the Paterson station, he stood too close to rail and was struck by bumper beam of engine and had arm broken. It was reported that the station officer is on duty continuously from 9 A. M. to 7 P. M.

It was recommended that station officer's hours be continued to 10 P. M. The recommendation was adopted by the company.

PUBLIC SERVICE RAILWAY—Explosion of Hot Water Heater—February 13th, 1914—Burlington.

While car No. 3308 of the Camden and Trenton line was standing on a siding at Burlington, February 13th, at 6:48 P. M., the tank of the hot water heater exploded, tearing a considerable portion of the roof of the car away, breaking nearly all of the windows and injuring several occupants of the car. An inspection of the tank after the explosion indicated no defects of the material, the cause of the explosion being failure of the safety valve to operate caused by freezing.

It was recommended that an additional safety valve be installed inside of car, set at a higher pressure than the valve exposed to the outside air and

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that the inner valve be so protected that an escape of steam would not affect the passengers; that all pipes of the heating system under the car be covered with some protecting material to prevent freezing, and that safety valves be tested periodically and records of same kept at the car barns or shops.

The company advised that in its opinion suggestion as to the additional valve would not be effective and might be dangerous. Upon the company's request, the Board fixed a date for hearing on the recommendations. Following the hearing, at which testimony was given by the Board's Inspector and by representatives of the company, the Board issued an order "That on all cars operated by the Public Service Railway Company and heated by hot water heaters, the pipes of the heating system located below the level of the flooring of the car and outside the car shall be covered by some protecting material to prevent freezing and that the safety valves shall be tested every six weeks and reports of such tests made to the Board."

CENTRAL RAILROAD COMPANY OF NEW JERSEY—Crossing Accident—February 13th, 1914—White House.

An extra eastbound freight while passing over the Flemington Road crossing, at White House, at 2:58 P. M., February 13th, struck a wagon, demolishing same and injuring the driver. The crossing was protected by gates from 6 A. M. to 12 P. M. The Inspector reported that he observed cars standing on siding, which would obstruct the view.

It was recommended that the crossing be protected by an automatic alarm bell or gates during the twenty-four hours of the day.

The company advised it would install an electric bell. Following the installation of this bell complaint was made to the Board of the continual ringing of same, due to the fact that trains stop at water tanks east and west of the crossing. In view of this the Inspector recommended that gates be operated continuously, which recommendation was complied with by the company.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD—Passenger struck by train—March 13th, 1914—Dover.

As passenger train No. 376 was backing on third track opposite station at Dover, at 10:19 P. M., March 13th, one minute before leaving time, train No. 9 westbound arrived three minutes late. This train should have remained east of station until No. 376 had left, but instead it ran between the station and No. 376, striking a passenger who was crossing the track from station to board No. 376. The engineer and fireman of No. 9 claim signal was given to go ahead. The Inspector reported that Rule No. 111 of the company forbids such a movement as that made by train No. 9, unless signalled by conductor.

It was recommended that the engineer see and know that it is the conductor who gives the signal in such a case in order to avoid paralleling at station.

The General Superintendent of the company advised that it was not possible "for an engineer to know in the nighttime to a certainty whether it is the conductor or some other employee giving lamp signals at a considerable distance from the engineer."

The matter was referred back to the Board's Inspector, who repeated his recommendation, and the matter was placed on the Board's calendar for formal hearing. Following the hearing, at which testimony was taken, the Board issued a report in which it recommended that Rule No. 111 should either be literally observed, or so changed as to embody the suggestion of the Chief Inspector of the Railroad Division of this Board.

NEW JERSEY AND NEW YORK RAILROAD—Woman fell down cellar steps—March 14th, 1914—Hackensack Station.

At the Anderson Street Station of the New Jersey and New York Railroad, in Hackensack, the door to the coal cellar is located between two waiting rooms, which are connected by a narrow passageway. An intending passenger fell down these cellar stairs and sustained an injured ankle.

It was recommended that a spring lock be placed on the door which could not be opened without inserting a key, thus insuring the door being kept locked.

The recommendation was adopted by the company.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD—Crossing Accident—March 17th, 1914—East Orange.

At the Grove Street crossing of the Delaware, Lackawanna and Western Railroad, East Orange, train No. 268 struck an automobile, killing the driver. The automobile was proceeding in a northerly direction and stopped at gates for the passage of a westbound train. As soon as the train cleared the crossing the gates were raised, when the automobile started to cross and was struck by an eastbound train. The crossing was protected by gates, bells being located in gate house to notify the gateman of the approach of both east and westbound trains. It was reported that the bell for eastbound trains is approximately 1,800 feet west of the crossing, this being sufficient distance for trains which stop at the East Orange Station, but insufficient for express trains which make this run in twenty-five seconds.

It was recommended that this bell be moved back to a distance of 3,000 feet.

The recommendation was adopted by the company.

ERIE RAILROAD—Crossing Accident—April 17th, 1914—Garfield.

As train No. 13 was crossing Somerset Street, Garfield, April 17th, it struck a vehicle, demolishing same, killing the driver and horse. It was

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reported that the crossing was protected from 6 A. M. to 7 P. M. by a flagman, bell being operated at all times.

It was recommended that the hours of the flagman be extended to 10 P. M. The recommendation was adopted by the company.

CENTRAL RAILROAD COMPANY OF NEW JERSEY—Crossing Accident—May 11th, 1914—Belmar.

Passenger train No. 335 was moving over tracks of the New York and Long Branch Railroad, at 11:20 P. M., May 11th, when it struck an automobile, damaging same. The machine had stalled on the crossing owing to a broken axle, and could not be moved in time to avoid the accident. The crossing is diagonal, protected by a flagman from 6:30 A. M. to 8:25 P. M.

It was recommended that an automatic alarm bell be installed.

The recommendation was adopted by the company.

ERIE RAILROAD—Crossing Accident—July 5th, 1914—Avondale.

As train No. 331 was passing over Washington Avenue crossing, Avondale, July 5th, it struck an automobile, injuring two occupants. The crossing was protected by gates operated by man in tower located on the southwest corner, also by an automatic alarm bell operated at all hours. There are two tracks at this crossing, one main and one siding, crossing diagonally on a level grade. The train was due at 10:58 P. M. The towerman left before its arrival in order to board same.

It was recommended that gates be operated for the protection of all movements over the crossing.

The recommendation was adopted by the company.

CENTRAL RAILROAD COMPANY OF NEW JERSEY—Cars ran against bumping block—July 7th, 1914—Newark Terminal.

As passenger train No. 306 backed into the Newark Station of the Central Railroad from the yard, the engine was detached from the cars after giving them a shove. The cars ran against bumping block, pushing out the plank near the steps, and several people who were standing near same were injured. The leading car was controlled by a brakeman, and was equipped with two ropes, one the conductor's signal, and the other, four inches beneath same, the emergency brake. The brakeman stated he had hold of the hand brake coming in, which was working all right; when nearing the block he applied the brake again, slipped and fell under the car platform. This released the brake, and as the cars were going at a higher speed than usual, the baggagemaster, who was in the third car from leading car, also put on the hand brake, thinking something was the matter. The brakeman, realizing he was close to the block, grabbed what he said was the emergency brake, which he claims failed to work. The car was examined immediately after the accident, and the emergency brake found to be working properly.

It was recommended that bumping blocks at this point should be equally as effective as those in the Jersey City Terminal; that all cars placed on these tracks should be kept fast to the engine, except where impracticable, when a whistle hose or a device should be installed outside the door where the brakeman could reach same without stepping inside of car.

The company advised that instructions would be issued to conductors to be on the rear end with the brakeman when riding trains into the station, to see that train is properly handled and assist in doing so. This will place two men on guard on the rear end.

The matter was referred again to the Chief Inspector of the Board's Railroad Division, who stated that in his opinion if two men are placed on the rear of train being shunted into a passenger station this would be satisfactory.

The company raised no objection to the installation of the bumping blocks.

ERIE RAILROAD—Flue burst—July 31st, 1914—Montclair.

Flue burst on engine No. 2032 at 10:30 A. M., July 31st, at Montclair, causing back draft and slightly burning fireman. The engineer jumped and was slightly hurt. An examination showed that the flue broke six inches from the rear flue sheet back of weld, the flue at the point of fracture being only 1/32-inch thick. The Inspector stated that it is evident lax inspection permitted this flue to be welded, as the safe end that was welded on was 1/10 of an inch thick.

It was recommended that more careful inspection of flues be made when welding repairs are done.

The company advised in response to this "an investigation develops that the accident was not due to lax inspection. The tube failed at a point beyond the weld. There is no practical method of inspection by which the condition which caused the accident could have been detected. It is the practice to carefully inspect flues when welding repairs are made."

This matter was referred back to the Chief Inspector, who stated: "I do not feel that the proper inspection has been given. * * * I recommend that a more rigid inspection be given." The company then advised "We agree with the Inspector for the Public Utility Commissioners as to the necessity for rigid inspection and such is the practice of this company. It is positively understood that flues which indicate weakness, due to wearing away of material, or any other cause, must not be welded, and if there is any doubt about their fitness, the rules of the company provide that they be scrapped. Master mechanics and general foremen boilermakers are required to conduct periodical checks to see that instructions are carried out. If a visual examination of the flue in question indicated that it was not fit for use, the welding repairs would not have been made."

NEW JERSEY AND NEW YORK RAILROAD—Crossing Accident—
August 15th, 1914—Park Ridge.

As engine No. 531 was passing over crossing, three hundred feet west of Park Ridge Station, it struck a bakery wagon, injuring one occupant. The

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crossing is on a level grade at right angles. It was stated that all trains stop at Park Ridge Station and reduce speed at this crossing.

It was recommended that an alarm bell be installed at this crossing.

The recommendation was adopted by the company.

NEW YORK, SUSQUEHANNA AND WESTERN RAILROAD—Man struck by train—August 31st, 1914—One-half mile west of North Paterson.

As train No. 944 was passing over Rock Road Crossing, one-half mile west of North Paterson, it struck and killed a man. The Inspector stated that it is thought the man was reading a newspaper, and failed to notice the train.

It was recommended that trees standing on the northwest corner be cut down in order to improve the view.

The recommendation was adopted by the company.

WEST JERSEY AND SEASHORE RAILROAD—Crossing Accident—September 8th, 1914—Bridgeton.

As special train from Glassboro to Bridgeton, on the Bridgeton Branch of the West Jersey and Seashore Railroad, was passing over Commerce Street, in Bridgeton, at 12:15 A. M., September 8th, it collided with a trolley car of the Bridgeton and Millville Traction Company. The car was demolished, four people killed and one injured. The crossing was protected by gates operated from 6 A. M. to 8:25 P. M. on week days; from 6 A. M. to 10 A. M. and 4:30 P. M. to 7:30 P. M. on Sundays. Standard grade crossing signs have recently been placed at both approaches to the railroad. When this train reached Bridgeton it turned on the "Y" track, and was backing over crossing when the accident occurred. It was stated that the air whistle was sounded for the crossing, and was heard one block north of the point where accident occurred. The whistle was also heard by the conductor of the trolley car. The trolley car did not stop before passing over the crossing, in accordance with the rules of the company, for the reason, as stated by the motorman, that they had crossed at this point for three years, and never saw a train at that time of night.

It was recommended that the gates at the crossing be operated during the entire twenty-four hours each day.

The recommendation was adopted by the company.

ATLANTIC CITY RAILROAD—Crossing Accident—September 9th, 1914—Palermo.

An automobile going in a southerly direction ran into the rear driving wheel of the engine of extra train No. 15, southbound, on the Ocean City Branch of the Atlantic City Railroad, as it was passing over Seashore Road Crossing in Palermo, at 12:10 A. M., September 9th. The automobile was

demolished, four occupants killed and one injured. The highway crosses the single main track diagonally. The view from the easterly side (direction in which the automobile was moving) was reported to be good in both directions. The crossing was protected by automatic bell, small signs, also signs reading "Do not cross while the bell rings." There are no lights on the crossing at night. The equipment consisted of an engine, nine cars and caboose, and was running at a speed of fifteen miles per hour. Engine bell was ringing, headlight was burning, and the regular crossing signal sounded at the whistling board north of the crossing. The automatic bell was also ringing. The fireman stated that seeing the automobile approaching the crossing, he called out to the engineer, who immediately applied the brakes. The automobile was running at a speed of about forty miles per hour.

The following recommendations were submitted to the company:

- (1) That a louder toned bell should be substituted for the bell now in use.
- (2) That red light signals should be installed to warrant travel on the highway safe approaching the track at night.
- (3) That standard crossing signs be located at both approaches, about forty feet from track if they can be so placed.

The recommendations were adopted by the company.

NEW YORK AND GREENWOOD LAKE RAILROAD—Crossing Accident—October 27th, 1914—East of Montclair Station.

An automobile was struck by train No. 460, at the crossing located five hundred feet east of Montclair. This is crossed by two main tracks, protected by gates from 7 A. M. until 7 P. M. by man in tower.

It was recommended that the time for protection be extended to 9:15 P. M., as this would protect the crossing for four additional hours.

The recommendation was adopted by the company.

PUBLIC SERVICE RAILROAD—Derailment—November 6th, 1914—Port Reading Junction.

Train No. 3, westbound to Trenton, reached Port Reading Junction at 10:01 P. M., November 6th, at which point the dispatcher threw the switch, which caused car No. 3 to take the curve to the Perth Amboy Branch. Owing to the high rate of speed at which the car was traveling, a derailment occurred, the body of the car leaving the trucks and turning over. There were two passengers in the car at the time, but they sustained only slight injuries, and were able to proceed to their destination on the following train. Investigation developed that the dispatcher did not remember that the schedule had been changed three days previous, as under the old schedule a Perth Amboy car was due at 10:03. The dispatcher stated that he was writing a report, and, hearing the blast of a whistle, glanced at the clock, and, seeing that it was 10:01, thought it was the Perth Amboy blowing for the switch, but instead it was the whistle of the Trenton car for the road cross-

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ing, approximately two hundred feet west of the Junction. The line is protected by the latest type of block signals.

It was recommended that all westbound Perth Amboy cars come to a stop before taking the switch at Port Reading Junction, and notify dispatcher by whistle signal.

Further report was made at a later date, in which the Inspector advised that cars are now being operated according to the recommendations.

ERIE RAILROAD—Two laborers struck by train—November 17th, 1914—Croxtton.

Train No. 131, which left Jersey City at 6:04 P. M., November 17th, stopped at the tower at Croxtton, just west of the tunnel, to let off some transfer men, among them being the two who were fatally injured. The men stepped off Erie train and were struck by New York and Greenwood Lake train No. 427.

It was recommended that if these stops are to continue the road should furnish the same protection to these men as it would if they were passengers.

The company advised that it would discontinue the practice of stopping trains at Croxtton.

Accidents on Steam Railroads.

The causes of accidents which occurred on steam railroads from December 1st, 1913, to December 1st, 1914, were as follows:

	<i>Killed.</i>	<i>Injured.</i>
Collisions—		
Passengers, ...	...	6
Employees, ...	1	34
Others, ...	...	8
Crossing Track at Highway—		
Passengers, ...	...	...
Employees, ...	...	...
Others, ...	57	82
Derailments—		
Passengers, ...	...	3
Employees, ...	3	32
Others, ...	...	...
At Bridges and Tunnels—		
Passengers, ...	...	...
Employees, ...	1	15
Others, ...	...	...
Struck by Locomotives or Cars—		
Passengers, ...	2	3
Employees, ...	61	45
Others, ...	1	4
Getting On or Off Trains—		
Passengers, ...	4	40
Employees, ...	3	38
Others, ...	...	1
Coupling or Uncoupling Cars—		
Passengers, ...	...	1
Employees, ...	3	25
Others, ...	...	...
Other Causes—		
Passengers, ...	5	...
Employees, ...	17	82
Others, ...	1	1
Trespassing on Right of Way, ...	174	124
	333	544

Accidents on Electric Railways.

The causes of the accidents which occurred on electric railways from January 1st, 1914, to January 1st, 1915, were as follows:

	<i>Killed.</i>	<i>Injured.</i>
Derailments—		
Passengers, ...	...	20
Employees, ...	...	2
Others, ...	...	2
Struck by Cars—		
Passengers, ...	...	...
Employees, ...	...	4
Others, ...	20	201
Collisions—		
Passengers, ...	...	21
Employees, ...	...	13
Others, ...	...	1
Getting On and Off Cars—		
Passengers, ...	1	3
Employees, ...	...	...
Others, ...	...	...
Other Causes—		
Passengers, ...	...	2
Employees, ...	1	3
Others, ...	...	...
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