S E C O N D M E E T I N G

of the

SPECIAL COMMITTEE APPOINTED BY
THE LEGISLATURE TO STUDY THE
WATER PROBLEMS OF THE STATE OF
NEW JERSEY

HELD

March 28, 1940

in the

GOVERNOR'S OFFICE

The membership of the Special Committee is as follows:

Senator Loizeaux (Chairman)
Senator Wilensky (Secretary)
Senator Jamieson
Assemblyman Cavicchia
Assemblyman Freund
Assemblyman De Voe
Assemblyman Mc Clave (Ex Officio)

Chairman Loizeaux presided, and all members were present with the exception of Assemblyman Freund.

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SENATOR LOIZEAUX: The meeting will please come to order. This is the second meeting of a special committee set up by the Legislature to study the water problem of the State of New Jersey. We met with Governor Moore on Monday and organized - three members of the Assembly: Mr. Cavicchia, Mr. Freund, Mr. DeVoe, together with the Speaker of the House, Mr. McClave, and three members of the Senate: Senator Jamieson, Senator Wilensky, and myself.

I would like to get a record, if I can, of all those gentlemen here before we go on, who may have attended this conference at the request of the Secretary. I might just say for your information that this problem is new to us, although I have introduced bills in the Legislature previously pertaining to water supply in the State, and we are hoping that, through this special committee and your cooperation, we can arrive at some definite solution of the water problem in the State of New Jersey.

I would like to get the names of the gentlemen who are here this morning, and I am going to start with this gentleman right here:

Thomas J. Graves, State Chamber of Commerce

Robert Allen, W P A Administrator

Fred S. Childs, Consulting Civil Engineer

Arthur H. Pratt, Consulting Engineer, North Jersey District Water Supply Commission

H. E. Russell - with Mr. Frye

Arnold Frye - Of the firm of Hawkins, Delafield and Longfellow

Dean Frank Sommer - who has drafted many of these bills previously, and who is very close to the water supply problem.

Charles H. Capen, Engineer for the North Jersey District Water Supply Commission

Howard T. Critchlow, Engineer, State Water Policy Commission

Cornelius C. Vermeule

George S. Burgess, Chairman, State Water Policy Commission

Clyde Potts, President, State Board of Health

Now, I think perhaps Mr. Burgess has been acquainted with this situation as Chairman of the State Water Policy Commission. He has presented a lot of drafts, together with Mr. Potts, which the Governor presented to the Legislature some few weeks ago. I wonder, Mr. Burgess, if you would give the facts to us or outline the situation with regard to water in the State of New Jersey.

MR. BURGESS: Mr. Chairman, this memorandum was prepared several weeks ago. I haven't read it lately, but I think if I run through it, it may give you the high points that seem to me require consideration. At the first meeting of this committee, the conclusion seems to have been reached that it is necessary to do something about the water supply situation. The memorandum which I have in hand covers the situation with respect to needs very briefly.

1. The Water Supply Situation

Precipitation continues decidedly subnormal. Reservoirs, excepting Oradell, remain low at a time of year when ordinarily an abundance of water is flowing over spillways. Extraordinary rains are required to accumulate a supply in storage sufficient for 1940, even under normal summer conditions. A repetition of last summer's dry weather threatens a shortage. The extend of such a shortage cannot be estimated with reasonable accuracy because many municipalities get their water from wells and there is no way of telling how effecitvely the wells will function during a second dry year.

2. Emergency Remedy -

Protection against a water shortage is possible in numerous instances through interconnection of

independent supplies. It is unlikely that all wells and reservoirs will fail simultaneously. Local showers occur even in the driest seasons, affording relief -- usually in excess of requirements -- to limited areas of business and population. Deep wells in some instances would yield a supply of water even after reservoirs became empty. New York City, for nearly nine months, has been taking emergency steps to restore and enlarge well supplies on Long Island. That city is now drawing 150,000,000 gallons a day from wells to reduce the draught on its reservoir supplies. Deep well supplies, like that of East Orange, might conserve surface supplies in New Jersey through adequate interconnections.

3. New Water Supply

Prior to the business depression a new supply was believed required not later than 1940. The unprecedented drop in water consumption during the period 1930 to 1940 obviated this need. Partial restoration of water consumption took place in 1939. Indications point to further restoration in 1940. (See Table and Chart of Consumption Trends.) Regardless of the effect of business on water supply, the dry weather period has emphasized (1) the danger inherent in our method of supplying a large industrial area through 33 independently-owned and operated

sources of supply; and (2) the fact that there is a dangerous lack of adequate ground water available in an emergency. Dry weather requirements demonstrate the necessity of constructing a new major water supply, whether or not there is complete industrial recovery.

4. The Main Difficulty.

The main difficulty in the way of suitable interconnection of supplies and the building of a new reservoir supply is one of finance. That has stood in the way of every effort to overcome either of these situations. How can the money be raised? There is no agency of the State w ich has the authority either to raise, or to receive and expend, money for these purposes.

North Jersey District Water Supply Commission may develop a water supply for a group of municipalities that elects to have it do so. The municipalities must finance the work. The commission built Wanaque under these conditions and is its operating agency. Further cooperation among municipalities on the district plan has failed to materialize, in spite of numerous efforts. Even among the eight pa rtners to the Wanaque development there is a heated dispute over division of revenue from sale of water to municipalities outside the

combine. Existence of a commission (Passaic Valley Water Commission) which functions both within and without the sphere of the North Jersey District Water Supply Commission, has resulted in a prolonged and expensive quarrel which the courts have been unable to settle after two years of deliberation.

State Water Policy Commission has general powers of control in all matters of water supply and flood regulation. Powers of the commission have been broadened by recent court decisions, but its functions remain limited to planning, advising and authority over diversion of water. New supplies cannot be developed nor may interconnections be operated without its approval. However, the commission cannot finance, construct or operate water supply, or flood control works, nor can it make the important interconnections of supply systems which it urges.

5. Primary Requirements

a. Legislation by which the larger water supply systems, and some of the lesser systems, can be forced into a consolidation. Revenue bonds for a new supply are not saleable until this is accomplished. Local crises compelled minor emergency interconnections of four supplies this winter but none of the more important interconnections have been started. Few appear to be contemplated

because of rivalry among the owners of the numerous independent supplies that would be affected. No customers for a new supply can be assured without consolidation.

b. Legislation empowering an agency of the State to build a new water supply and providing a way to finance its cost and operation.

6. Legislation Coverage

First point to be considered is whether new legislation should include:

a. Determination by the Legislature of the new supply to be developed, or

b. Leave its determination to the discretion of the body to be empowered to finance, build and operate it, either subject to - or not subject to - approval of the Governor.

7. Alternatives of Set-Up

There are three major phases to keep in mind, viz:

(1) Refinancing and consolidation of supplies and then operating them.
(2) Financing, building, operating new supply.
(3) Judicial and planning duties now exercised by Water Policy Commission.

Before legislation is drafted it is necessary to decide whether:

a. Powers of the Water Policy Commission

should be expanded to fulfill requirements. Consideration should be given to whether transfer of judicial and planning duties to a new body, would not overwhelm it with work; when added to job of refinancing, purchase, consolidation and interconnection, plus the job of building a new supply.

b. New board or commission should be established to build the new supply without disturbing existing agencies. This is likely to prove impracticable, without amending the laws creating existing agencies, and probably would leave the new body with no means of disposing of the supply when completed.

c. New board, commission, or authority should be created to build the new supply, finance and operate it, and be given powers to take over existing supplies and consolidate them as fast as possible, eliminating North Jersey District Water Supply Commission as soon as Wanaque is taken over and limiting Passaic Valley Water Commission to operating functions within Paterson, Passaic, Clifton and logical connections as soon as the Little Falls Plant and the commission's interest in Wanaque are acquired.

d. New board, commission, or authority to finance, build and operate new supply, transferring to it immediately (but without ownership of Wanaque or Little Falls Plant) the operating powers of North Jersey District

Water Supply Commission. Provision would be necessary for later acquisition of Wanaque from the eight cities that own it; and for purchase of the ownership rights of Little Falls from Paterson, Passaic and Clifton and the Passaic Valley Water Commission. Appraisal of property is necessary to separate bonded debt for Little Falls from that of the distribution system.

3. As a part of any scheme of consolidation, right of condemnation is necessary. Should this right cover acquisition of publicly owned and privately owned supplies, or should acquisition of publicly owned supplies be restricted to purchase by negotiation. To be effective, it should apply to both public and private, but municipalities are likely to contest a legislative proposal to extend condemnation to their properties.

8. Savings from Consolidation.

Aside from the obvious savings (1) through more efficient management; (2) elimination of duplication in overhead costs of 33 separate water supply ownerships; (3) rivalry among existing water supply owners that results in wasteful, competing transmission pipelines; (4) ultimate leveling downward of the cost of water to the people; there are these savings in operation that can be made at once.

That, Mr. Chairman, seems to me covers the high points of the things you have to consider.

MR. LOIZEAUX: I think for the purpose of the record, it might be advisable for Mr. Burgess to explain to the other members of the committee here the functions of the various commissions so they will understand what they do. I think some of them may be familiar with them and some may not. In other words, what does the Passaic Valley Water Commission and what does the North Jersey District Water Supply Commission do? Will you do that, Mr. Burgess? Start with your Water Policy Commission.

MR. BURGESS: I really told about the Water Policy Commission in that memorandum. The Water Policy Commission is very much what its name indicates - a commission that determines water policies. No diversion of water for sale or public purposes can be made within the State unless it has the approval of the Water Policy Commission. The Commission also has jurisdiction, to an extent, over matters affecting flood control, in that it must approve the plans for bridges, which up to the time that provision was put in the law, could be built in any way that the builder saw fit. They can no longer block the streams and block the water in many ways as had been done. Now, plans for bridges, including all the highway bridges, have to be approved by the Commission. The same is true in the building of dams - as to their safety. The Court of Errors and Appeals last

year handed down quite an important decision which extends that jurisdiction of the Commission over more than merely determining the safety of dams, in any respect in which the building of dams may enlarge swimming projects that interfere with water supplies. That in general covers the functions of the State Water Policy Commission.

The North Jersey District Water Supply Commission is one of the two commissions authorized by law. There is a South Jersey one authorized but it has never been appointed. The North Jersey District Water Supply Commission functions for the northern half of the State. It built Wanaque with funds provided by the eight municipalities that financed it and own it; and under the law it operates Wanaque for those municipalities and some of that water is sold to outside municipalities. A good many attempts have been made to bring other groups of municipalities together to build additional supplies on the same basis that Wanaque was constructed; but, through local competition - which is a very polite way of putting it - they have never been able to bring them together. The Passaic Valley -

MR. LOIZEAUX: Are you talking about private companies?

MR. BURGESS: I am talking about municipalities.

MR. LOIZEAUX: Oh, I see.

MR. BURGESS: The North Jersey District Water Supply

Commission has the authority to function for any groups of municipalities in the North Jersey District that could be brought together the same as the eight were brought together for Wanaque. The Passaic Valley Water Commission -

DEAN SOMMER: Before Mr. Burgess passes from Passaic Valley, don't you think that it would be useful to indicate that the North Jersey District Water Supply Commission is wholly without power except as contracts are entered into voluntarily by municipalities?

MR. BURGESS: I intended to indicate that, but I didn't make it clear.

The Passaic Valley Water Commission was created under a general law, which permits such commissions for a group of municipalities. It was imperative in this particular instance in order that the water supply plants within Paterson, Passaic and Clifton, which had been managed and owned by the Passaic Consolidated Water Company, could be brought together under a joint ownership and a joint operation. That commission also functions for those three cities in the operation of the supply from Wanaque, to which the three are entitled as three of the eight owners of the Wanaque supply. In addition thereto, the Little Falls Plant and the dyers' pipe line have since been taken over and been made a part of that system, so that the Passaic Valley

Water Commission operates both within and without the North Jersey District Water Supply Commission's field of operation because it represents those three cities insofar as they have an interest in Wanaque, and it also operates the Little Falls Plant independently of them. In addition thereto, it operates the plants within Paterson, Passaic and Clifton, and it really functions as both a retail and a wholesale agency. Then, in addition to that, it has come into conflict with the North Jersey considerably because it has a substantial surplus of water and has gone out into the field to sell that surplus wherever it could to municipalities that were threatened with a shortage.

Those are the three more important agencies. In addition to those, the Bergen County Water Commission was created by law some years ago. For one year, I believe, it received a small appropriation from the Board of Freeholders of Bergen County, but it has never functioned. Members were appointed, and then the Commission practically dropped out of sight.

The Passaic Valley Flood Commission was created by an act of the Legislature and given powers solely, as I recall it, to apply to the Federal Government for financial aid with which to build flood control works in

in the Passaic River Valley. That commission was also created without terminal facilities. No term is stated for the members and the original members are still retaining their membership on the commission.

MR. WILENSKY: May I ask a few questions there, Mr. Chairman? In other words, summing it up, there is no agency in the State Water Policy Commission or the North Jersey or Passaic Valley or Bergen County Water Commissions that has authority to go out and build any water project today?

MR. BURGESS: No.

MR. WILENSKY: That is the status of the present law?

MR. BURGESS: Yes.

MR. WILENSKY: The only provision that is made in the present legislation is for the municipalities to join together by their own action and in that way create additional supplies?

MR. BURGESS: That is true.

MR. WILENSKY: Is it your opinion that the northern part of New Jersey requires additional water supply?

MR. BURGESS: It is.

MR. WILENSKY To what extent are the present supplies - I withdraw that question. How does the actual use of the water today in the northern part of the State compare to

the actual supplies on hand?

MR. BURGESS: That, of course, has fluctuated a great deal in the last two or three years, as we have indicated on charts which have been shown to the Legislature and which are still available. I think possibly it would be well for the committee to see those charts again because we are planning to keep them up to date. If the demand for water had continued at the pace that it was increasing in the 1920's, we undoubtedly would be short of water at the present time; but, with the depression, consumption fell off decidedly, in fact to an unprecedented extent that had never been known before. That just lifted the burden for the time being. Now, in 1939, there was an upturn in requirements. Since then, it has fallen off and then it has gone up again. Last year we were confronted with a situation which has not been known before in our time, in respect to lack of rainfall. The engineers and the records indicate that we can expect such a dry period possibly once in a generation, and it has now hit us. The result was that over a period of five or six months we were in a condition that threatened and was very dangerous. Whether or not it will continue, as some engineers believe and some geologists say, over a second summer, of course, we don't know. If it does, we are going to be faced with a problem next summer.

MR. CAVICCHIA: Mr. Burgess, in your prepared remarks, you referred as an alternative to the institution of a new water agency. As I see the picture (Am I right in this conclusion?) there is no necessity for the appointment of a new agency or commission, and the logical thing would be to enlarge the powers of some commission such as the Water Policy Commission.

MR. BURGESS: Well, of course, that is a matter of public policy. Personally, I don't see where it is going to be advantageous to create additional authorities. I think that you might enlarge the powers of one of the existing agencies or combine them.

MR. CAVICCHIA: Isn't there some measure of conflict between these several commissions? I say that ebcause in the last few days I have tried to study the data given me and it seems to me that in some instances there was a conflict of plan. Any plan, I understand, must be approved by the Water Policy Commission; isn't that so?

MR. BURGESS: That is true under the existing law.

MR. CAVICCHIA: Doesn't it seem that there ought to be some co-ordination or amalgamation rather than a broadening out?

MR. BURGESS: When you say broadening out, you mean --

MR. CAVICCHIA: The establishment of new commissions.

MR. BURGESS: That would be my thought.

MR. LOIZEAUX: I want to meet with the wishes of the committee, but I would suggest this: We appreciate all of you coming and giving us what assistance you can. We are new at this. We are going to try to work out the problem the best way we can. Why couldn't we confine our discussions here today, since we have a number of engineers here, first, as to whether the necessity for additional water supply in the State of New Jersey is a vital requisite? Then, I thought, after that, we could perhaps discuss, in just a general way, the subject of sources. I don't know whether that is spreading it too far or not. Then, after that, as we have an able counsel here - I have been associated with him for many years studying the water system of Plainfield - we will take up another question, the question of legislation. What kind of legislation. Then, after that, is the question of finances. That is the way we should proceed as it seems to me. I wonder if you think that that would be perhaps the best way to go about the discussion here?

MR. Mc Clave: I move we proceed along that line.

MR. CAVICCHIA: I second the motion.

MR. Mc CLAVE: May I ask just one question?

MR. LOIZEAUX: Yes, Mr. Speaker, you may.

MR. MC CLAVE: You referred to the period of between 1920 and 1930, a period when there was considerable industrial growth. At that time, wasn't it the opinion that industrial growth was jeopardized because of inadequate supply of water?

MR. BURGESS: Yes. We got up to as high as 350,000,000 gallons a day in 1929. Since then it is much lower.

MR. LOIZEAUX: I just wanted to get this into the record. In your opinion, it is of vital necessity for the State of New Jersey to make some arrangement to get some new water supply?

MR. BURGESS: Correct.

MR. LOIZEAUX: I wonder if we could have Mr. Critchlow, an engineer who has been working on this, give us some information on this subject. Let's get your viewpoint.

MR. CRITCHLOW: Mr. Chairman and Gentlemen: I think Mr. Burgess has covered the question of need in a very comprehensive way. It could be enlarged upon from an engineering standpoint. The thirty-three sources of supply which we now have, have a safe yield in an extremely dry year of somewhere between 305,000,000 gallons a day to 340,000,000 gallons a day. That seems to be the best judgment of the engineers who have made studies on those questions. That range between those two figures depends

upon what we might call the factor of safety to be applied to the reserve storage and the large reservoirs. With a consumption up to 305,000,000 gallons a day in 1929, and having reached this past year 275,000,000 gallons a day, we only have about a ten per cent reserve between supply and demand. I think it is important to keep this fact in mind: New York City, which supplies water to the other side of the harbor of New York, is up against a serious shortage of water at the present time. They are at work building the Delaware Water Supply Project to increase the sources of water supply which they can depend upon in the future. That project cannot possibly be brought into operation before 1945. And with that situation on the New York side of the harbor, if we have a continuation of this drought period we have been going through this year, it is going to throw a heavy demand on both sides of the river, let us say, and New York cannot meet that extra demand any better or perhaps not as well as we can on the New Jersey side. That to my mind indicates the seriousness of the situation from the standpoint of time. And I firmly believe that before 1945 there is going to be an emergency if we have anything like the conditions that we have gone through this present year.

Now, dwelling on that question of drought

periods, we, of course, know we cannot predict weather conditions or the rainfall or anything else; but, it is a fact that in past periods of drought we quite frequently observed that one dry year will follow another, up to possibly three years. Now, with the drought that we have been through and the low condition of our large reservoirs, it is well within the realm of possibility that some of those larger reservoirs may not be filled up before the summer season arrives; and we may have a much more serious situation before us next fall than we had this fall. That, coupled with the possible increase in demand for water, is something we have to keep in mind in considering the need for quick action on this problem.

Now, Mr. Burgess referred to the well supplies. It is true throughout the state as a whole, that the supply from wells is extremely important because about thirty per cent of the total supply of water delivered to public systems comes from wells. In the northern metropolitan district which we are considering here, that percentage is somewhat less because the larger supplies like Jersey City, Hackensack Water Company, Newark and the Wanaque are all surface supplies and provide a large percentage of the total. Nevertheless, there are many municipalities in this northern metropolitan area that

must depend on well supply at the present time. The only way they can get a supplemental supply is through existing interconnections or through proposed interconnections, which our commission has studied during the past year; but that is only a stopgap method of getting water to these municipalities. Several municipalities in the past year were faced with a serious shortage. I don't know whether I need to go into detail or not. These are facts and the records and the experiences of the past summer indicate that if we have a continuation of the dry period, there is going to de desperate need in some of these areas.

As to how the need can be met, I think we had better let that go until you discuss the question of sources of supply.

Briefly, I think I have covered the situation from an engineering standpoint. I wouldn't like to have you forget the fact that I have pointed out with respect to the needs of the City of New York because, if they get short of water, the shipping interests in that harbor are going to make serious draft on the Jersey City supply, on the Wanaque supply through the Bayonne terminal, and on the Hackensack Water Company through the terminals for shipping up along the west side of the Hudson River, and perhaps in the Port of Newark where they

get water supply through the City of Newark distribution systems. During the last war the demand for water by the shipping interests and industries in the water front areas was great and it is liable to step up very rapidly in the near future. That is a very easily possible situation. That will bring a demand for water upward very rapidly, more so than perhaps just increase in population.

MR. WILENSKY: Isn't it true that the Hackensack Water Company, which services practically all of Bergen County, is rather close to its estimated yield?

MR. CRITCHLOW: I think that in general is true, yes.

MR. WILENSKY: As I recall the figures, they have an estimated yield of thirty-five million gallons a day and Bergen County is using about thirty-three million.

MR. CRITCHLOW: I don't know whether the thirty-five is the exact figure. It is somewhere around thirty-five to forty, and they did have upwards of thirty-three during the past year. The weakness in their system, of course, is the lack of large storage facilities on the Hackensack River.

MR. WILENSKY: What cities were compelled to make temporary interconnections during this past year as a result of the drought?

MR. CRITCHLOW: The City of Garfield is one place that had a shortage. Wallington was in bad shape as were Haledon and Orange. There were shortages in some of the other small supplies to this extent - that they had to get active and provide additional wells to meet their needs.

MR. WILENSKY: Where does Linden get its water from today?

MR. CRITCHLOW: Linden gets its water supply from the Elizabethtown Water Company.

MR. WILENSKY: There are condemnation proceedings by the City of Linden to take over their own distribution system.

MR. CRITCHLOW: I don't know whether condemnation proceedings are under way. They are considering some means of getting their distribution system purchased from the water company which supplies them.

MR. WILENSKY: How many applications for drilling additional wells has the Water Policy Commission had recently?

MR. CRITCHLOW: We have had probably twelve to fifteen in the last year. I haven't counted them up. We are crowded on our calendar right now with applications for additional water supply.

MR. WILENSKY: Those are small projects?

MR. CRITCHLOW: They are small projects; it is true. We have one protracted hearing on the Commonwealth Water Company, which is one of the larger private water companies which supplies West Essex and Union territory from Irvington through Maplewood, Springfield and Short Hills. They depend almost entirely on wells. They have a small surface supply on Canoe Brook, which is over on the west side of the second mountain. But, they are seeking additional supplies from the well fields at Short Hills. That case is now before the commission, and the testimony is not in. The facts up until the present time point out that there is very little more water available in that whole area from wells. In other words, the future growth of that area has got to be met from an outside water supply, and temporarily perhaps through interconnections with some of the people or the systems that have a surplus.

MR. WILENSKY: Is there any formula for the amount of water that is needed depending upon population? Is there any formula that engineers have arrived at?

MR. CRITCHLOW: There is a general rule that the average municipality, considering not only the domestic needs, but the municipal and the average industrial needs; would need about one hundred gallons per capita daily. The con-

consumption throughout the state as a whole is a little bit over that. Some of the municipalities will run up to one hundred and forth and one hundred and fifty, but we can generally explain that extra per capita consumption on industrial consumption. Sometimes it is due to wastage or leakage in the distribution systems themselves, which can be stopped, of course.

MR. WILENSKY: Isn't one of the reasons for the sudden drop in the total water consumption in the northern area, the result of the shut down of a lot of dye houses up around Paterson?

MR. CRITCHLOW: That is true. As I recall the Passaic Valley Water Commission in 1929 or 1930, at the height of the dying industry, were using about sixty-five million gallons a day. With the shut down that area is using about thirty-nine million gallons a day. If that area should revive industrially for dying purposes, there would be a proportionate increase in demand. I think it is readily possible for that consumption to go back where it was in previous years of intensive industrial activity.

MR. WILENSKY: How do the water rates compare in New Jersey with adjoining states so far as industrial use is concerned? Are we high or are we low?

MR. CRITCHLOW: I don't believe I could answer that

question intelligently right now. But my general belief is that there isn't much difference on the wholesale rates compared with places like Philadelphia and Baltimore. I am not very well prepared to answer that question on industrial water rates. I might say that our commission does not have any jurisdiction over rates, although we do know in general the cost of supplying water to the municipalities.

MR. WILENSKY: Have you found that the larger projects are able to produce water at a cheaper rate than the smaller individual projects?

MR. CRITCHLOW: Generally, that is true. It depends somewhat on the source of supply and the question of whether it is pumped or whether it is a gravity supply, and also upon the treatment that is necessary to provide a potable water.

MR. WILENSKY: What do you feel should be the safe additional supply for the northern part of the state, that is necessary to protect us for the next fifteen or twenty years?

MR. CRITCHLOW: As to quantity of water?

MR. WILENSKY: As to quantity.

MR. CRITCHLOW: I think the next project should have a larger increase on the present supply than the Wanaque which was nominally rated at one hundred million gallons

a day. Most of the projects that have been studied have aimed at about one hundred and fifty million gallons a day increase, which I think is a logical step in looking towards more water. That is roughly fifty per cent of the present consumption.

MR. LOIZEAUX: Thank you very much.

MR. MCCLAVE: May I ask a question? Outside of the increases that are in sight in these different municipalities and sheds, is it your belief that the state requires an additional supply over and above that?

MR. CRITCHLOW: Yes.

MR. MCCLAVE: That is all.

MR. LOIZEAUX: Thank you.

Former Mayor Potts, president of the State Board of Health, has made a study of this water problem as well. We would like to have your opinion on the need of additional water supply in the State of New Jersey.

MR. POTTS: Senator Loizeaux and Gentlemen: The question of the need of an additional water supply, I think is not in dispute. I don't think it is seriously contested that there is urgent need for water. I think the present summer was all the demonstration necessary to show that this State does at the present time face a serious water shortage and, if we have what we usually have, two or three dry years in succession -- That has been the history of droughts over a hundred-year period; about every generation we have two or three dry years. Now, if we have had the first dry year this year, then we are going to have another dry year in 1940 and possibly 1941. There is a question in my mind as to whether whatever your commission will do will meet the situation. It will have to be done some other way - by curtailment or shut-down. I think that is usually what happens when you have a shortage. You have a shutdown. I think up in the Garfield area, which Mr. Critchlow mentioned, during the past summer there was a shutdown of some factories because they could not supply the water. That is a serious thing, to throw a man out of work, but is not as serious as to shutdown the supply for domestic users certain hours of the day, which happens in cities when there is a drought.

You probably remember yourself, Senator, some years ago in Plainfield, there was a shortage of water due to the inadequacy of the Elizabethtown Water Company's supply and that was what happened then - there was a curtailment of the domestic supply. So I think for the purpose of your discussion and consideration, we can assume there is need for additional water.

The Wanaque supply was only brought in about ten years ago, about 1930, and that brought approximately one hundred million gallons into the market in 1930. In 1940, despite the depression we have gone through, with a curtailment in the usage of water, even that one hundred million gallons that was then available has not carried us beyond the danger point in 1940 - so I think we can concede that we do need a new supply. That reduces your problem then to where is this new supply going to be brought from. I think the Governor's report, of which each of you have a copy, which was prepared by the engineers of three of the major departments of the State; namely, Mr. Capen, Engineer for the North Jersey District Water Supply Commission, Mr. Critchlow, of the Water Policy Commission, and Mr. Croft, of the State Department of Health, who collaborated with the organization of these three departments in the preparation

of this report, using the available data that was in the files in the various State Boards - brings the question of where you are going to get your next supply from pretty well down to date. Fortunately, the figures and statements that were available permitted them to give a comparison of costs of these various supplies which have been under consideration for the last dozen years.

It seems to me that your program for this discussion - First, is there a need for additional supply; second, if there is a need, where will you get it from; and, third, how will it be constructed and financing - is an admirable way to meet this discussion. I think the first item of your program - the need for supply - can be settled very quickly. I would like to reserve, Senator, if I could - when it comes to a discussion of the modus operandi of financing, I would like to be heard again in regard to the set-up, as to how this project is to be build, but I can say that you have men here in the room who have made studies of this water supply problem for years, who are familiar with the present supplies of the State that are available, and who can give you a great deal of information.

I want to say just this about the supply: The nearby supplies have largely been exhausted and

what makes the problem that confronts you a difficult problem is because you have got a long haul. Now, on the next supply you bring to the market you have got to go a long way for it and you will have a long haul to bring it in. That runs the cost up and it is not possible for any one city or any combination of cities in New Jersey to finance the next water project. It must be done as a state project with financial backing of the State of New Jersey. Nearby supplies of the Passaic Valley, the Hackensack and Raritan, so far as that goes, except possibly from the upper regions of the Raritan, have all been preempted and could be financed by municipalities, because the haul was short and the cost low, but you are now facing a long haul and a high cost, and it must be done under state auspices.

Water is the cheapest commodity that goes into the home. If you consider that water at thirty-five cents a thousand gallons, which is a fairly high price, perhaps a little above the average - thirty-five cents a thousand gallons means that water is delivered into a man's home at 8.4¢ a ton. I don't know any commodity delivered into the home for 8.4¢ a ton except water. It is very important in the domestic life of the people, so the question of what the consumers are

going to pay for water, I think is not a serious one. If this water supply from the Delaware River is going to cost more money, an additional cost can be added to the consumers and they can pay the cost because, whatever they pay, water will still be cheap. But your first problem as to need for water supply, I think there is no debate on that.

MR. LOIZEAUX: Will the members of the committee be satisfied to accept that or would you like to hear from other engineers in regard to the need, or any other men connected with water supply, if you would like to amplify that.

MR. MC CLAVE: If there are any of contrary opinion - that we do not need a water supply - I think we should hear from them.

MR. LOIZEAUX: Is there anyone of contrary opinion, that the State of New Jersey does not need additional supply?

MR. CAVICCHIA: Mr. Chairman, may I ask Mr. Potts a question?

MR. LOIZEAUX: Yes, go ahead.

MR. CAVICCHIA: Mr. Potts, have you any opinion as to this: In view of the fact that we had the depression and therefore I would say that the usage of water by industry is at a minimum, why we have a shortage at this time? Have you any idea on that at all?

MR. POTTS: Well, I think the industries being suspended just about took up the slack of increase. If the industries had not been suspended, you would have had a tremendous increase in the use of water due to increase in population. Another thing, people use more water than they used to in ordinary domestic life. They use a great deal. That is increasing the same as the use of gas and electricity. People use more. And I think, if you had not had your depression, the State would have been in serious water shortage before this. That same thing happened in a way in Newark, when Newark brought their supply in from the Pequannock. Newark wasn't metered for many years and water was sold at a flat rate. They started an extensive campaign of metering in Newark and the metering, cutting out the waste, just about equalled the increased demand for water, so consumption in Newark was steady for a long period of years because the curtailment by the use of meters about equalled the increased in the use of water. I think in your depression years that is about what happened - the curtailment caused by the depression was about taken up by increase in the use of water.

MR. WILENSKY: How many projects is the State of New York building now?

MR. POTTS: One on the upper regions of the Delaware River. They did restore their pumping system on Long Island during last summer and they are pumping a lot of water from the Long Island well supplies, but the only one they are building is along the Delaware River, from the branches of the Delaware which lie within the State of New York.

MR. WILENSKY: What do you feel is a safe margin that the State should have for water supply in comparison with present use?

MR. POTTS: I think the next supply should be 150 million gallons a day at least - 100 million for North Jersey, some of it for Trenton and reserved for cities in the south, but certainly this next project ought to be at least 150 million gallons, and that would possibly carry the State for twenty or twenty-five years. That is, of course, a guess.

MR. WILENSKY: Any project we could go into couldn't very well be completed in a year - it would take some time to complete it?

MR. POTTS: It would take some time. I think the Delaware and Raritan Canal supply could be completed into a water supply within two years or two and a half years if there is necessity. On the other supplies, I think it would

be ten or twelve years before water could be taken from them, due to greater hazards and greater extent of work.

MR. MC CLAVE: May I ask one question? Mr. Potts, is it true that depleted water supply - low reservoirs - are a menace to public health?

MR. POTTS: Yes, when they commence to deplete there is no question about that. Mr. Critchlow brought out forcibly in his talk a few minutes ago. The question among engineers is, how much can you draw off before you commence to draw the dregs out of the bottom of the reservoir. How much can you hold in the reservoirs that is not usable? There is no question but that when you get down to the bottom you hit the dregs. How long can you give that water to the people to drink, unless it is filtered, before it affects their health? As far as bacteria is concerned, that probably can be disinfected, but there are other things in water that affect the public health besides bacteria.

MR. CAVICCHIA: Mr.Potts, on the theory that if there is a dry spell - not all systems go dry at the same time, would a system of interconnection bring water to the dried up areas sufficient to meet the emergency?

MR. POTTS: It would help to some extent, but when you talk about interconnections then you are bringing up

other things besides water supplies. The question of switching water supplies back and forth - you are bringing up then the question of home rule. For instance, take your City of Newark. That has a water supply up in the Pequannock River. What Board is going to say to Newark, you connect up to some city and you give them a certain amount of water out of your supply to tide them over. Isn't that a matter between Newark and the person who wants to buy? I mean, aren't you treading on dangerous ground when you force connections between municipal supplies and set up one State Board that is going to say that one municipality must supply another out of its surplus. Hasn't the municipality that owns the surplus some rights in the matter to determine whether or not it is safe for them to give up some of their surplus?

MR. CAVICCHIA: Without going into the legal phase, let's assume, if it were possible to set up a Water Authority or to enlarge the powers of this Water Policy Commission to make it an Authority - would a system of interconnections meet the emergency?

MR. POTTS: It would to a certain extent, yes. It is so now. I built some years ago a connection between the Passaic Consolidated Water Company and the Jersey City supply just below Montclair. Jersey City can take water

from Paterson, Passaic and Clifton or it can return water to them. That is done by an arrangement between the cities, the same as Bayonne and Jersey City. There are a great many interconnections in the State. Orange, this summer, bought some water from the Commonwealth Water Company. They did it under some private arrangement and paid two hundred a million for it. A good many of those things should be, of course, a barter between the cities involved but until you set up a State Water Authority in whom you vest the title to all supplies of the State, I don't see how you can force interconnections and compel one city to give up its water to another until such time as the State does actually take over all supplies. I know in my own town, Morristown, we have emergency connections with Madison, and I am frank to say, if you set up a State Board and told Morristown they must sell so many million gallons to Madison a day, without regard to our own people's possible need, and took away the discretion from our own Board as to the determination of those needs, I am frank to say I would oppose such a bill as that because I think it is an invasion of home rule.

MR. WILENSKY: Interconnections would only help to spread the available supply. It wouldn't provide any more water.

MR. POTTS: No, it would not. You see that is true, Senator, Then you have got to determ ne, some Board has, how much can be distributed. Now, there is a serious question. It might be that Passaic and Paterson, with their present supply, ight be willing to have some of theirs sold for them, but in the event Paterson and Passaic were bringing two or three new silk plants to Paterson and they could see those new industries coming to Paterson, they might not want to give that up. There is more to that question of interconnection than just putting in valves and pipes.

MR. WILENSKY: They consider it a very valuable right.

MR. POTTS: Yes, they do.

MR. LOIZEAUX: Are there any others who would like to speak on this particular question? Major Pratt?

MAJOR PRATT: I have a thought that might be helpful. I presume Mr. Critchlow's figures are a grand summation of the total water available in the community and the total consumption. Those are the ways we have generally set it up, the various boards and engineers who have discussed this thing, andthere are a number of such compilations. Now, I would merely suggest this to your honorable body, that in any such compilation that comes before you there should be some consideration given to the various respective qualifies of the various waters,

and by qualify of water, of course, I mean something more than its more sanitary qualify. Under our very efficient State Board of Health there is no question but that all of the water which is delivered here in the State has satisfactory sanitary qualities. But there are other important matters in connection with the qualify of the water. Water, besides being sanitary, should be palatable and to be palatable it should be cool and should be free from taste and odors, and should be soft for industrial uses. Now, there are all kinds of water in the metropolitan district and some of them are not above criticism from those standpoints.

The Passaic Valley Water Commission has been mentioned several times. You remember the history - they originally got their water for Paterson, Passaic and Cliftom from the Passaic River. The City of Paterson, by referendum, voted to abandon the Passaic River for its domestic supply and went into the Wanaque project. The Wanaque water is softer than the river water below where the Passaic Valley Commission takes its water and it comes from a cleaner source. There are other supplies that might be similarly placed. I call it second-class water.

There is no doubt but what on the basis of Mr. Critchlos's figures there is ample supply for the present

of all these waters, but of course the Passaic Valley Commission water comes from the Passaic River, which is used as a bathing beach and has any amount of pollution which flows into it - all of which came out in condemnation of that property - and it has been abandoned by Paterson, Passaic and Clifton for its own use and also, if I remember, Montclair was opposed to the use of it and went into the Wanaque for the same reason. So, in considering this, I think you should give that some thought.

Now, there is another point which Mr. Potts touched on. First, let's not forget that well water, ground water, is water in storage just the same as reservoir water. Well water doesn't come from an inexhaustible supply. It comes from a reservoir in the ground, so when your surface reservoirs are depleted your well waters or ground waters are being depleted the same way. There are communities in this district, the North Jersey District, that have interconnections that they are banking on. They figure - Here we have this connection with a neighbor. When we get out we can draw on him but the trouble is, when they get out, the neighbor will be out at the same time, so there is no water available in that situation.

MR. CAVICCHIA: Major, may I ask a question? When we are deling with an emergency, granted there is necessity for different types of water for industry, and sanitation is taken care of, why should we be concerned with palatability?

MAJOR PRATT: I think everyone wants good tasting water, and temperature is also very important.

MR. CAVICCHIA: But it is not a requirement, absolutely?

MAJOR PRATT: I think so in these days of modern civilization. I am sure that any of us would not want to advocate any municipality having anything but a first-class water supply - one that is palatable as well as sanitary.

MR. LOIZEAUX: Any further questions? Mr. Vermeule, would you like to say something on this water situation?

MR. VERMEULE: I don't know whether I like it or not. I think I should say something perhaps. I have studied this question as some of you know for many years, and am still studying it actively. When the proper time comes I want to tell you a little about my experience with arrangements like the North Jersey Commission and the Passaic Trunk Sewer where the municipalities go in voluntarily. I can give you some light on that if you need it. That is not just the question at present. I think I can make it plain to you that some of us have sweat blood under those conditions in the past, without saying too much about it.

The situation as to the New York water supply I am very familiar with because I am on a committee of the Merchants' Association of New York. That association has ten thousand members of rather large taxpayers and occasionally they consult with the city government. It is very important to the city government to know what they think about things. That often gets into my hands. Now, New York, up until the last drought, had a supply sufficient for about one hundred days; but they were not on easy street because none of us knew how long the drought would last, and if the reservoirs didn't refill by the first of May, we knew there might be serious trouble ahead.

In that connection also I want to point out that necessity knows no laws. That is very true in the water question. The matter referred to us in the emergency situation was the wisdom of developing the Delaware River. The necessities of New York were very great at the time. They are using now about one billion gallons a day. They asked us how that plan would compare with the plan of going up to Albany on the East River. We decided that they must go to the Delaware. I am a good Jerseyman, but still I saw the point. I knew they would get there anyway. The Mayor, who happened to be an old friend of mine, asked me this: He said, - Now, man to man, can we get the deal? I said - Unquestionably, you can get it if you stick to it because your necessities will bring it to you. That proved true. But the situation in NewYork today is not so important to New Jersey as it was some years ago. New York is not increasing as rapidly as the New Jersey population. In fact, the population of Manhattan Island is decreasing and the highest authorities, the best authorities on future increased population in New York, conclude that there will be no further increase beyond about 1960; some say earlier than that. The rate of increase is dropping so that we needn't worry too much about New York. New York has to worry about itself. It is quite possible that with the

present supply from the Delaware, they will need no further supply in the future.

As to our own state - there is no doubt in my mind that we need a large additional supply promptly. I say this because I have advised many water companies and many municipalities in this state and I know what their troubles are. They can no longer handle the situation. The water companies cannot at the present time go in and do what the East Jersey Water Company did years ago and got abused for doing. The fact is that if something like the East Jersey Water Company had not come into the field, when they did come, in about 1890, I don't know what the state would have done, especially the northern part of the state. They bridged over the gap. But, you can't depend on that now. Municipal ownership has become too fashionable and it is really not safe for a water company to go into a large development any more. I know the Hackensack situation very well. It may surprise you to know that right through the depression the business of the Hackensack Water Company has increased five per cent a year. The time will come when they will have a shortage, but it will not come for a few years because they have opportunities for storage which will carry them through. There is a rather critical situation in Union County and from there

down to the Raritan River. That is coming to be a great industrial district. Including all of the well supplies coming into that district at present, they amount to about thirty million gallons a day. It is possible that East Orange might be added, but nobody knows today what the real capacity of the East Orange wells is. I want to make it very emphatic that wells that have produced water continuously during the last drought have pretty nearly demonstrated what their capacity is. Without such a test as that, it is only guess work. It is not entirely guess work for a man who is familiar with the problem; he can judge, but after all it rests on his judgment and opinion. I suggest the time will come when they will go dry. If those wells should go dry, there would be a very serious situation in the district I speak of. The need for water is very great. I think that this state is not safe at any time when that congested district, the metropolitan district, and the district north of the Raritan, have not at least twenty per cent excess supply. We don't know positively what the weather is going to be in the future. We only know that we have had certain dry periods in the past. We have had them a good while back. I have a lot of them on record. This last one was not phenomenal. It was no more severe than we have had

repeadedly before. We have had before conditions which indicate that next year will be dry. If next year is going to be dry without full reservoirs, we must look out. You must have a surplus.

I want to point out another thing that I think is very desirable. While we all want water and we want enough water, there are other things we want too. I don't mean what you have in mind, perhaps. The northern part of our state is a beautiful district. Our highland district is scenically beautiful. I appreciated it many years ago. I appreciate it more today because it is easier to get over it with an automobile. It is a beautiful district. Now, we want such a district. We want it on the verge of the great metropolitan population. I would like to see our future developments directed so that they will not drive out the people who want to go to that region in summer for recreation. It is possible to do that and it is very desirable to do it. If it isn't done, counties like Morris are going to suffer from depreciated valuations for taxation. Some of the propositions that have been put before us involve damaging four or five of those northern counties. If we can avoid that, it is very important to do it.

I am not going any further on the dis-

cussion of sources. When the discussion of sources comes up, please remeber that there are other fine things in the state besides pure water. I am in favor of pure water, but not exclusively of pure water.

MR. LOIZEAUX: Mr. Capen, would you like to say anything on this subject?

MR. CAPEN: Mr. Chairman and Gentlemen: There is one question that Mr. Cavicchia raised that I think is very pertinent. I think perhaps a little elaboration in explanation of it might serve to answer some of the questions that have been advanced. He asked the question, as I understood,-why, with the depression and reduced consumption, there is, nevertheless a shortage of water? I think we can answer that in this way: Even assuming that there is three hundred and five to three hundred and forty million gallons available yield in the northern part of the state, as Mr. Critchlow pointed out, and I am in general agreement with those figures, and knowing that we used last year two hundred and seventy-five million gallons a day in the district, there is an apparent surplus of something more than ten per cent, and yet there were shortages. That will always be for several reasons, one of which is that under no condition can we ever make perfect interconnections so that this water can be made

available throughout the district. Certain interconnections are advisable and should be made but we can never get one hundred percent distribution. We never know exactly where these shortages may hit. They hit in certain places this year. Next year they may strike other places. We never know. An example of a very grave shortage this summer was one that none of us could have foreseen. It was in the case of the Borough of Haledon which had to shut down all its silk mills, the main industry in the town. I think that is disastrous to any community. I think it is a decided relection on the State of New Jersey that we should have a condition where industry in any municipality should have to be shut down arbitrarily because there wasn't enough water. The remedy was that they hustled out and laid a pipeline of three thousand feet in length, to obtain water from another source to tide them over. The industries got back to work but the loss of time is irrevocable. Theycan never, never again that back again.

There is another point that to my mind is very important. It is very seldom brought out. It is that during the depression the industries have sought and have found cheap sources of water. In order to curtail their expenditures they have sought methods of reducing their operating costs. An example of that is the Calco

Chemical Company upon the Raritan River, which is using in the neighborhood of fifteen million gallons of water a day from the river for industrial purposes. Now, that is a vast amount of water. That would supply a large city. I wouldn't say anything as to the quality in that particular case, but as to quantity, yes. The sources that are available for industries of that kind are reduced to almost a minimum by now because of those various changes during the depression.

There came to my attention recently a case of an industry that is considering moving to New Jersey and they were asking where they could get five million gallons of water a day. Frankly, that is a hard question to answer. There are places where five million gallons a day can be obtained. Whether they would be suitable to that industry in the particular locality that they might want to locate, I don't know. It is not an easy question even for those ofus who are trying to deal with these things every day.

I hope that answers some of the questions that Mr. Cavicchia evidently had in his mind when he raised that question.

MR. LOIZEAUX: Is there anyone else who would like to speak on the need of water in the State of New Jersey.

It seems pretty clear in my mind. In fact, I recognized that fact eighteen years ago, that we had to have a greater source of water supply. Would anyone else like to talk on that same subject. If not, I laid out a program. I thought we could discuss the question of sources, then legislation and finances. I don't know how long it will take us to discuss the question of sources or the question of legislation and finances. We have to attend a caucus at 2:30 this afternoon. I am willing to carry on as long as you will be good enough to give us your time. Do you think we ought to discuss the question of sources next?

MR. POTTS: Mr. Chairman, Sheriff Summer is here. I know he came at a great sacrifice to himself. I think that the questionof sources is largely engineering. I think the engineers could come back again any time. I think we would all be glad to defer to the Sheriff and Mr. Frye on the legislation end of it if you want.

MR. LOIZEAUX: I would like to do it. I know that Dean Summer came here --

DEAN SUMMER: I will come back here. There isn't --

MR. LOIZEAUX: I know that he has given a tremendous amount of his time in the preparation of legislation that has been before the Legislature for the last few years.

DEAN SUMMER: There isn't much use in discussing legislation until you have discussed finances in connection with the subject.

MR. LOIZEAUX: That is true.

DEAN SUMMER: You had better discuss finances.

MR. LOIZEAUX: We have to have finances to do this thing. Right now the State of New Jersey is broke. We have got to look perhaps to other sources to finance this. I presume we would have to go in and make an investigation of this subject first. We would have to do some preliminary work requiring the work of engineers and personnel of different kinds. I am going to ask Mr. Allen if he can give us any idea of financing perhaps some preliminary work.

MR. ALLEN: In general. From what I have heard here this morning I can't give you anything definite. I would have to be quite general. Insofar as WPA is concerned, we could entertain a proposal to finance it to the extent of the labor and a very small percentage of non-labor cost. We would also require that twenty-five per cent of the cost of the total project would have to be borne by the sponsoring agency. Now, that gives you a general idea of the extent of our financing but, of course, it would have to be accomodated in our program. It would depend entirely on the areas to be developed whether or not we had the labor available there, and all of those things have to be taken into consideration. It is not a difficult problem because today we are able to cover any point in the State by transportation and we also have discussed recently the question of establishing work camps in case the work to be performed was in very rural areas. But that gives you a general idea on the financing end of it.

Of course, there is another point, too, -- the appropriation for WPA for next fiscal year, which would take in theperiod from July 1 this year until July 1, 1941, will be less than it has been this fiscal year, and we have a great number of projects now awaiting

operation. So that the question of accomodation of new projects is a serious one - not too serious.

MR. WILENSKY: Is it true, Mr. Allen, that a lot of municipalities are experiencing difficulty in developing new projects, for their WPA labor?

MR. ALLEN: Well, I wouldn't say that, no. In some sections we have some problem arears where municipalities are faced with lack of finances, yes. In that connection, to explain it a little more for a moment - there are seven, I think, problem arears in the State where the municipalities have a heavy relief load and insufficient funds to sponsor a WPA program. We have relieved that situation with the state legislation on the highway program - not entirely, but to a great extent.

MR. WILENSKY: Would the WPA be able to enter into a program that would last over a period of two or two and a half years?

MR. ALLEN: Not by actual commitments. We would be bound to limit that to the end of the fiscal year. However, we can accept a program, insofar as its financial limitation is concerned, subject to the yearly appropriation; in other words, if you wanted to spend so much money and you wanted the WPA to spend so much

money, we could get such a program approved which would be dependent in operation upon the appropriation from year to year. We might have to extend it, instead of a period of two and a half years, to five years, depending on the amount of our appropriation.

MR. WILENSKY: In considering twenty-five per cent, is it only the materials that go into the project that are considered or does WPA consider the lands and other assets thrown in?

MR. ALLEN: All those things can be considered as part of the twenty-five per cent - land or professional services extended connected with the project, and any expense directly concerned with the operation of the project.

MR. WILENSKY: Do you say that WPA would pay for some non-labor items as well?

MR. ALLEN: Yes, it runs about ten per cent of the money expended for labor purposes.

MR. LOIZEAUX: Of course, you are taking on the main project; I mean the total project?

MR. ALLEN: No; we would accept units.

MR. LOIZEAUX: I am wondering what would be your disposition of the question, perhaps, of a temporarycommitment to help carry on this investigation and any engineering

work that might have to be done before we would be able to get our ideas definitely together on what project we would recommend to the Legislature?

MR. ALLEN: We could participate in a study or survey but could not supply personnel to draft the plans that would afterward be accepted by our own agency as a program.

MR. LOIZEAUX: But you could give us some aid on a survey?

MR. ALLEN: Yes.

MR. LOIZEAUX: I mean a three months' survey or four months' survey?

MR. JAMIESON: Could there be joint sponsorship by a municipality and, say, the State Water Policy Commission?

MR. ALLEN: Yes.

MR. JAMIESON: Where a municipality did not have quite enough money to sponsor their own, could they contribute and become a joint sponsor?

MR. ALLEN: The State Water Policy Commission would be the nominal sponsor and the municipalities could co-sponsor, by whatever agreement they mutually came to as to contribution to it. That would be acceptable to us.

MR. WILENSKY: Without committing the Committee to any decision as to what project we are going to enter but referring specifically to the Governor's recommendation

of the Delaware and Raritan Canal development, would you say that would be the type of project you think they would be interested in in Washington?

MR. ALLEN: That is a difficult question to answer so broadly. We would be interested in any project, but the actual development and operation of that project would depend entirely on what plan was submitted to us. We might work out a combination type of project or type of operation such as we do in the highway program, where it would be part contract and part WPA. It is a broad question to answer. We are interested in any project. With the proper cooperation of the sponsors, we can handle most anything.

MR. WILENSKY: I mean do you feel that that project lends itself toward using a lot of WPA labor?

MR. ALLEN: Yes, but you have to bear in mind the point that I raised before, that we also are obliged to give consideration to a provision in our act which says that at least twenty-five per cent of the total cost of the project must be financed by the sponsor.

MR. WILENSKY: Would you say, the canal being owned by the State, if we were to dedicate that canal to whatever agency was to construct this, would the Government consider that canal as part of the twenty-five per cent?

MR. ALLEN: I don't think so because it doesn't represent any actual cash outlay on the part of the State.

MR. WILENSKY: But any new purchase of land would be considered?

MR. ALLEN: Yes.

MR. WILENSKY: Or any machinery, pumping equipment, and things of that sort?

MR. ALLEN: Yes.

MR. Mc CLAVE: On the commitments that are made - I mean, if there was a major project sponsored by the State and the commitment was made on that major project, that per cent would still hold until the job was completed, even though it would take two or three years?

MR. ALLEN: The entire commitment would not hold. The percentage would hold as against what was completed on the project. You might decide, for example, to sponsor a blanket proposal and then afterward break it down into increments and complete, we will say, only three out of twelve increments. In that event, the twenty-five per cent would apply just against the three increments or the number that was completed.

MR. MC CLAVE: But with the commitment of twenty-five per cent, if there was a continuation of the project until

its ultimate conclusion, the comitment would be binding. Is that correct?

MR.ALLEN: No, it would not be. It would only be binding as against the work actually performed.

MR. McCLAVE: Assuming in the application the cost is figured at a certain amount of money, the State in order to finance its share would necessarily take the twenty-five per cent, or the State would contribute. Now, it might be, and probably would be, on a major project, that the project could not be completed, say, within a period of two years, but that commitment mad by WPA would be binding, would it not, until the termination or the completion of that particular project that was sponsored by the State?

MR. ALLEN: You mean would it be binding on the part of WPA?

MR. MC CLAVE: Yes.

MR. ALLEN: No, it would not. It would be binding on us until the clost -- Legally, it is not binding at all but, actually, and in practice, it would be binding until the close of the fiscal year, and then future participation by WPA would depend entirely on the congressional appropriation for fiscal years after.

MR. WILENSKY: Do you know whether or not there are any

PWA funds available in Washington for projects of this type.

MR. ALLEN: I can't answer that authentically but I know from newspaper knowledge there have not been any funds appropriated and there are no funds available.

MR. WILENSKY: I read in this morning's paper that the WPA appropriation was going to be the same for the coming year as it was for last year.

MR. JAMIESON: It is still in the air.

MR. WILENSKY: It said it came from a source close to the White House. I think that's pretty close.

MR. ALLEN: There weren't any more. I don't know anything about PWA. As far as WPA is concerned, the President in his message to Congress at the beginning ofthe year fixes it at one billion, which is four hundred and seventy-seven million less than this year's appropriation, which means our operations would be scaled down to approximately one third. Now, whether they decide to be a little more generous will remain to be seen within the next six weeks. I imagine certainly by the middle of May or the latter part of May you will know what the WPA appropriation will be for the next fiscal year, but those things are really not as alarming as they sound because we have had the experience where year after year now for

five years - we are going into the sixth year - there has been an appropriation made each year. It is just a question of accomdating any project within the general program of operation and, certainly, from an operation standpoint, on our part, if this project was going to employ a great number of people for an extended period of time, it would be highly desirable because we would know definitely that there is a program that will continue over a period of two and a half or three years and will employ so many people. A large project from our administrative standpoint is much more economical to operate than a group of small projects.

MR. Mc CLAVE: If the State started a project with the understanding it was to be in conjunction with WPA and the State set up its finances to meet twenty-five per cent of the cost of the project, what assurance would the State have that that project was going to be completed beyond the fiscal year; in other words, that the appropriation would be going from the WPA sources?

MR. ALLEN: Just faith and past performance. It is the same as any federal agency- they get an appropriation to last until the end of the fiscal year, the Army, the Navy and every department. They cannot commit themselves legally beond that fiscal period.

MR. WILENSKY: Do you feel that any legislation in Congress would clarify that? In other words, if New Jerseywanted to be a little bit more than reasonably assured, do you feel that legislation along that line might satisfy us so we would know where we were going? Has that bee done in any case?

MR. ALLEN: No. The act would not permit it and it is very unlikely there would be any provision made in the act because it would require earmaking these funds, which the act does not provide and which we could not do.

MR. DE VOE: I think you don't have to worry about that. If they start it they will finish it.

MR. CAVICCHIA: I don't mean this facetiously: This question of faith is on the assumption that the administration is going to continue. Possibly there will be a Republican administration, which isn't highly improbable at all.

MR. JAMIESON: That is so unlikely that I don't think we should go into it. We'll take care of that.

MR. LOIZEAUX: If I remember correctly, the Federal Government made some allocation of funds for a water supply to take care of Southern California and the consolidation of local supplies. Are you familiar with that at all?

MR. ALLEN: I am not.

MR. DE VOE: Answering Assembly Cavicchia's suggestion, I think if the Federal Government starts into this thing they are not going to stop, any more than if we started anything we would stop. After all, it is a matter of policy. If they adopt that policy they are not going to change about, because those who adopt the policies are not changed by a change in administration.

What about the R F C on this loan? Would the R F C lend money to this new agency?

MR. LOIZEAUX: I don't know. That is a matter we can take up under discussion later on.

MR. DE VOE: I had that down as a notation.

MR. LOIZEAUX: We can take it up later.

I might say I have been more or less in sympathy in connection with financing to a program - this is a legislative requirement, of course - that would set up sort of a StateWater Authority similar to that which was in the bills of a couple of years ago; then that Water Authority, given certain powers, would have the right to issue bonds; in other words, I think you could make a self-liquidating project. Now that was under discussion about two years ago. I think there is a lot of merit in it.

I see Mr. Frye is here. Mr. Frye --

MR. FRYE: Senator Loizeaux, without taking too much of your time, because it is almost lunchtime - I think I can present very briefly the financial problems, and they are, primarily, financial ones. First of all, the State could undoubtedly appropriate money for the development of a reservoir or a system of reservoirs. There is no difficulty about that. The State has never found itself in a position oer a long period of time to do that. Secondly, the State could undoubtedly authorize bonds for the construction of a reservoir, aquaducts, etc. That has been discussed and, as a matter of fact, the people voted an issue of seven million dollars in 1930 - appropriaton to the Water Policy Commission for the purchase of land. Due to the onset of the depression, by a further vote of the people, that seven million dollars was deferred and bonds were issued to keep the public schools open. So that appropriation lapsed by vote of thepeople.

The only question as to a bond issue would be to confine it within the terms of the Constitution to a single object or work, as the Constitution provides. That could be readily complied with.

Now, as to the means of payment of the State bonds, I might say just a word. The bonds should of course

be made a general obligation of the State with adequate means of payment. The last bond issue, the unemployment relief issue, for example, was a very satisfactory means of payment. One of the results is that the issue of ten and a half million sold in December at a net cost to the State of one point twenty. The State would conceivably limit the means of payment but it would pay out money in the other directed in the form of increased interest costs to thepeople of the State, so that would be highly undesirable.

Now, passing from the question of State financing, you have two methods: One is by the municipalities. Mr. Vermeulen referred to the difficulties of a group of municipalities trying to function together. We have all been through it in connection with the Passaic Valley Sewer, Wanaque, and the Rahway Valley Sewer - all these joint projects. They are time-consuming due to the great lapse of time, delays and uncertainties; they are expensive, the method is cumbersome, and is practically "out" at the present time to all intents and purposes, because the few municipalities that might join do not have sufficient credit or their taxpayers or voters are not willing that the cities shoud incur additional debt to the extent that would be necessary. So I think we all agree, gentlemen, that that method might be dropped.

There remains the method referred to a minute ago - of some other body, which would of itself be authorized to issue bonds, which you referred to, Senator. Now, the lines of that are substantially indicated in the bill which has been in the Legislature in some form or another for quite a number of years. I remember I drew the bill which was considered in the Legislature in 1934, based on the two water supply districts, with an authority in each district, the though being a double one and that is distinctive in the State - North Jersey and South Jersey to establish a water supply district, and the courts would undoubtedly support such an arrangement.

A great deal of consideration has also been given to the establishment of a single authority in the State, and that would be much more desirable in many ways. There is a legal difficulty involved there and probably no lawyer would be willing to approve the securities that would be necessary for such sort of authority, and the amounts required, until there was a test case and until the Court of Errors distinguished its opinion in the Wilson or the Wharton case. I can explain very briefly what that court held:

In 1907 the State created the State Water

Commission and authorized that Commission to buy lands for water supply purposes and to issue its bonds and support its bonds by a mortgage on the properties - in effect, a purchase money mortgage. The Commission proceeded to do that and authorized the issuance of bonds and arranged for mortgage on the lands - a purchase money mortgage. They went a little further and pledged the prospective appropriatons by the Legislature on information by the Attorney General. The Court of Errors and Appeals held in 1915 that that was an illegal pledging of the credit of the State without vote of the people, and that has been the rock on which most of the financial plans have foundered ever since.

Now, personally, and I believe a certain number of lawyers agree with me, I think that could be represented to the courts of New Jersey and, under proper auspices and proper setup, we believe the courts would distinguish that case so that a single State Water Authority would be possible and could see its bonds at an advantageous price, but under that case, which is undoubtedly the law at the present time, in the absence of a further decision in theWharton or Wilson case, no one would be willing to approve bonds, I believe, for a single State Authority.

Now, as to any other constitutional problems involved as to an Authority, we believe they can be obviated.

I believe you are all more or less familiar with the Van Cleef case. That situation arose under the Passaic Valley Sewerage Commission, a joint authority act. The original act created the commission on the basis of territory which is not co-terminus with the boundary lines of existing municipalities. It was a new district. It also authorized the commission to issue bonds and to levy a tax in payment of its bonds in that area. The court upheld the act in many ways but held it unconstitutional on the point that it created a new type of municipality not recognized by the Constitution and authorized that municipality to levy a tax. So that has never been attempted since, - but we believe that that objection could be obviated, and I believe the Dean and I are in agreement on that - that that difficulty could be obviated if the district were made co-terminus with the boundary lines of existing municipalities and if the authorities were not authorized to levy a tax on real property; in other words, if the bonds were payable merely from the revenues arising from the wholesaling of water to the municipalities. In other words, if the district did not have the power or authority, I would say the Commission, or whatever you call it - it is

immaterial what you call it - it is a very simple thing to create. Take the Water Policy Commission and, by voteof the Legislature, make that a body politic incorporate under the name of the North Jersey Water Authority, whatever you please, and provide that the members of the Water Policy Commission should be the members of that Authority, and their successors in office. Anything like that is possible. The mechanics of it are simple.

I won't bother you with the method of making the bonds salable of such an Authority and the basis of revenue. That is a primary question. If it is a construction project, the difficulty is to provide funds for its construction and, until the Authority has a fixed revenue so that you can have an experience table-- That confronted the Port of New York Authority and it was overcome by appropriations from New York and New Jersey in an acceptable project. After a time the Port Authority was allowed to take over the Holland Tunnel. That was a going project with an assured income and, on that basis, the Port of New York Authority has been able to carry through their extensive financing very substantially. We have been through that same thing with the Tri-Borough Bridge in New York City. That had to be financed in the

first instance by the R.F.C. That answers your question as to Southern California. Private investors will not put money in a construction project when they are not sure of income. You can't blame them. But the Government can do that when its engineers assure it the project is workable and the revenues will be adequate, so that Tri-Borough Bridge was constructed with R.F.C. money in the first instance, and the bonds were made callable, and they have since been refunded. Other projects have been tied up with it. It is all a very satisfactory arrangement now on a revenue basis.

Taking up your Southern California idea, that was somewhat similar. It was primarily the Water-Power Commission of the City of Los Angeles. That was a Water Commission, which, by act of the Legislature and by amendment to the City Charter, was given powers to a considerable extent, or authority - because, after all, there is no magic in the word "Authority." You know the origin of the word "Authority". It started in connection with the Port of London. The people didn't know what to call it, and in the first part of the bill it said, "it shall have authority" - <u>authority</u>-- and Lloyd George said, "Why not call it 'Authority'", and eventually they did call it Authority and have been calling it Authority

ever since.

This Water-Power Commission of the City of Los Angeles worked out the finances with the Federal Government. To a considerable extent the Boulder Dam project was paid for directly by the Federal Government - a considerable part. The R F C took the bonds of the City of Los Angeles independently issued by the Water-Power Commission. Since then a large part of those bonds have been refunded and sold to the general public, because you can onlydo that if you have an assured income based on experience. In New Jersey it could be done by appropriation of the State to get the thing started, by bond issue of the State to construct the project, or by some arrangement by which a going reservoir with an assured income could be taken over by the State Authority, as the Holland Tunnel was taken over by the Port of New York Authority. It would be paid for by the bonds of the Authority - it would not be just confiscated property or expropriated, but you need an income for your Authority in order to be able to sell bonds, based on income. That goes without saying.

It is very difficult to compress all this in a few minutes, but if there are any questions, gentlemen --

MR. WILENSKY: Do you think if we had an Authority, either covering part of New Jersey or all of New Jersey, and would give that Authority the power of condemnation, so far as municipal plants are concerned today, that that Authority, would have power to compel refunding of bonds that the municipality now has issued against the projects?

MR. FRYE: No. For the Legislature to attempt to provide that would be an impairment of the contract under the Federal Constitution.

MR. DEVOE: In what way? If the bonds were not callable, how does it impair the contract?

MR. FRYE: Say the City of Newark would pay a certain sum of money on the first day of July in the year 1965--

MR. DEVOE: How is it impaired by paying it sooner?

MR. FRYE: If the holder is not willing to accept payment sooner, you can't force him to because he can stand on the terms of his contract.

MR. DEVOE: Suppose we pay the money to the court? I have argued this with Senator Wilensky - I am just arguing with you. Why can't we condemn it and pay the money into court? We don't impair his contract; he still gets his money.

MR. FRYE: There has been a great deal of talk about that, and a statute was passed, I believe in California,

under the power of eminent domain. The constitutionality of that is being litigaged in California but, so far as I know, nothing has been determined. That is the only attempt made today to exercise the power of eminent domain.

MR. DE VOE: I am not saying what we could or could not do. I am just asking the question. I think it is quite important.

MR. WILENSKY: The reason for those questions was this: We find that many municipalities in the northern part of the State have issued bonds for a period of thirty or forty years, bonds that are not callable, where the average interest rates run five and five and a half per cent. Of course, the bond market interest rate is very low right now, and if those municipalities could re-finance or the State could re-finance for them it is estimated we could save, over the period of those bond issues, perhaps forty or fifty million dollars in interest charges. Naturally, that is a very important problem, and if we could do that we could more than justify the expenditure of State moneys for a new project because, for the very interest we are going to pay, we could have a full project paid for.

MR. FRYE: First of all, as to relieving the municipalities of the actual burden economically, that can

readily be done, very much as done with thePassaic Valley Water Commission, by supplementary legislation. The Water Commission in effect guaranteed the issues of bonds which it took over. It has eventually taken over practically the entire water debt of Paterson, Passaic and Clifton. The money comes entirely from water revenues. It is not paid over to the city - it is paid into a bank under legislation and paid directly to the bond-holders, and neither Paterson,Passaic nor Clifton has found it necessary to make an appropriation from real property tax to pay those bonds since 1930. That is the practical way of relieving the cities of their debt.

MR. WILENSKY: Except they have loaded on a forty-year bond issue at five and a half per cent.

MR. FRYE: What I am saying is, for the moment the bonds and interest are actually taken care of out of revenues and do not come out of the budget.

MR. McCLAVE: A good bond at that rate would be running at a premium.

MR. WILENSKY: One hundred and sixty.

MR. Mc CLAVE: Absolutely.

MR. WILENSKY: You fell if some Authority or the State would enter into a project and we would receive aid from

W P A representing practially seventy-five per cent of the cost, that the bonds this Authority would issue would have a very good market, in view of the large contribution made by the Federal Government, and also the fact that the bonds would have as their only security the revenue derived from the sale of water?

MR. FRYE: I would say it could be worked out so that the bonds were readily salable and were attractive.

MR. WILENSKY: They couldmeet the normal requirements of bondholders at average prices today?

MR. FRYE: It could be worked out no doubt, but there are a number of things you have to look to, a number of arrangements you have to make, securities and safeguards you have to provide for the protection of the investors.

MR. DE VOE: Let me ask you - Do you think we could create a new Commission called the Delaware and Raritan Canal Water Supply Commission?

MR. FRYE: Whatever you pleas.

MR. DE VOE: The "X" Commission. We could create that. Do you think from what you know of the legal situation that that Commission could issue bonds, the bonds to be paid for, the principal and interest, only from the first mortgage on the assets?

MR. FRYE: I wouldn't mortgage the assets. Solely from the revenues.

MR. DE VOE: Solely from the revenues. Could that be done in your opinion, assuming there is a market for the bonds, speaking from the legal question, in view of those cases that you mentioned?

MR. FRYE: Yes. The distinction I made a moment ago - if the Authorities or Commissions - whatever you call them; it is immaterial - if they were set up on the basis of North Jersey or South Jersey.

MR. DE VOTE: No - we are not doing it that way.

MR. FRYE: A single Commission. Now there I revert to what I said. I doubt if any bond counsel would be willing to approve the securities involved, in the absence of a test case to get a distinction in the Wilson or Wharton case.

MR. WILENSKY: Mr. Frye, you are familiar with the North Jersey Act?

MR. FRYE: Yes.

MR. WILENSKY: That North Jersey Act takes in practically all territory that would be served by the proposed Delaware and Raritan Canal project, with the exception of Mercer County. If we added Mercer County to the North Jersey District Water Supply District, which takes in solely county lines - not city lines but county lines - if that Commission were given power to issue bonds, do you feel we could overcome the hurdle of

the State Water Policy ase that you referred to before?

MR. FRYE: Yes, I think it would.

MR. WILENSKY: And still retain on the books, possibly, the South Jersey Water Supply Commission?

MR. FRYE: Yes.

MR. DE VOE: Do you agree with that, Dean?

DEAN SUMMER: Yes. May I say just one word to this Joint Committee? I think you want to determine what is best in the interests ofthe State and lay some of the questions aside, for this reason: We can secure a determination of all these legal questions within at most six months after the legislation is enacted, because you do have on your books now the declaratory judgment act and, if you set up the Commission and these questions are presented, that Commission canpresent them to the Supreme Court and more or less informally secure a determination, and within three months afterward you may have the determination of the Court of Errors and Appeals. I don't think we are going to get anywhere if we sit here and discuss the question that arises under the Wharton case. I have distinct convictions as to what will happen to that case if it is represented to the Court.

MR. FRYE: Presented by yourself, Dean?

DEAN SUMMER: I would love to present that question. It is important that you shouldknow the obstacles you are going to face, as Mr. Frye has suggested, but it is not as serious as we think, because we have a means now by which we can secure more or less a speady determination of constitutional questions, and some of us hope you will enact legislation that will enable us to bring these questions before the court again and get this thing that has been bedeviling us for years and years out of the way.

MR. WILENSKY: I might say to the members of the Committee that giving this question considerable time and thought. For the past year and a half I have been annoying him on seven or eight occasions myself.

MR. LOIZEAUX: Will you be good enough to give this Committee your aid and assitance in this work, Dean?

DEAN SUMMER: You know I will.

MR. LOIZEAUX: You have done it before. I hate to ask you again.

MR. WILENSKY: The Dean is always invited to help without appropriation.

MR. CAVICCHIA: May I ask a question? Your connection with water in the State has gone beyond the legal side of it. You were a member of the Passaic or the Water Policy Commission?

DEAN SOMMER: No. I finished the Wanaque Reservoir with the aid of Arthur Pratt.

MR. CAVICCHIA: I asked the question of Mr. Burgess at the beginning of this meeting. I expressed concern over creating additional boards and commissions. Now, my point is this, very frankly: Rather than to create a new commission or a new authority, isn't it possible to use some board which we have? Wouldn't it be better that way than to create one?

DEAN SOMMER: This is what you can do: If you decide that the project is going to move forward as a State project, you can convert the State Water Policy Commission into a State Authority. If you decide you are going to move forward upon the North and South Jersey basis, then, so far as North Jersey is concerned, you have in existence the North Jersey District Water Supply Commission and you can confer upon it the additional powers. The South Jersey Commission can be brought into existence at any time. The method of bringing it into existence provided for by the Water District Act would probably have to be changed or simplified, because the commission comes into existence only upon the willingness of a municipality to enter into contract with the commission. So you have the basis for legislation or the machinery in existence for legislation along

either line.

MR. CAVICCHIA: Would you care to venture or suggest whether it would be advisable to have a single Authority or two Authorities?

DEAN SUMMER: Would you waive that question for the moment?

MR. WILENSKY: If you had been around here as long as the Dean you wouldn't want to answer that either.

MR. CAVICCHIA: Perhaps I asked it because I haven't been around here so long.

MR. DE VOE: How do you get past the rule that we can't pledge the State's credit when you divide it up into two pieces - North Jersey and South Jersey. Aren't we pledging the State's credit?

DEAN SUMMER: That would raise the same question as has been raised, unless you make it the obligation merely of the Commission as a District Commission. Now, we can work that out. I have a paper on that if you would like to have it sometime, that deals with that question.

MR. DEVOE: Your idea would be that we would work to the end that you are not pledging the State's credit?

DEAN SUMMER: Oh, yes.

MR. DE VOE: I think the question is so big that we might even consider pledging the State's credit because we would get a terrifically low interest rate if/ever we did that. If we are going to save thirty or forty million

million to the municipalities, it is a gain to them.

MR. LOIZEAUX: I think that is a question we should take up further. We had set up a program that we would discuss the necessityfor water, legislation, and finances. We haven't touched on the question of sources this morning and, in view of the fact that we have a conference at two-thirty, I amgoing to ask if you could not arrange to give us your aid and assitance next week, perhaps on Friday, if that meets with your approval. How would that be with the members of the committee - a week from this Friday?

MR. WILENSKY: I would like to make a further suggestion, if it meets with the approval of the men here - that if any of the gentlemen here today would like to incorporate further remarks or thoughts in a memorandum between now and our next meeting, it would be very helpful to the members of the Committee - any thoughs at all that anyone has in connection with this, because in your own office,perhaps, you can think a lot better than you can today. That applies to all here today, WPA can have a project all by itself.

MR. LOIZEAUX: My attention is called to the fact that there is a meeting of Incodel, which a large number of the engineers and representatives here wish to attend and the Governor

is going to speak that day.

MR. BURGESS: That is the twelfth. Next Friday is the Fifth.

MR. LOIZEAUX: Oh, it is the following Friday. Then is it convenient for you to be here next Friday afternoon, April fifth?

MR. DE VOE: I had a couple of thoughts I wanted to ask the members and those gentlemen who can answer could supply it to the Chairman so that it can be put in the record. I don't expect the answers today. I apologize for being late.

MR. LOIZEAUX: Will you ask the question?

MR. DE VOE: Has there ben a survey as to the actual condition of the feeder of the Delaware and Raritan Canal, and has there been a survey as to the actual condition of the canal itself; that is, I am attempting to save time, because if we are going into this thing those two things should undoubtedly be settled.

I think we should have a copy of all the laws pertaining to the Delaware and Raritan Canal put into this record. I have read them and I know about them and I think they should be added to the record.

Then, as to certain industrial rights in the present canal and in the feeder - I think they should be

stated and put into the record. I know Johnson and Johnson claim some right and uses the water and I know that someone in Lambertville does. Can you give us that for the record and put it in?

MR. LOIZEAUX: Don't you think we should have Duane Minard here next Friday?

MR. WILENSKY: The Secretary of the Delaware and Raritan Canal Commission would be able to give us all of that information.

MR I have one of the booklets of the early history of the canal with all that information in it.

MR. DE VOE: Industrial rights, I call it.

What are you going to do about the 1940 appropriation for the maintenance of the Canal - not of the committee but of the canal?

MR. WILENSKY: I understand the Appropriations Committee has that before it now.

MR. DE VOE: That is the reason I wondered because they continued that hearing at our request, pending our organization. You remember I spoke to you about it, Senator.

MR. LOIZEAUX: Yes.

AMR. DE VOE: I don't know just when they want to close that item. They heard the counties and municipalities.

MR. LOIZEAUX: I think they will have plenty of time. I don't think they will close their hearings until a month's time. They will take that up a little later.

Suppose we leave the meeting adjourned until Friday, at eleven A. M., April 5th.

I want to thank you one and all for coming down here and giving us the benefit of your information, which we hope will give us a definite solution situation in New Jersey.

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ADJOURNED

PAPER READ BY

CLYDE POTTS

AT

18TH ANNUAL CONVENTION
OF THE
NEW JERSEY ASSOCIATION OF PROFESSIONAL ENGINEERS
AND LAND SURVEYORS

Jersey City

January 15, 1938.

SHOULD A WATER AUTHORITY BE CREATED IN NEW JERSEY.

CLYDE POTTS, C. E.
Mem. Am. Soc. C. E.

A Bill was introduced in the 1934 Legislature by Senator Charles E. Loizeaux of Union County setting up a Water Authority in New Jersey to construct and administer water supply systems in the Metropolitan District.

Generally speaking, the purpose of this Bill was to clothe some board or body with power to bring order out of the chaos existing in the North Jersey water supply situation at the present time. It is stated that the proposed law would do for the water situation in New Jersey what the New York Port Authority did in creating self-supporting transportation facilities between New Jersey and New York. It is said that the law as drawn would remove from the people of New Jersey, as a whole, the responsibility for and the burden of financing immensely expensive water supply systems and place the costs where they belong; namely, on the people who will benefit by their development. It is easy to surmise that the drafters of this legislation expected and hoped to solve this water utility problem with the same thoroughness that the Port of New York Authority has solved the interstate transportation utility. It is worthy of note that this plan or proposal has received the unqualified endorsement of both Governors Moore and Hoffman.

I take it that my share of this paper is in bringing to your attention some of the engineering features which would develop if this Bill or a similar bill should eventually become a law. The legal aspects of this application of an authority act to the water situation will be ably handled by Mr. Arnold Frye of the firm of Hawkins, Delafield and Longfellow, which firm has a hand in the preparation of many of the most important authority acts in not only New Jersey but throughout the United States.

That additional waters are needed in the metropolitan section in the near future cannot reasonably be denied, and no competent water authority disputes it. The only point of disagreement is the time when such supplies should be made available. Therefore, I shall assume, for the purpose of this discussion, that another major supply should be developed for use during the period 1945-1950. This time limit is somewhat dependent upon industrial recovery.

This assumption is based on estimates made by the engineers of the Water Policy Commission and the North Jersey District Water Supply Commission that there is immediately available in the North Jersey district, a daily supply of 340 million gallons during dry weather, and against this there was used in 1936, 260 million gallons per day, leaving an approximate margin of 80 million gallons daily. In 1929, however, before the depression, the consumption was 290 million gallons daily for the same area, with a margin of only 50 million gallons per day.

These water supplies are used generally by the cities by whom and for whom the supplies were developed. The important exceptions to this are the cities of Bayonne, Elizabeth, Hoboken and a number of smaller communities. Bayonne buys its supply out of the surplus created by Newark and Kearny in the Wanaque project. Elizabeth buys its supply, in part, from the City of Newark and also from its surplus in the Wanaque supply, as does also Belleville. Hoboken, Lyndhurst and North Arlington buy their water supplies from the surplus created by Jersey City in its Rockaway River development. These municipalities might be called renters or lessees, and their continuation in the use of these supplies is dependent upon the ability of the lessors to supply them. Generally speaking, Hoboken, Bayonne, Elizabeth and other renters similarly situated should be potential participants in the next major development so that their supplies of water in the future would be assured to them beyond doubt.

These renting municipalities are supplies through inter-connections or cross-connections from the pipe lines leading from the Boonton, Pequannock and Wanaque reservoirs. These inter-connections have in all cases been made voluntarily, although the State Law setting up the Water Policy Commission, Chapter 267 of the Laws of 1929, at paragraph 10, page 638, gives the Water Policy Commission power to require the inter-connecting of public water supply systems, and to require the furnishing of water from one city having a surplus to one in need, and further empowers the Board of Public Utility Commissioners

to fix a fair compensation therefor.

The purpose of this Act apparently was to take from those who had and to give to those who had not, for such a time, of course, as there was a surplus of water that could be so distributed. As a temporary expedient it is perhaps not subject to criticism, but if it were intended in any way to be a permanent arrangement, then, of course, it is subject to the most drastic criticism, as it penalizes those municipalities which, either through inept government or penuriousness, have not provided adequate supplies for their people.

When the Legislature of the State of New Jersey passed this inter-connecting Act in 1929, nine years ago, it planted the first seed of this proposed Water Authority Act. It provided for the pooling of the surplus waters of the State's political subdivisions. It was the first effort by legislation to socialize the metropolitan water supplies. Following it to its ultimate conclusion it means the consolidation of the water supplies of northern New Jersey under an authority with power to distribute them and the same authority, or a similar one, to fix just and reasonable rates to be charged for the water so distributed. A necessary corollary is, of course, to give the consolidating board the power to erect new or additional supplies to supplement the present ones when and as needed.

This Act, Chapter 267 of the Laws of 1929, and the pos-

sible ramifications under it brings us to this discussion today and to the serious consideration as to whether some board should not be created with power to build, finance and operate joint public water supplies for the North Jersey district and to distribute the water supplies so created to those municipalities which seek or need them. Certainly the plight of many small municipalities sandwiched in among the larger would be solved by it. Also the larger municipalities no longer able to finance huge water enterprises would find relief under such a plan.

It might be pertinent to this inquiry to first ascertain if there is now adequate machinery to accomplish the same purpose that is proposed by this water authority act; in other words, is there a public necessity for what is proposed?

It is customary in approaching public works projects, for engineers to judge the future from the past. Generally we lay our plans and determine our future course of action by the experience of the past. Let us, therefore, briefly review the history of the development of the three major publicity owned water projects supplying the North Jersey district, which are at all comparable to the next major project which must be developed for the North Jersey area.

It may, I think, be admitted that the next major project for the North Jersey area should have a capacity of at least 150 million gallons daily, with provisions for its economic expansion. The three

projects now in use, at all comparable to the one proposed, is, first, the supply of Newark on the Pequannock River, with a capacity of 57 million gallons per day; second, Jersey City's supply on the Rockaway River at Boonton, with a capacity of 60 million gallons per day; and, third, the Wanaque development, completed in 1930, with an estimated capacity of 86 million gallons per day.

The Pequannock supply was built by the City of Newark under a contract between the City and the East Jersey Water Company dated September 24th, 1889, at a contract price of six million dollars, the plant to have a capacity of 50 million gallons of water daily. As a further consideration the East Jersey Water Company was given permission to sell the surplus waters from the Pequannock over a period of eleven years. It made a considerable sum out of this proviso by the sale of water to Jersey City, Montclair and others, during that period. Newark began receiving water from its Pequannock development in 1892, three years after the execution of its contract with the East Jersey Water Company. It is interesting to note, however, that it was ten years after the recommendation was made on March 6th, 1879, by J.J.R. Crowes and George W. Howell, before the City of Newark cleared away the preliminaries and signed its contract with the East Jersey Water Company. This interminable lag seems to always occur in the execution of large water projects. It usually occurs not because of the engineering delays so much as the failure of public sentiment to develop and harmonize to the point of initiating the project.

Newark built its Pequannock supply under the then existing statutes of the State of New Jersey, and financed it in the usual way, by the sale of City bonds. After the signing of the contract the construction work proceeded promptly and was completed with reasonable dispatch. The supplies developed on the Pequannock River took care of the needs of Newark with a fair margin of safety until 1930, when it began to receive its share of the Wanaque supply. Newark was able to supply its needs from the Pequannock River through this 40 year period largely because it initiated a policy of metering its consumers, thereby steadily reducing waste. Had it not initiated this policy of metering it would have been necessary to supplement the Pequannock supply many years before the Wanaque was completed. It was in 1909 that Newark foresaw the necessity of a second large supply and in that year applied to the New Jersey State Water Supply Commission for permission to develop an additional supply on the Wanaque River; the development of which I shall explain later.

On February 28, 1899 the City of Jersey City made a contract with Patrick H. Flynn to develop a water supply for that City on the Rockaway River with an impounding reservoir at Boonton, N.J. This was the second major water supply project undertaken in the State of New Jersey, and was undertaken by the City of Jersey City in accordance with statutes of the State permitting them to develop such a supply. Its cost was financed by the issuance of bonds of the City of Jersey City.

The contract with Flynn provided for a supply with a daily yield of 50 million gallons, and capable of being readily expanded into one of 70 million gallons per day, with water rights of the latter amount. Several alternatives were offered in the proposal of Flynn. The alternative, however, which was accepted by the City called for a total contract price of $7,595,000. The works were completed in May of 1904 and water from the new supply was turned into Jersey City. There were delays in the completion of the contract due to the fact that Flynn defaulted on account of financial difficulties, and his contract was finally taken over and completed by the Jersey City Water Supply Company. The City did not finally accept the plant from the contractor until the year 1910. It is pertinent to note that the public agitation for the construction of the Rockaway supply continued from 1887 to 1899, when the Flynn contract was signed. During the interval following the completion of the plant its title remained with the Jersey City Water Supply Company, and the City bought water from the company on a million gallon rate pending the final adjudication of court proceedings which were instituted by the City to compel specific performances of the contract. On the termination of these court proceedings the City paid over the contract price and took possession of the plant, and since that time has drawn its water supply from the Boonton reservoir, and in addition thereto has been able to supply Hoboken, Lyndhurst, Secaucus and others with its surplus waters.

The time, however, is not far distant when Jersey City must either cease to serve these municipalities or provide additional storage in its watershed. With its catchment area of 122 square miles and additional reservoirs located at advantageous points therein, it may reasonably expect to obtain at least an additional 50 million gallons daily. This it could develop for its own use and the needs of such of its neighbors as may purchase water from it. This is not the case with the City of Newark which has developed its Pequannock watershed to its maximum yield, nor to the Wanaque supply which likewise is fully developed.

Both of these cities proceeded in the construction of these water supplies under existent statutes permitting municipalities to do so, but in 1907 a new element was injected into the development of municipal water supplies in New Jersey. In that year the Legislature passed a law setting up the State Water Supply Commission and forbid cities to proceed with the development of any new or additional supplies without first obtaining the consent of the State Water Supply Commission. Both Newark and Paterson contemplated the construction of dams on the Wanaque River and the preempting of the waters of that stream for water supply purposes. In 1909 both municipalities applied under the new law to the Water Supply Commission for the right to develop an additional supply on the Wanaque River and both petitions were denied.

The State Water Policy Commission continued to function as a granting body until it was abolished in 1916, and its duties as a granting agency were then turned over to the Department of Conservation and Development. However, the authority to develop joint water supplies for municipalities which the Water Supply Commission had obtained during its tenure were not allocated to the Department of Conservation and Development, but were transferred to a new commission known as the North Jersey District Water Supply Commission, under Chapter 71 of the P. L. 1916. This Commission organized in May of 1916 and immediately began to press for a major water supply project on the Wanaque River near the Borough of Wanaque. Attempts were made for a period of years to secure cooperative actionof Newark, Paterson, Passaic, Clifton, Montclair, Kearny, Bayonne and others. The supply was to be developed by the North Jersey District Water Supply Commission acting as agent for the participating municipalities. These municipalities were to furnish capital in proportion to the amount of water which they were to derive from the development. After two years of fruitless negotiations, the City of Newark entered into an independent contract with the North Jersey District Water Supply Commission, under date of October 21, 1918. The City of Newark undertook the entire development of the Wanaque supply and so contracted. All the other cities who had been parties to the negotiations with the North Jersey District Water Supply Commission dropped out of the picture and assumed no part in the financing nor any participation in the supply.

From a practical point of view the modus operandi as set up by Legislation for the creating of joint water supplies was scrapped. The creation of the Wanaque supply was due entirely to the broadminded attitude of Mayor Thomas L. Raymond of Newark and his associates. It is true that later Newark sold shares to Passaic, Paterson, Clifton, Kearny, Montclair and Glenridge, and they paid Newark in proportion for the amount of water which they received, but the fact nevertheless remains that it was not possible for the North Jersey District Water Supply Commission acting under Chapter 71, P. L. 1916 to bring a great water supply project into being. Either the Law was fundamentally wrong or the difficulty of securing the voluntary cooperative effort by municipalities was so great that the erection of a major water supply could not be carried out in accordance with the provisions of the Law. No doubt it was the latter, in whole or in part. Nevertheless the Wanaque supply could never have been initiated, let alone brought to completion, except for Newark's splendid action in underwriting the entire project. The project was conceived in 1907; work began in 1920 and was completed in 1930. This seems to be about the length of the expected delays.

The Wanaque project was the last great water supply undertaken in the State of New Jersey, and has a rated capacity of 100 million gallons a day, of which Newark received 40½ million; Passaic Valley Water Commission 37-3/4 million gallons per day; kearny 12

million gallons per day, and the balance being divided between Bloomfield, Montclair and Glenridge. Already 72 million gallons of this water is being drawn for the use of these municipalities; leaving a very small margin for future growth.

Thus of the three major water supply projects which have been constructed in Northern New Jersey, we find that two of them have been built by individual municipalities and financed by them. The third one, while supposedly a joint undertaking of several municipalities under a joint water act, was built and financed by a single municipality in the first instance and later apportioned.

We all know that no municipality in the State of New Jersey, at the present time, can undertake the financing of any major water supply developments. We all know that the next water supply which is created must be a major water supply development. The Wanaque supply, with interest during construction added, cost approximately 30 million dollars. The next development due to its greater distance from the district it serves will cost well over 35 millions. No municipality in New Jersey can finance this undertaking. It is reasonable to assume, from past experience, that no group acting in concert can do so.

The great problem in the next major development is not engineering. The engineering, leaving out prejudices and biases and local feeling, is comparatively simple. The main problem in the next major development is a question of finances. Obviously it cannot

be financed, either by the methods, or by the agencies that financed the last three major developments. It means a new set-up. It means a set-up empowered to borrow money for new construction, and the power to pledge the income from its plants for interest charges and amortization of the debt. It is immaterial by what name this Board or Body is called, these powers it must have.

It should have the power, within reasonable limitations, of purchasing existing supplies with the consent of the owning municipalities. Whether in each case the transfer should be submitted to a referendum of the people of the municipality affected is worthy of consideration. The Board should have the power to fix rates for the sale of water under its control. It, of course, should be authorized to plan and develop new supplies as need arises, together with all necessary powers in connection therewith.

In order that such a Board of Body might not become a super-government and assume arbitrary powers, it is suggested that its membership, in part, be constituted of elected officials such as the Governor, the Speaker of the House and the President of the Senate. Such membership would make it more amendable to the people. If this be not practical then provision should be made to have its actions regarding the borrowing of money and purchasing of land subject to review by the Governor or by the State House Commission or equally competent body.

A review of the water situation in New Jersey leads us to the inevitable conclusion; namely, that under the present legal and economic set-up nothing constructive can be accomplished with regard to future water supplies for the Metropolitan area, and that to rectify the situation some board or body must be given powers equivalent to those exercised by the New York Port Authority.

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