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Accomplishment of Purposes OF Emergency Water Supply Act

STEPS TO DATE

STATEMENT TO GOVERNOR CHARLES EDISON

September 21, 1942

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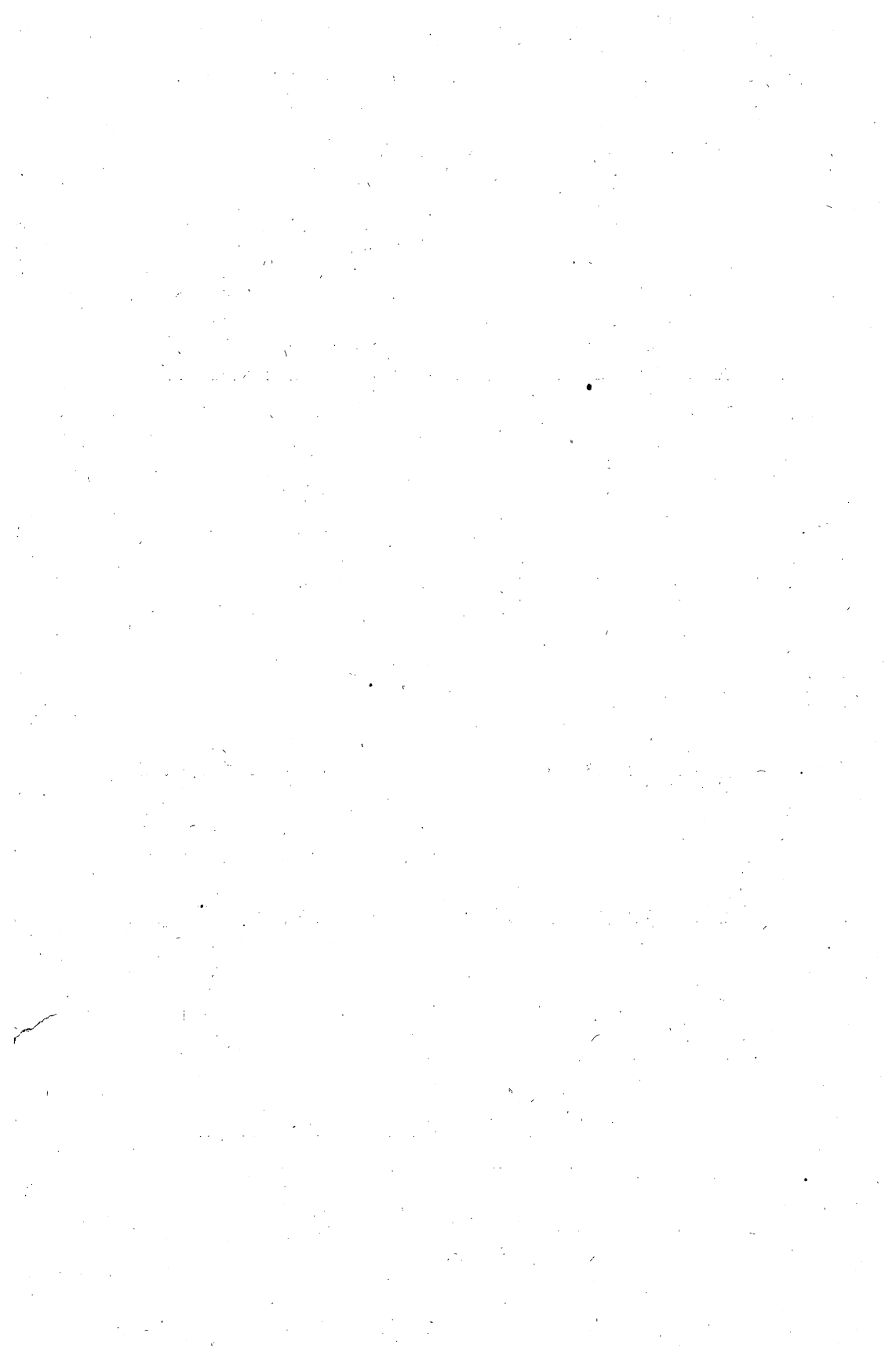
STATE OF NEW JERSEY
STATE WATER POLICY COMMISSION

Accomplishment of Purposes
OF
Emergency Water Supply Act

STEPS TO DATE

STATEMENT TO GOVERNOR CHARLES EDISON

September 21, 1942



LETTER OF TRANSMITTAL

STATE OF NEW JERSEY,
EXECUTIVE DEPARTMENT,
September 28, 1942.

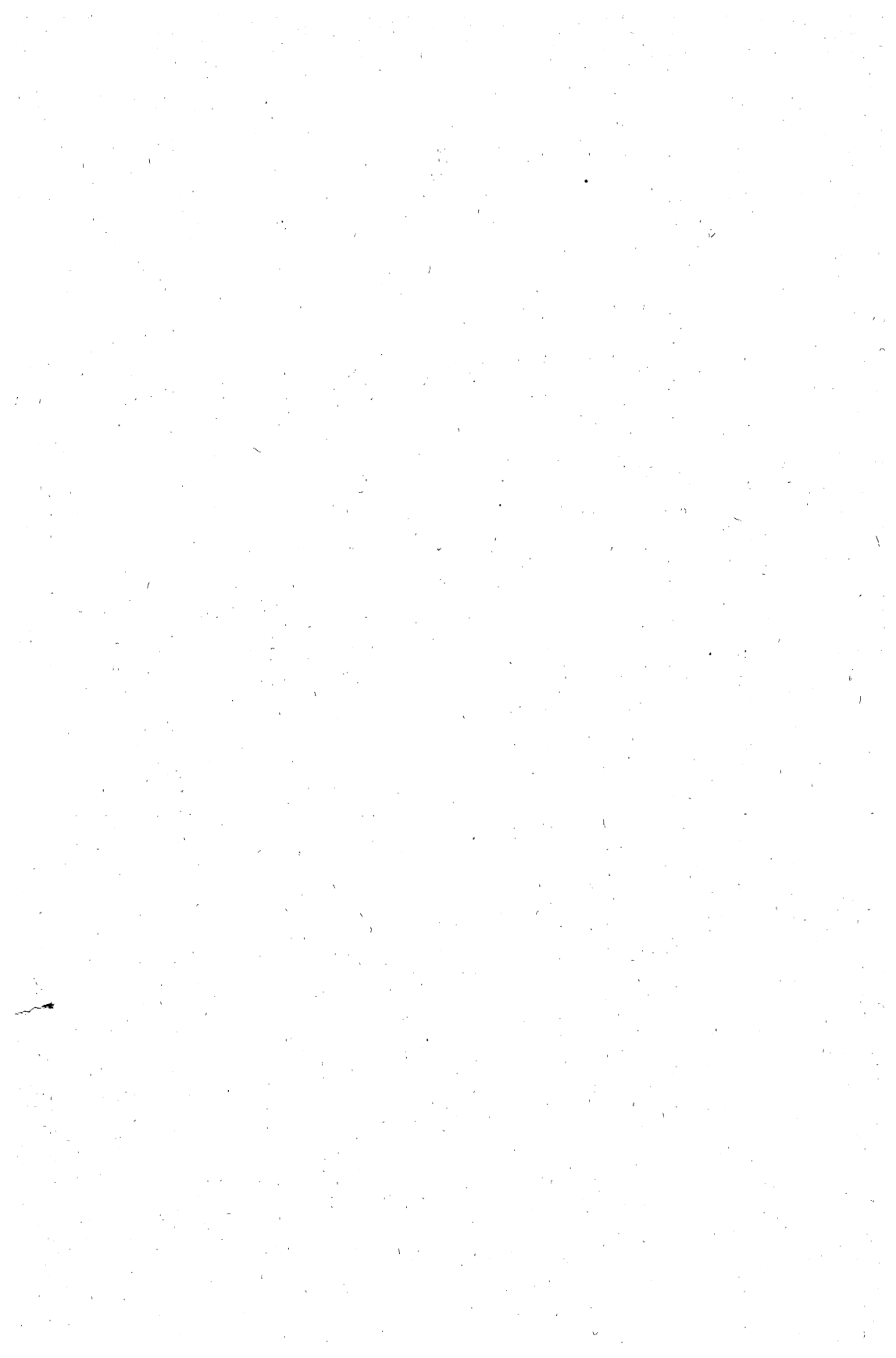
*Honorable John Boswell,
Speaker of the House of Assembly,
State House, Trenton, N. J.*

MY DEAR ASSEMBLYMAN BOSWELL:

I am transmitting herewith for your information and such action as you consider necessary the Report of the State Water Policy Commission to me, dated September 21, 1942, entitled "Accomplishment of Purposes of Emergency Water Supply Act—Steps to Date."

Sincerely yours,

CHARLES EDISON,
Governor.



STATE OF NEW JERSEY
STATE WATER POLICY COMMISSION

19 Washington Street,
East Orange, N. J.,
September 21, 1942.

*Honorable Charles Edison,
Governor of New Jersey.*

MY DEAR GOVERNOR:

There is transmitted with this covering letter a statement of the extent to which the purposes of the Emergency Water Supply Act (Chapter 24, P. L. 1942) have been accomplished.

1. *Available Water Supply.* The supply of water in storage was augmented during the summer by capturing 3,403,800,000 gallons going to waste, thereby reducing the draw down of Wanaque Reservoir to that extent.
2. *Interconnection of Water Supplies.* New interconnections ordered, 17. Completed, 2. All interconnections recommended by your Emergency Water Supply Commission have been ordered to be constructed. Old interconnections of 87 municipalities are being tested to find out whether they are in working order.
3. *Joint Operation Board.* This board has been created to set up rules for joint operation of separate water supplies in conceivable emergencies. The operating engineers of the five largest supplies comprise this board. Their services have been loaned to the Commission for this function.
4. *Supreme Command.* The members of the Joint Operation Board, in rotation—each for a week at a time—will be in supreme command in the northeastern in-

dustrial area of the State, with full authority in an emergency to order interchanging of water between supplies for the protection of endangered communities.

5. *Water Requirements.* There is no present danger, except in an emergency, of a water shortage, although the demand for water has increased 22 per cent in the northern and 15 per cent in the southern industrial districts.

Respectfully yours,

GEORGE S. BURGESS,

Chairman.

STATE OF NEW JERSEY
STATE WATER POLICY COMMISSION

19 Washington Street,
East Orange, N. J.,

September 21, 1942.

*Honorable Charles Edison,
Governor,
State House,
Trenton, New Jersey.*

DEAR SIR:

The emergency water supply act (Chapter 24, Laws of 1942) was approved March 25th, preliminaries were discussed with you a day later, and first action was taken by the State Water Policy Commission March 31st. Subsequent procedure is told in the accompanying text and exhibits.

Increase of Available Water Supply

Necessities of the hour have governed the course of the commission.

First, and most important, was the conservation of the diminishing supply of water in Wanaque Reservoir—largest in the State. Representatives of the municipalities concerned were consulted, and, with their agreement that the action was necessary, the commission ordered the Passaic Valley Water Commission to increase the volume of water taken into its system from Passaic River, through the filters at Little Falls, by 25,000,000 gallons a day. This supply was substituted for a like quantity of water which the system had been receiving from Wanaque Reservoir. The Passaic River water would have flowed down the river and out to sea, hence its use was equivalent to an addition of that much to the water in storage in Wanaque. This curtailment of one supply and the substitution of another

netted 2,300,000,000 gallons up to August 22nd, when the danger to Wanaque passed and the order was rescinded. The potent factor of copious summer rains should not be overlooked, however, for the river ordinarily is too low to permit such a large conservation of water at this season of the year.

Supplementing this means of adding to the available water supply, the commission directed Newark to substitute water going to waste from the Pequannock Reservoirs, in place of Wanaque water, to the extent of 10,000,000 gallons a day. This netted 303,800,000 gallons to Wanaque up to June 11th, when Pequannock no longer overflowed at Macopin Dam.

Finally, the commission authorized North Jersey District Water Supply Commission, after agreement with the Artistic Weaving Company, at Pompton Lakes, to cease letting down from Wanaque Reservoir the 10,000,000 gallons a day necessary to maintain the flow of Wanaque River at a level to satisfy riparian rights. This netted 800,000,000 gallons to Wanaque up to September 1, 1942.

These three conservation measures added 3,403,800,000 gallons to the quantity of water available from Wanaque. The reservoir holds about 29,000,000,000 gallons. The heavy requirements of war industries have kept water in storage down to 18,000,000,000 to 20,500,000,000 gallons, in spite of exceptional rainfall and emergency conservation. While preventing the supply from being lowered to the danger point, the rains also caused a let-up in lawn and garden sprinkling, estimated to have saved a further 200,000,000 gallons during July and August.

Interconnections—New

The table of "New Interconnections" in the exhibits reveals what has been accomplished with the problem of new interconnections. Thirteen have been ordered at time of writing (September 18th), two are up for hearing, and two were completed without order. Total 17. Estimated cost of 15 on order, or completed, is \$111,000. Volume of

water interchangeable daily through them is 96,700,000 gallons. Allocation of costs between beneficiaries has not been determined in all cases—may be subject to change in others. It is not given in detail for these reasons. In round numbers the State will pay \$63,000, municipalities and water companies will pay \$48,000. The latter will stand most of the cost of planning and supervision.

Sufficient interlocking of supplies has not been easily attainable. Three interconnections have been put in. One—between the Newark (Pequannock) and Wanaque lines—made possible the aforementioned saving of 303,800,000 gallons. Equipment was already in hand, however, and priorities were not necessary; the work was done expeditiously by the North Jersey District Water Supply Commission and the City of Newark; and paid for by the former with money in its capital account.

Three municipalities in South Jersey beat the commission to the job. Knowing that the interconnections were recommended by the commission two years ago, Haddonfield and New Jersey Water Company were joined together in the fall of 1941. Moorestown and Chester Township were interconnected immediately after passage of the emergency water supply act and before the commission could get around to considering their needs.

Right here may be as appropriate as anywhere to emphasize the fact that, while all municipalities and water companies have co-operated with the water policy commission, appreciation of the importance of the interconnection of water supplies and an eagerness to help have been most evident among the municipalities in the Camden area of the State.

None of the larger and more vital interconnections has gotten beyond the paper stage. This is due partly to the fact that it has taken time to work out plans; to determine the proper division of costs and responsibilities between the State on the one hand and municipalities, their agencies, and water companies on the other. The fact that the commission is an intermediary, and neither owner nor operator of water supplies, makes it necessary to work within the

scope of authority of others. This is being done, however, with mutual understanding.

The representatives of the War Production Board advised uniformity and standardization of equipment for groups of interconnection projects. To save time it was then suggested that all applications come from this commission wherever local factors permit.

Interconnections—Old

Opponents of a general interlocking of supplies in metropolitan areas of the State have stressed a claim that supplies were interconnected already to a sufficient extent. While the claim was never justified, yet in some instances areas did seem pretty well covered. However, the important fact was not revealed that, in most cases, these old interconnections were installed to provide succor in the rare case of conflagration, and they have been allowed to become neglected as occasion for their use has failed to arise.

In a cursory examination, the commission found that comparatively few of these old interconnections, some of which were constructed 15 or 20 years ago, have undergone inspection tests, or ever been used for a sizable interchange of water between systems. In a few instances, inspection tests revealed valves rusty and "frozen" so that they could not be operated without danger of rupture. Of course, such an interconnection is worse than none at all, for its existence in assumed readiness for use sets up a sense of unwarranted security. This commission found that, in one instance, the owner had pointed to an unsafe—probably unusable—interconnection, and had given the existence of that interconnection as a reason why another contemplated by the commission should not be ordered.

Therefore, the commission has, by letter, asked the mayors of 87 municipalities in which there are interconnections, to ascertain whether they are in perfect working order and can be operated efficiently on short notice. They have been requested to report the facts so that the commission will be in a better position to proceed with a course

of action that will insure general interconnection of the numerous, partially related sources from which the larger centers of population and industry get water.

Joint Operation Board

Our commission has created a Joint Operation Board, which, in a serious emergency, will have charge of the numerous water systems supplying the northeastern industrial section of New Jersey and operate them for the common good. If there is sabotage or bombing on a scale sufficient to cause a critical disruption of service, this Board will be responsible for methods employed in the interchange of water for relief of endangered communities.

Through the cooperation of the cities, commissions and water company they represent, our commission has been able to appoint to this Board the operating executives of the five systems serving the greatest number of people and industries. They have the most intimate knowledge of the technique of water supply operation on a large scale. They are in an advantageous position to render the largest extent of public protection in event of such a holocaust as that which might readily follow widely scattered fires and broken water mains.

The Board comprises the following:

CHARLES H. CAPEN, North Jersey District Water Supply Commission.

CHARLES J. ALFKE, Hackensack Water Company.

WILLIAM G. BANKS, City of Newark.

RICHARD E. BONYUN, Passaic Valley Water Commission.

HAROLD M. OHLAND, City of Jersey City.

The Board has been sitting regularly throughout the summer, working evenings as well as in daytime. Thus far it has agreed upon steps to be taken in the joint operation of its member-systems. It has formulated a set of operating rules to be followed in conceivable situations.

It has discussed these with the 22 local distributors served by its member-systems. The Board is now ready to proceed with the determination of the relationship of the remaining supplies—first with the water superintendents and engineers of Union and Middlesex Counties—then groups from other counties as fast as practicable.

In the uniquely disjointed situation of a large metropolitan territory like that of the northeastern counties, where 33 independent water supplies strive to do their job separately from each other, such a Board as that which the commission has created is imperative in the present circumstances. The Board and our engineers, though none of our men has had operating experience, have worked together admirably. They have applied themselves to the task with earnestness, force and efficiency. We cannot too highly commend them collectively and individually. They are rendering the State a service obtainable in no other way.

Supreme Command

The first thought was that the Joint Operation Board could take full charge in an emergency. While it is developing ways to provide protection in the over-all emergency, still its members cannot wholly neglect their own water systems. Functioning as well as the Board has, it became evident that here, as in other phases of the war, a supreme command is required. If a crash comes there will be no time for group deliberation. There must be one person in authority to act. Action, in any case, is certain to involve interchange of water, which this commission has the power to require.

The five members of the Joint Operation Board will exercise this power, under such rules as the commission may ratify. Subject to the approval of the agency he represents, each member, in rotating periods of a week at a time, will represent our commission. He will have full authority for the period to direct the operation of water supplies in the northeastern industrial counties, if, and

when, the aid of one may be necessary to keep the system of another in operation.

Later it may be expedient to apply a similar arrangement in the central and southern industrial districts of New Jersey.

Costs of Water Interchanged

The water policy commission is charged with the determination of "the rates, price, standby charges, terms and conditions" upon which water is interchanged between systems. Pending further experience, decision in this matter has been deferred. This policy was adopted after repeated conferences with agencies thus far participating in interchanges. Parties at interest are far apart in their claims. Competitive selling in the North Jersey Water Supply District has given rise to complications, concerning which much has been said in the press and in the courts for many years. Hence, all concerned have agreed we'd better let that issue ride for the present—perhaps until next winter, or even after the war, when events may have determined benefits derived.

Consumption of Water

The five months since passage of the emergency act have seen some things accomplished, but the crucial period lies ahead. Eight years ago, the commission said that water supplies of the northern counties were insufficient to meet the draw-down to which they would be subjected if drought and prosperity arrived together. In the intervening years, there has been no such combination of events. There is no certainty, however, that they will never occur simultaneously. Twice we have had threatening droughts. Now we have a business boom with an unprecedented call for water.

Together, the northern supplies are daily delivering over 321,000,000 gallons of water—16,000,000 more than at the peak of the inflation of the 1920s, and 58,000,000 (22 percent) more than in May, 1940, when "war" industries began business as "defense" industries.

Water rationing has been made unnecessary simply because of blessed rains.

The industrial area along the Delaware River from Trenton to Woodbury has increased its requirements since 1940 by 8,000,000 gallons a day (54,000,000 to 62,000,000—15 per cent). The underground supplies and those taken from the Delaware River are ample, except in long periods of dry weather, or unless interrupted by violence or accident. Danger from these causes will be lessened with completion of interconnections.

Expedition of the Work

The Legislature affirmed in Chapter 24 that:

“1. It is found and declared that an emergency exists affecting the water supply in this State arising out of the inadequacy in interconnections between systems of water supply and a want of flexibility of the water supply in this State; that this emergency situation has been made more urgent and dangerous by war conditions; that unless interconnections and delivery through said interconnections are immediately provided, serious danger exists that the ordinary needs for water for domestic and industrial purposes cannot be met; that the danger is accentuated by possible destruction of reservoirs, and the destruction or breaks in pipe lines through sabotage or other means; that the lack of interconnections interferes with the preventing of the spreading of conflagrations, endangers life, health, and property, impedes the maximum and continuous production of war materials and the operation of camps and of housing for war workers; that this emergency requires immediate interconnections of sources of water supply and transmission and distribution systems and the making of water available at points where most imminently needed, as far as practicable; that this act is an emergency law necessary to preserve, protect and promote the public welfare, health and safety and is enacted in the exercise of the police power of the State.”

Taking the Legislature at its word, the commission hastened to comply with that edict. The commission accepted the premise that the worst can happen. With that as a spur it set about to expedite installation of interconnections. The commission assumed that the important thing was to get them in and ready for business. It knew that red tape had to be cut—legal barriers hurdled. That has been its guiding purpose.

Helps

The commission has been materially aided in its emergency undertakings by the Cities of Newark and Jersey City, the North Jersey District Water Supply Commission, the Passaic Valley Water Commission, the Hackensack Water Company, and, in lesser respects, by other municipalities and water companies. The commission for years has been under-staffed, and it was in no position to undertake the additional responsibilities which it was called on to face by the emergency act. We early obtained the part-time assistance of Arthur L. Sherman, member of the staff of the Chief of Engineers of the War Department in Washington, and one-time assistant chief engineer of this commission. A sufficient staff of properly equipped persons was not to be had at wages payable and the commission just could not have carried on had it been compelled to depend entirely on its own man-power.

Hindrances

The Legislature gave the commission the green light when it passed the emergency act, but at the same time left the green light on for a maze of cross traffic. What with civil service rules and wage scales, compulsory work programs before money could be released, purchasing procedure, local bond and budget brakes, legal formulae, and slow-plodding public hearings, the emergency program has been retarded to the point where delays may prove serious, if anything happens. It has become costly already. Peace-time formats should be out for the duration.

Equipment for interconnections that could have been secured promptly in June, now cannot be obtained in less than four months. Most bids in hand set delivery dates as far away as 24 to 30 weeks. One pump manufacturer asks 8 to 10 months for delivery. Higher priorities, increased orders and scarcity of raw materials are the causes. Which means that tying together of the main supplies, in the manner ordered, may have to wait till the frost is out of the ground next spring, thus unnecessarily jeopardizing the lives of 3,000,000 people and the operation of several hundred industries producing for war.

The commission has been handicapped by lack of legal advice, and has had to draw up its own legal papers as best it could. The Attorney-General was asked by letter, April 28, 1942, to give us more of the time of Mr. Robert Peacock. The assistant Attorney-General has too many other assignments, however, to give the water policy requirements more than passing consideration, and we are where we were a year ago in this respect.

Realization Needed

Public consciousness has not awakened to the importance of a water supply. Any large city, or industrial area, can be taken by an enemy through the severance of its means of procuring water. Stories from abroad, and much that has been written, tell of the appalling consequences to life and property from the destruction of water supplies.

The tragedy is aptly epitomized in this laconic interview: When an "expendable" returned home from the Libyan Desert, he was asked what he did first. "I rushed to a faucet and there I cried."

Respectfully submitted,

FORSTER W. FREEMAN,
ERNEST J. HOWE,
THURLOW C. NELSON,
HERBERT K. SALMON,
GEORGE S. BURGESS, *Chairman.*

EXHIBITS

	<i>Exhibit No.</i>
New Interconnections	1
Emergency Orders Issued to Conserve Storage in Wanaque Reservoir	2
Typical Interconnection Order	3
Typical Notification of Hearing on New Intercon- nection	4
Wanaque Reservoir—Water in Storage	5

New Interconnections

Order No.	Description— Systems Involved	Hearing Ordered	Hearing Held	Inter- connection Ordered	Esti- mated Cost	Transfer Capacity MGD	Priority Obtained	Work Begun	Work Com- pleted
2	Wanaque—Pequannock (New- ark)	3/31/42	4/6	4/13	\$4,000	10	Not Needed	4/14	5/4/42
5	Wanaque—Jersey City	5/4/42	5/20	6/9	20,000	25	9/15	....	....
6	Wanaque—Pequannock	5/4/42	5/20	6/9	20,000	25	9/14	....	....
7	Pequannock—Jersey City	6/9/42	6/29	6/29	13,000	25	9/16	....	....
8	Camden—New Jersey Water Company	6/9/42	6/29	6/29	1,000	1	....	....	....
9	Camden—Merchantville- Pennsauken Water Comm.	6/9/42	6/29	6/29	4,135	1	....	7/16	....
10	Camden—Gloucester City	6/9/42	6/29	6/29	7,000	1	....	....	....
11	Gloucester City—Mount Ephraim	6/29/42	7/20	7/20	450	0.6	....	....	....
12	Merchantville-Pennsauken Water Comm.—Twp. of Chester (Burlington Co.)	6/29/42	7/20	7/20	8,000	0.5	....	....	....
13	Rahway—Middlesex Water Co..	6/29/42	7/20	7/20	26,456	6	....	8/1	....
14	Verona—Commonwealth Water Company	7/20/42	8/10	8/10	(Modification Pending)				
15	Montclair—Commonwealth Water Company	7/20/42	8/10	8/10	645	0.4	....	....	....
16.	South Orange—Commonwealth Water Company	7/20/42	8/10	8/10	1,700	0.3	....	....	....
	Moorestown—Chester Township	6/29/42	7/20	....	\$4,883	0.3	....	3/25/42	6/1/42
		(On alloca- tion of Costs)							
	Haddonfield—New Jersey Water Company .....	....	....	....	335	0.6	....	10/15/41	11/7/41
			HEARINGS PENDING						
	Pequannock—Passaic Valley Water Commission	8/20/42	9/21	....	....	....	....	....	....
	Jersey City—Town of Kearny ..	8/20/42	9/21	....	....	....	....	....	....

Emergency Orders Issued to Conserve Storage in Wanaque Reservoir

<i>Order No.</i>	<i>Issued On</i>	<i>Order Issued</i>	<i>Compliance Began</i>	<i>Order Suspended</i>	<i>Daily Quantity Million Gals.</i>	<i>Total Conservation Gallons</i>
1	Passaic Valley Water Commission ... To increase diversion from Passaic River at Little Falls and reduce diver- sion from Wanaque Reservoir.	4/7/42	4/11/42	8/22/42	10	2,300,000,000*
2	City of Newark To transfer Pequannock water to Wanaque system.	4/13/42	5/4/42	6/11/42	10	303,800,000
3	Passaic Valley Water Commission ... To further increase diversion from Passaic River at Little Falls and re- duce diversion from Wanaque.	4/23/42	4/23/42	7/10/42	15	*
4	North Jersey District Water Supply Commission—Waiver of requirement to maintain dry-weather flow of Wanaque River below dam	5/14/42	5/22/42	9/1/42	10	800,000,000
TOTAL						3,403,800,000 gals.

* Combined quantity of water conserved under Orders Nos. 1 and 3.

Typical Interconnection Order

To: THE CITY OF ORDER No.
and Issued Under Provisions of
 THE CITY OF Chapter 24, P. L. 1942
, 1942.

You are hereby notified that the State Water Policy Commission has this date passed the following order, which you are directed to observe insofar as it comes within your purview:

ORDERED, That, because the highly industrialized portion of the northeastern counties of the State is dependent on insufficiently flexible water supplies, endangering whole communities through possible loss of water by sabotage or other act of war, it is the judgment of the State Water Policy Commission that an emergency exists requiring preparation for the furnishing of water through an interconnection to be constructed as hereinafter specified, and as considered, 1942, at a hearing of representatives of the agencies whose supplies are to be connected; NOW, THEREFORE, It Is

ORDERED, That the City of be, and hereby is, directed forthwith to construct, and to maintain in readiness for use at any time, an interconnection of its pipe line with the pipe line of the City of, at a location on Street, in the City of, County, New Jersey; and

ORDERED, That the aforesaid interconnection shall be of such size and capacity, and shall be equipped with sufficient pumping facilities, to permit the transfer in either direction of a minimum of million gallons of water per day; and

ORDERED, That the City of prepare the necessary designs, drawings, and specifications for the construction of the aforesaid inter-connection and submit them to the State Water Policy Commission for approval; and

ORDERED, That the City of _____, upon approval of the aforesaid designs, drawings and specifications, obtain prices in accordance therewith for the construction of the aforesaid interconnection and cause the work to be done in accordance with a contract first to be approved by the State Water Policy Commission; and

ORDERED, That the cost of construction, including materials, equipment and direct labor, shall not exceed the sum of dollars without the approval in writing of the State Water Policy Commission, and that the said cost is to be paid one-third by the City of, one-third by the City of, and one-third by the State of New Jersey, the said charge to the State to be payable from the interconnection revolving fund set up by Chapter 24, P. L. 1942; and

ORDERED, That, after approval by the State Water Policy Commission, cost of designs, drawings, preparation and award of the construction contract and supervision other than that furnished by the State Water Policy Commission shall be shared equally by the City of and the City of, in further consideration of the benefit and advantage that the two systems will receive by reason of the interconnection herein ordered; and

ORDERED, That the planning and construction of the interconnection shall, at all times, be subject to the supervision of a duly authorized engineer of the State Water Policy Commission; that the accounting and auditing of costs, and

approval of vouchers chargeable to the interconnection revolving fund, shall be done by a representative of the State Water Policy Commission, in accordance with its system of accounts, and that the expense therefor be paid from the interconnection revolving fund or other State appropriation; and

ORDERED, That a copy of this order be served forthwith on the City of and on the City of

Attest:

Secretary.

BY ORDER OF
STATE WATER POLICY COMMISSION,
Chairman.

Exhibit No. 4.

Typical Notification of Hearing on New Interconnection

To: THE CITY OF HEARING NOTICE No.
Issued Under Provisions of
Chapter 24, P. L. 1942
....., 1942.

You are hereby notified that the State Water Policy Commission is considering the advisability of ordering the construction of an interconnection of the public water supply systems of the and at a location on in the City of and County of, New Jersey.

The State Water Policy Commission will hear the owners and operators of the aforesaid public water supply systems in the office of the Commission, 19 Washington Street, East Orange, New Jersey, at A. M.,, 1942, for the purpose of determining the advisability of ordering the said interconnection, fixing of the responsibility for the construction thereof and the apportionment of the costs therefor.

Attest:

Secretary.

BY ORDER OF
STATE WATER POLICY COMMISSION,
Chairman.

WANAQUE RESERVOIR WATER IN STORAGE

NEW JERSEY STATE WATER POLICY COMMISSION
GEORGE S. BURGESS-CHAIRMAN

