B R I E F I N G

before

ASSEMBLY AGRICULTURE AND ENVIRONMENT COMMITTEE

on

(Water Supplies and Drought Conditions)

July 31, 1985
Room 114
State House Annex
Trenton, New Jersey

MEMBERS OF COMMITTEE PRESENT:

Assemblyman Robert P. Hollenbeck, Chairman
Assemblyman Stephen Adubato, Jr., Vice Chairman
Assemblyman Robert C. Shinn

ALSO PRESENT:

Mark O. Smith
Office of Legislative Services
Aide, Assembly Agriculture and Environment Committee

* * * * * * * *

TABLE OF CONTENTS

* * * * * * * *

jb:1-88

ASSEMBLYMAN ROBERT P. HOLLENBECK (Chairman): On June 3rd, we had a public hearing dealing with the water supply question in the State of New Jersey. Of course, things were a lot more bleak looking back on June 3rd than they are right now, thanks to the good person above us all and, also probably because of the decent management of the Department. I'll give credit where credit is due.

There were unanswered questions at the June 3rd hearing. There were some reports that we were supposed to have for the last hearing, but we didn't receive them at that time. We just recently received them from the Department. The reports deal with the expenditure -- where it was appropriated from, what bond issue it was charged from, and the contract numbers. I think the Department submitted a very good report to us. It is something they should have had in the beginning, and I think it is a very valuable document for the Department to have. If we accomplished that much, it was worthwhile.

I would like to start the hearing by introducing the members of the Committee to the public. Of course, my name is Robert Hollenbeck, Chairman of the Committee. Stephen Adubato is Vice Chairman of the Committee. To my left is Bob Shinn. Mark Smith is our Committee Aide. Glenn Beebe is from partisan staff. We are also joined by Assemblyman Bennett Mazur, who has introduced a resolution. He directed this Committee to have these hearings.

We have with us John Gaston, the Director of the Division of Water Resources, and Richard Dewling, the Deputy Commissioner. Will you start, John?

JOHN GASTON: Let me bring you up to date as to where we are concerning the drought.

RICHARD DEWLING: I want to give you a couple of charts that I would like to speak about, which will give you some feel about where we are and where we are going. (Passes out charts to Committee)

The chart I would like to refer to first is entitled "Conservation Impact on Reservoir Storage as of 7/23." That is one of the four charts in the package I gave you. It is the second chart.

Going back to when we initially went into the drought problem, we took several actions that we felt were necessary in order to anticipate what might happen if we had some lower-than-normal rainfall. We looked at the option of taking some of the flows in some of the rivers to reduce the flows and to bank some of the water. We also went through a program of transferring water, particularly from mid-New Jersey up to the northeastern part of the State.

For example, we directed Newark to take an additional 20 million gallons a day from the Elizabethtown system, which meant that the Newark system was able to bank 20 million gallons a day in their reservoir system.

Between water transfers and reduced-stream requirements, we have been able to make some significant savings of water in terms of total billions of gallons. I think you can see that on those two charts. We saved 5.9 billion gallons of water, plus another 4.1 billion gallons of water, based on the types of actions we took.

When we went on the Phase 1 restrictions -- the outdoor conservation -- on April 17, there was no washing of cars and no watering of lawns. The outdoor use was something we figured we could get a 15% savings on.

A month later when we went on rationing, the indoor rationing-- In April, things looked very bleak. We had very little rainfall, and the reservoirs were rather low. If you look at the other chart, it basically shows you where we would be today -- where normal is -- and where we are because of the conservation measures that we have had in place. The conservation measures I'm talking about are primarily four: the rationing; the conservation from outdoor use; the stream diversions; and, the transfer of water from mid-New Jersey.

Our reservoir systems should be at 86%. All right? That chart, as of last week, showed 77.5%. As of today, the combined capacity of the reservoirs in northeast New Jersey is at 80%. If we did not initiate the actions we took much earlier, we would be at 56.7%, which is the same boat New York City is in right now.

We had the flexibility of moving water through the interconnections and the rivers to get us out of the periods when we had no rainfall.

In June, we had excessive rainfall, and we have had average rainfall for July.

The way the prognosis is right now for the northeast, I doubt very seriously that we will have to consider any option of going back on rationing at all.

We looked at scenarios of where we would be in the fall and what issues we would have to address if certain rainfall patterns didn't persist. If you look at the chart that gives you a perspective of what has happened over the past six months-- If you look at the top chart, it shows you the normal fill-and-draw capacity that the reservoirs have. You can see that in June, the reservoirs are normally full. Then you start going through depletion. Then you start filling again in October.

The 1984/85 drought, if you go back to April when we made the declaration, hit the line of the drought record, which was in 1964. If you'll remember, we said, "This could be the worst drought on record." We didn't know if the line was going to go down or up. Normally, at that time of the year, the reservoir levels are dropping, and you would expect the reservoir levels to keep dropping because we are getting into the high-use periods.

Because of the four actions we took, combined with Mother Nature, who helped us, we were able to increase the capacity in terms of additional volume into the reservoirs.

The next option, when we made the decision of whether or not to relax rationing, was a worst-case scenario -- where would we be, and where might the reservoirs be in the fall? If we were to look at "A," which is normal precipitation in draft without rationing, where would we be in the fall of the year? In October, our reservoirs would be at 60%. All right? That is with normal precipitation. Right now we are at 80%. If we have normal precipitation, with the restrictions we have in place right now, our reservoirs should be no lower than 60% by the fall. That is not out of the woods relative to a drought, because you should be at 70%. But, the impact is significant in terms of the savings.

If you look at 60 years of records, we took a worst-case scenario, and we said, "Well, we want to be 95% sure of our decision." We are 95% confident that we will have equal to or greater than 63% of normal rainfall between now and the end of the year. If we have 63% rainfall, where will we be? We will be at point "B." If we had released rationing, we would be at point "C." So, the impact of rationing is 3.5 billion gallons over that protracted period of time. We felt confident that we could relieve the rationing requirement.

If you look at a doomsday scenario -- the drought of the 1960s -- assuming worst-case conditions, our reservoirs would be down to the 40% level, which is above the position they were in during the drought of the 1960s. We felt confident that with maintaining proper management and maintaining the ethic that we are still in a drought-- I think that is the important thing; we are still in a drought condition. We have not eased any restrictions relative to washing of cars, watering of lawns, and things like that.

In fact, just yesterday we started a major outreach program to try to have people made aware of what the problems are. As of yesterday, McDonald's started to put doilies on their trays in English and Spanish telling people how to save water in their homes.

If we look at what happened when we stopped the rationing, at the time, we estimated we were saving about 23% or 24% of the water supply. That combination is broken down by outdoor use and indoor use. We have seen a climb from the 299 million gallons, which is the total consumption in the northeast, to about 322 or 323 million gallons. As you can see, it hasn't leveled off yet.

The only cushion we have for the conservation is the outdoor use. As you can see, as soon as you go off something, the trend is for people to say, "Well, look, we have had all this rain; I can't believe there is still a drought." There is a drought. The reservoirs are not where they should be; therefore, I doubt very seriously if we would take any position, unless we have a very unusual amount of rainfall over the next couple of months, where we would release any type of restriction for the watering of lawns and the washing of cars.

The situation in the northeast is improving. The situation in the coastal areas along the Delaware is getting worse.

The salt wedge in the month of July moved up about 10 miles to mile post 78. The Schuylkill is up around mile post 92. Additional restrictions have been placed on New York, and we are controlled by the DRBC relative to the flows in the river, maintaining the water quality conditions, and the flows in the river past Trenton. Right now, conditions in that area are somewhat dependant upon New York City.

Again, I don't see any requirement to go to any higher levels of restrictions in the Delaware. You know, I don't see any requirement for rationing because the salt water wedge is not the same type of issue that we had in terms of no water in the reservoirs. However, I think we are going to have to maintain that level of vigilance to assure ourselves of conservation in that area.

To that extent, we are not happy with the rate of enforcement we are getting in that area. This week I will be meeting with the police chiefs in the area. I have also gone to the papers to try to re-instill the fact that we are in a drought. It is somewhat difficult for folks down there to perceive that because the ground water levels are what we are worried about, that is, the salt coming into the ground water.

Normally, the ground water feeds the rivers. Right now, we have the river feeding the ground water. When that trend is reversed because of long-term over-pumping of the systems, we have a higher potential for ground water contamination.

The concern down there is real. New York has declared a drought emergency; Pennsylvania has done the same thing; and, Delaware has made a recommendation to the governor. I don't see things improving in the Delaware Basin.

Last week when we had two inches of rain as a result of the tropical storm Bob, the New York City reservoirs got less than one-half inch of rain. They have had some very unique problems.

With regard to the George Washington Bridge interconnection, the design is being done, and we are moving ahead with that for permanent installation, which will be in place by fall of this year.

The Lake Hopatcong potential has been field tested. It was tested last week, and I have certified to the folks up there that it is

highly unlikely that we would use that facility for pumping this fall. We gave them a chronology of what conditions we would consider: pumping relative to the levels of the Boonton Reservoir; when we would have to start pumping; and, when we would have to shut down pumping. Lake Wawayanda is also being activated just in case.

While they are there, there is a contingency plan. I do not anticipate having to use Lake Wawayanda or Lake Hopatcong this summer at all. If we have normal rainfall through the fall, I doubt we will have to use them.

That is a general update, and I would be happy to answer any questions regarding the drought.

ASSEMBLYMAN HOLLENBECK: I have a couple of questions. Other than the fact that we picked up 300 million gallons of water in savings -- from your own mathematics on one of your charts; it is the first chart you showed us -- it doesn't total right.

MR. DEWLING: That is million gallons per day.

ASSEMBLYMAN HOLLENBECK: Yes, but that totals 14.4, and you have 14.7.

MR. DEWLING: Which chart are you looking at?

ASSEMBLYMAN HOLLENBECK: The first chart -- Conservation Impact on Reservoir Storage as of 7/23/85. Someone added wrong.

MR. GASTON: At least we have two significant figures correct. We updated these charts when the announcement was made to remove rationing. In the intervening time, I think we saved almost another two billion gallons. So, the program to conserve and manage the resources is one that has been significant and will continue to be significant, particularly when we have normal or near-normal rainfall.

ASSEMBLYMAN HOLLENBECK: The other question that bothers me is the combined storage of the reservoirs. What is that total figure? What is the total number of the combined storage?

MR. DEWLING: We maintained a separate level for the Hackensack/Newark/Wanaque system. We show a combined total for those three reservoirs.

The Jersey City Reservoir, which is a very large watershed, and a very small system, is added as part of that, which puts it in the

95 percentile. So, when you add all four, the combined capacity is 79.9%.

If you would look at the Hackensack/Newark/Wanaque system, it is 77%.

ASSEMBLYMAN HOLLENBECK: When you say that-- I have been watching this in the papers, and they say that last week, Hackensack was at 67%. Was it?

MR. DEWLING: Well, Hackensack was at 67.6% on the 25th, and now they are at 71.4%, so for commonality in the press, what we have been doing is using the same baseline. As long as we used the same base, we were able to make the delta -- you know, the judgments.

ASSEMBLYMAN HOLLENBECK: In other words, we are talking about the total capacity of the reservoir in billions of gallons, a total of the whole--

MR. DEWLING: (interrupting) That is right.

ASSEMBLYMAN HOLLENBECK: (continuing) --and how much is in each reservoir, as being the percentage.

MR. DEWLING: Percent full, right.

ASSEMBLYMAN HOLLENBECK: Rather than saying, "We have two reservoirs. One is half full; one is full. We are 75% full."

MR. DEWLING: Right. We are giving the combined total of all the reservoirs and saying that right now, the combined total is four reservoir systems. There is more than one reservoir in some of the systems that are almost 80% full. We should be at about 85% or 86% full.

MR. GASTON: The total capacity of reservoirs up there is 69.2 billion gallons. That is the absolute number in volume terms that we have to work with.

ASSEMBLYMAN HOLLENBECK: When you talk about that, is that all usable, or is there a period of unusable when you get the reservoirs down to a certain level?

MR. DEWLING: When you get down to 10%, 12%, or 15%, you can't use that.

ASSEMBLYMAN HOLLENBECK: It is not usable, so in reality that is not a--

MR. DEWLING: (interrupting) Right. But, you know, when talking about where you should be in terms of percent full and where you are in terms of percent full, there is an understanding of where the magnitude of the problem is. It is a relative order of understanding the magnitude of the problem.

ASSEMBLYMAN HOLLENBECK: Bob, do you have any questions?

ASSEMBLYMAN SHINN: When you were talking about the salt line, relative to the Camden draw-down situation, how has the drought affected that particular area? I guess the salt lines are moving north in that particular area?

MR. DEWLING: Again, in one three-week period in July, it moved 10 miles. It was pretty stable prior to that point in time, primarily because we had rain. Something else that is helping it, with the Delaware and Raritan Canal still out, is an additional quantity of flow -- 100 million gallons a day -- that we are not using and that is still going down the Delaware River to keep the wedge down. That is being monitored daily. We have cut back and made additional releases from the reservoirs to assure that in New York State, the trout streams, as well as the water quality, pass the Trenton area. We had the lowest flow in Trenton earlier this year that we have had in years.

ASSEMBLYMAN SHINN: The management relative to that particular situation in Camden is releasing water to try to move the salt line southerly?

MR. DEWLING: The objective is to keep flows in the river to such a quantity as to prevent it from moving up. That would contaminate the well supplies in the area.

Again, the problem is that 50% of the river flow is recharging the ground water. Years ago, it was reversed. Years ago you would have more of the ground water recharging the river. Obviously, that is not something that happens over night. I'm saying, it is not like when you are watching this thing that it is a protracted type of situation over a period of months. These droughts don't last just one or two months. You are talking a cycle of 18 months to two years or three years.

The wedge right now is not at a critical stage, but as New York City goes -- as DRBC has to make their adjustments, and as we have to made recommendations for additional releases from the reservoir systems -- it is based on the Supreme Court decision for the compact. We have to assure ourselves that that fresh water flow is maintained both for water quality and for maintenance of keeping the wedge down.

It is difficult because we have had-- Down south the other day, they were saying how great the crops were because they have had a lot of rain. There is no question about that, but over the years, we have seen the depletion of ground water resources in the area. The Camden area will more than likely be the next area we will address as a critical area in limiting the amount of water taken out of the ground and using other sources of water.

ASSEMBLYMAN SHINN: That seems to be the most critical area in our part of the State.

MR. DEWLING: Right.

ASSEMBLYMAN HOLLENBECK: Assemblyman Adubato?

ASSEMBLYMAN ADUBATO: My question is not so much of a technical nature about the drought situation; it is more of maybe a dilemma that I face as I run into a lot of constituents. It seems to me that this is still the top issue on people's minds in terms of public visibility. I don't think there are many issues that people can articulate about -- that they feel that strongly about; State issues that affect them so personally. At least in my legislative district, when people talk to me about the drought situation, the immediate issue that they raise is the bond moneys that were put up in 1981, which they have had a lot to do with. We have had the opportunity to hear a very elaborate, detailed, and sophisticated explanation as to where we are right now as a State in terms of our water supply, where we are going, and how we have to get there.

What can the Department do for individual legislators, or all legislators collectively or more importantly, for the people of New Jersey who want to know more about it, in a very simple fashion? Explain to me exactly why we are in the situation we are in, in light of the money spent, or the money supposedly being spent, since 1981. I

know we going through all of this right now, but I guess what I am saying is, it seems that the message is not getting out to the people. The issue is not raised any less, but it is still raised in the context of the money that they think was supposedly spent, or is being spent based on the bond act that was passed. What kind of outreach program is being undertaken by the Department to deal with that? Unless it is just the people in my legislative district, which I don't think it is, who talk about the drought in connection to that money--

MR. DEWLING: (interrupting) Well, I think we have gone to the editorial boards to try to demonstrate to them where the moneys have been spent. I think the issue here deals with an understanding of cash flow versus obligations. You know, the job for the Delaware and Raritan Canal will be completed in the fall. We haven't spent the money, but we have obligated it. We basically saved several million dollars by borrowing money at a cheaper rate than by using the bond money.

Some of the other issues deal with the Manasquan project, which we are obligated to fulfill. It is almost the same argument with Superfund. You know, you make commitments, and you have to obligate to assure the completion of those projects.

The cash flow starts out small, and then it gradually builds, the same as it does when you are building a house. You pay for the foundation; you don't give them all the money for the whole house. As you go along, you provide the cash flow.

I would be happy to meet with any group, or whatever the case might be, to try to explain this. We have done it on closed circuit television. We have gone out to public meetings to discuss this, but it is still the same old problem of understanding clearly the difference between cash flow and obligation.

ASSEMBLYMAN ADUBATO: Okay.

MR. DEWLING: If you could suggest something, we would be happy to participate, if you would like us to.

ASSEMBLYMAN SHINN: I would like to carry that point one step further, if I may, just for my own clarification. In municipal and county government, we use bond anticipation notes for short-term money

before we get into long-term obligations. Are you doing the same type of thing at less interest?

MR. DEWLING: Yes.

ASSEMBLYMAN SHINN: Are you basically borrowing on notes so that you get into the project significantly enough--

MR. DEWLING: (interrupting) Yes, right. Then we are able to save money. The project -- the dredging of the Delaware and Raritan Canal -- is just about complete.

ASSEMBLYMAN SHINN: Has the permanent financing been sold?

MR. DEWLING: I don't know.

MR. GASTON: Rocco is here.

ROCCI RICCI (speaking from audience): I would like to elaborate on that. I am Rocci Ricci from the New Jersey Water Supply Authority. The Delaware and Raritan Canal project is ours.

Using the State appropriation as a fiscal support, we went into the private market and sold tax-exempt commercial paper. Just yesterday, we sold $11 million at 4% for about 45 days. That has been going on for almost two years now.

Of course, we have invested the unneeded money at given times. As we have needed it for cash flow, we have used it.

Right now, we are beginning discussions with the Treasurer to enter into a long-term loan agreement to take down the short-term tax-exempt commercial paper with a borrowing from the 1981 Water Supply Bond Fund. That will take place probably by the end of this year.

ASSEMBLYMAN SHINN: But, you are going to physically sell bonds in the marketplace at some point?

MR. RICCI: The Treasurer will.

ASSEMBLYMAN SHINN: The Treasurer will do that?

MR. RICCI: Yes.

ASSEMBLYMAN SHINN: And, that is going to be fairly soon?

MR. RICCI: Yes, by the end of this year.

ASSEMBLYMAN SHINN: Good. Thank you.

ASSEMBLYMAN HOLLENBECK: We will probably be getting a little bit more of that when we hear testimony from Mr. Ricci.

With regard to the appropriated moneys for conservation/education, how much of that has been spent? The one and one-half million?

MR. GASTON: The master plan provided $1 million for conservation. I believe appropriations total about $500,000. We have modest commitments that have been made from the Bond Act to fund the conservation program, but of the money that we collected from the 1980/81 drought, which was left over -- surcharges that were collected -- $125,000 has been committed to the Public Information Program that has been ongoing for, I think, at least eight weeks. It has resulted in the ties that Deputy Commissioner Dewling talked about with McDonald's. I believe we are going to do something with Seven Eleven. We also have some posters that were made up which say, "Save Water, Every Drop Counts." There is a larger one that illustrates in simple terms how you can save water, and it has been broadly distributed.

A stuffer has been put together with essentially the same kind of information that will be made available to municipalities and water companies. The utilities are mass distribution to the public at large.

From a practical standpoint, with respect to our conservation program, because of the events of the drought, we have accomplished about four years' of activity in the last six months because the audience out there is receptive to hearing about it. We are optimistic that we can continue to utilize the base that has been produced here with the resources that are available in the 1981 Bond Act to continue the program beyond the period of this drought, and to have significant long-term savings result from individual, as well as commercial and industrial, water conservation.

MR. DEWLING: I'll be honest with you. We had a major utility ready to put these in their billings, but because of the rainfall and the changing conditions, they are becoming concerned that if we send these out, all of a sudden we may be out of the drought within a short period of time. We are spending a lot of time convincing people, because they go out and they see the rain. Tomorrow we are going to have rain; today we are going to have rain. We are

having a hard time convincing people that we are in a drought. We are seriously in a drought -- not a serious drought, but we are in a drought. Some of the utilities which agreed earlier to use these as stuffers in their billings got a little bit nervous and said, "Well, we have to have a crisis before we are going to distribute something like this."

MR. GASTON: Assemblyman, regarding that, I think we have to go to the next step in terms of the conservation program that has been successfully accomplished in the electric utility area. The electric utilities are now actively promoting conservation as part of their program of promoting themselves. While the water industry is a different industry in New Jersey, because we have 631 utilities -- not three or four as we do in the electric utility area -- we need to somehow move to the next step, which says that part of the business is the business of promoting the conservation ethic, as well as the business of promoting the sale of water. That is a tough nut to crack, but it is one we know we have to work on because of the enormous expense that goes along with new capital facilities, and the common sense that goes along with the fact that it is better to save a gallon of water than it is to try to build in places where people don't want us to build facilities. They are questioning this because we haven't made a maximum effort in the conservation area.

We have a lot of work to do, and we are going to have to work with the utilities and the utilities' access to the public at large to get the message across.

ASSEMBLYMAN HOLLENBECK: The question dealing with conservation, because it is here-- I'm asking for an opinion. In reference to the utilities trying to recover their cost of lost revenues during periods of drought, do you think having that recovery of lost revenues during the period of mandatory conservation and rationing undermines that particular effort? I am not implying that they shouldn't be considered to recover their cost of lost revenues, but I am saying, during that period of drought and rationing-- Do you think at that time, they should be asked to recover the moneys for that, or should it be done at a later date?

MR. GASTON: Mr. Chairman, that is what one calls a loaded question.

ASSEMBLYMAN HOLLENBECK: I'm well aware of that. (laughter) It is a loaded bill; I introduced it. That is why I am questioning it.

MR. GASTON: Well, I think as a practical matter, from a political standpoint, it doesn't make sense. From an economic and a business standpoint, it does make sense. There needs to be a down-the-middle way of dealing with that problem.

The utilities have rate structures that are not responsive to the lowering of the amount of water they furnish. In the ideal world, you would have two elements to a bill: One element would be a variable cost that would be associated with the cost of furnishing water directly on a volume basis; another element would be a fixed cost, which would represent the cost that would be ongoing in the operation of a business.

Because of the complexities of setting rates through the BPU and locally, not all of the rate structures reflect that kind of a circumstance. So, when you have a drought, water use goes down and revenues go down faster than the costs associated with them. That dilemma has to be dealt with. It has to be dealt with in a way that makes both political and economic sense.

ASSEMBLYMAN HOLLENBECK: I know that was a loaded question; it was a tough one. But, it seems to me, as far as pure conservation is concerned, to do that during a period of rationing undermines the whole concept because people say, "I use less now, but I have to pay more, so why should I use less?"

MR. GASTON: It is a difficult to sell; there is no doubt about that. Common sense says that if you use less, you should pay less.

For commercial establishments, we used the 1.33% multiplier on any use in the aftermath of our experience last time when rationing was proposed.

ASSEMBLYMAN HOLLENBECK: I know the question was loaded, but eventually I think the Department is going to have to look at that, possibly when the question comes up before the BPU which, I'm sure, it

will. The Department, I guess, will be testifying with reference to that.

MR. DEWLING: The hope was that if we had the rationing long enough, with the 1.33% increase within the other areas, that we could have offset those costs with those moneys to prevent raising the rates.

ASSEMBLYMAN HOLLENBECK: We had discussions at the last hearing with reference to the permits for the Passaic River, which you addressed in a letter to me, dealing with the quality of water -- that there were 91 waste water permits, or treatment plants. Right?

MR. GASTON: Yes, sir.

ASSEMBLYMAN HOLLENBECK: I assume you have now gone through them, as you explained in your letter, to see which of them were not meeting the standards. I think you said they are, but some are scheduled for further improvements in order to meet their permit requirements. You have been monitoring the Passaic River during the drought for water quality, and you don't find any appreciable decline in water quality.

MR. DEWLING: It is where it normally is during the summer.

ASSEMBLYMAN HOLLENBECK: Normally do you have the condition that was cited in the paper the other day where people were complaining about the odor from the water?

MR. DEWLING: Well, that was a problem where we requested a release of additional water from the Boonton system. Early on in the year, the facility released some of the water from the lower part of the reservoir from the mud gates, so some of the water in the bottom which had silty material in it came out.

Then we had the problem at the waste water treatment plant up there. Combine that with the fact that there is low ground water. With the rain moving very rapidly and getting out of the area, we now have exposed mud flats. Now, we are going to start getting odors.

ASSEMBLYMAN HOLLENBECK: When you say that approximately 25% of the conservation effort was because of reduced stream flow requirements, is there a penalty for doing that?

MR. DEWLING: There is a trade-off on all of these decisions. When we say we are going to hold back water for public use in terms of drinking--

ASSEMBLYMAN HOLLENBECK: (interrupting) Did you drop the stream flow requirements in the Passaic River?

MR. DEWLING: No, we did not -- not in the Boonton reservoir at that point.

ASSEMBLYMAN HOLLENBECK: Where were they dropped? I'm curious about the Passaic Valley Water Commission's--

MR. DEWLING: (interrupting) We dropped them in the Wanaque River, the Raritan River, and the Upper Passaic River.

ASSEMBLYMAN HOLLENBECK: But, that all impacts on the Passaic Valley. In other words, they are all downstream of that, aren't they?

MR. DEWLING: That is right.

ASSEMBLYMAN HOLLENBECK: So, that impacted on the quality of water?

MR. DEWLING: That is correct.

ASSEMBLYMAN HOLLENBECK: What about the quality of water in the Pompton River?

MR. GASTON: Well, in the Pompton River--

ASSEMBLYMAN HOLLENBECK: (interrupting) At the contours.

MR. GASTON: (continuing) --We reduced the stream flow in the Ramapo, and we reduced the let-down from the Wanaque Reservoir to conserve the pool of the Wanaque Reservoir.

The Pompton River water quality is generally better than the Passaic River quality simply because upstream you don't have the same kind of exposure. That pattern has continued this year. When I say pattern exposure, I mean you don't have the same number of waste treatment plants discharging into the Pompton River.

When the Wanaque South project is completed, the problem that the Passaic Valley Water Commission has had of taking direct Passaic water, will be in a position to be dealt with. One of the features of the Pompton/Passaic pumping station for the Wanaque South project will be adequate capacity to take as much Pompton water as possible for Passaic Valley, thus improving the water quality during the periods of the year when the Passaic River water quality diminishes. That will be a side benefit that has been built into the design of the project.

ASSEMBLYMAN HOLLENBECK: Is that raw water or treated water?

MR. GASTON: Well, it will be raw water and then treated at the newly upgraded Passaic Valley Water Commission plant.

ASSEMBLYMAN HOLLENBECK: I just did not want to leave the impression that the problems with water in the Passaic Valley are really satisfied at the moment. Are they?

MR. GASTON: There have not been severe concerns, as there have been in past droughts. They are something we have been conscious of, and the Passaic Valley has been conscious of them. This year Passaic Valley is producing between 45 million and 50 million gallons of water because they are dismantling the old portion of their plant to rebuild it. The rebuilt facility certainly will be capable of producing a higher quality product, as many of our systems will be in the future.

ASSEMBLYMAN HOLLENBECK: Commissioner, thank you very much. John, thank you very much. Rocco? John, we'll see if someone else picks up your mathematical error.

MR. GASTON: That is right. That is a problem you have when using calculators these days.

ASSEMBLYMAN HOLLENBECK: We have Mr. Rocco Ricci, who is the Executive Director of the New Jersey Water Supply Authority. He was formerly with the EPA, formerly Commissioner of the DEP, and formerly with the Passaic Valley Sewage Authority. You haven't been able to hold a job, have you? (laughter)

MR. RICCI: I have been accused of that.

ASSEMBLYMAN HOLLENBECK: Mr. Ricci, do you have something you would like to start with?

MR. RICCI: Just a very brief overview, if that is okay. To put the Authority's mission into perspective, I would like to go over how it was brought about, and essentially what our main activities have been since its creation in 1981.

Basically, the Authority is responsible for operating the preexisting State water supply facilities, namely the Spruce Run/Round Valley reservoir system in Hunterdon County, the entire Raritan Basin, and also the 60-mile Delaware and Raritan Canal, which conveys our entitlement -- or, it should convey our entitlement -- of 100 million gallons per day of Delaware River water into central New Jersey.

The existing facilities that I've just mentioned provide the basic supply for about 1.2 million people in central New Jersey. Additionally, they provide some drought insurance for the northeastern part of the State. Commissioner Dewling and Director Gaston mentioned the fact that we are delivering 30 million gallons a day of Raritan Basin water through the Elizabethtown Water Company into the northeastern part of the State. That is no small part of the total needs of the northeastern water purveyors. I believe, if I am not mistaken, that their current use is about 300 million gallons per day on a reduced basis. The 30 million gallons a day, which are currently going through Elizabethtown, represent about 10% of that need.

In addition, the Authority is under contract with DEP to activate and operate, when necessary, the Lake Hopatcong emergency pumping station. Of course, the purpose of this system is to pump water in an extreme emergency from the Delaware River Basin -- that is, Lake Hopatcong -- into the Boonton system in Jersey City. The water can then be transferred to the other purveyors in northeastern New Jersey.

This 25-million-gallon-a-day system has been reactivated by the Authority under contract with DEP, and it is now ready, should it be needed at some time in the future. I daresay that you can look upon this 25 mgd as a diversion of the Authority's Raritan Basin D&R Canal system because should that 25 million gallons a day be diverted to northeastern New Jersey via the system, the Authority must reduce its withdrawal via the D&R Canal. We don't get any extra water; we have a fixed budget; and, we have to live within the budget.

Similarly, the Authority has been, just within the past couple of weeks, requested by DEP to reactivate the Lake Wawayanda pumping facility which, again, is an emergency facility -- pumping it out of Lake Wawayanda into one of the City of Newark's reservoirs.

Of greater significance, I think, relative to the concerns of this Committee and people in general, is the fact that this fall, the Authority will complete the dredging of the Delaware and Raritan Canal. Just to put it into perspective in terms of how important this project is -- it was identified as an immediate project in the State

water supply plan -- during the spring, summer, and fall, the flows in the Canal dropped off to as little as eight to twelve million gallons per day. We have contracts for the D&R Canal water of 65 million gallons per day. Obviously, it meant that we had to make up the deficit out of the two reservoirs, and we have that capability.

When this $20 million project, which is ultimately going to be funded by a loan from the 1981 Water Supply Bond Fund, is completed, we will restore the flow carrying capability to our full entitlement of 100 million gallons per day. I would also like to stress that that 100 million gallons per day is during non-drought periods. Whenever there is a drought or an emergency declared, under the agreement through the Delaware River Basin Commission, the Authority must reduce its budget from the Delaware Basin to 65 million gallons per day.

Shifting gears just slightly, it is important to point out that we have a more insidious problem in places such as Monmouth County and northern Ocean County where the problem is mining of the ground waters. As an example, in Monmouth County, the use of ground water amounts to about 40 million to 45 million gallons a day. The total use in that area is about 70 million to 75 million gallons a day.

The mining of the ground water in this area has resulted in the major aquifers undertaking a rapid decline in their water levels to the extent that there are places along the coast where the water level is 240 feet below sea level. At the turn of the century, if you went out and measured where the water would come in a freestanding casing in the ground, it would probably have come up to the ground surface, or rise above the ground surface due to pressure. That is a very serious problem, and therein lies the reason for the master water supply plant having identified the Manasquan water supply project, which is a surface supply, as one of the priority projects for the State. That was one of the projects referenced to earlier as having been included in the 1981 Water Supply Bond Act.

The New Jersey Water Supply Authority was commissioned by DEP to undertake the development of this important new surface supply, which is basically pumping from the Manasquan River, building a dam, and constructing a reservoir. The engineering and environmental

studies were completed by the Authority this past fall. We had public hearings on permits for the State. We have applied to the Federal Corps of Engineers for our Federal permits, and we are ready to proceed with the projects. As a matter of fact, we recently received State approval. We are now awaiting the completion of the Corps of Engineers' environmental impact statement on the project.

We are still striving to adhere to a fast-track time schedule for the project. That means that we propose to begin design this fall, hopefully, even in advance of getting the Corps of Engineers' environmental impact statement completed. Because of our public involvement program, we believe that the project has had every aspect studied. It is a very important project; the aim is to start construction by the beginning of 1987, and to complete it by 1990, at which time we will begin to replace the existing use of ground water with this new surface water supply.

All New Jersey Water Supply Authority systems have to be operated on a totally self-supporting basis. Therefore, our rate schedules for the sale of water from existing and future facilities, such as Manasquan, must cover all costs -- debt service, as well as operational and maintenance expenses.

We will incur short-term debts, such as we incurred temporarily on the D&R Canal, as well as long-term debts. The Authority, by statute, has the ability to float its own revenue bonds. That will undoubtedly be the source of long-term financing for future projects beyond the Manasquan project.

Mr. Chairman and gentlemen, I prepared this brief statement as an overview of our activities. I have provided you with a copy of our annual report, and for more detail, I have provided you with various aspects of the Authority's activities. In there, you will find a brief discussion of our financing program for the Delaware and Raritan Canal, especially the successful tax-exempt commercial paper program, which, Mr. Chairman, I daresay, in our judgement, has saved our ratepayers about $4 million to $5 million because of the much lower cost of money during construction by virtue of following the tax-exempt paper program. Also, we haven't had to increase our rates for construction during the period of construction.

Recently, we raised our rates effective October 1 so that we will have the funds to pay back the long-term debt. It is an example of the financial planning and approach of the Authority.

Also included in the report, because I understand from Mark there was interest in how we plan our capital projects, you'll find a copy of our five-year capital program as it relates to the existing system -- that is, the Spruce Run/Round Valley reservoir system and the Delaware and Raritan Canal. The Manasquan project is discussed in some detail in a separate section of our annual report.

Those are basically the prepared remarks I wanted to make. I'm sure you have some questions of me.

ASSEMBLYMAN HOLLENBECK: Let's go into a couple of them. All right? In reference to the D&R Canal Rehabilitation Fund, there is $6,410,000 from the 1976 Clean Water Bond Issue. All right? There is also another $1,632,000. Where did that come from? Was that from--

MR. RICCI: (interrupting) The $1,632,000 was from the 1980 Natural Resource Bond Act.

ASSEMBLYMAN HOLLENBECK: Natural Resource. All right. Are those particular obligations now within your rate structure?

MR. RICCI: Those are not. I would like to draw a distinction, if I may. The first number you mentioned, Mr. Chairman -- the $6,410,000 -- was appropriated prior to the creation of the New Jersey Water Supply Authority. It was to implement a capital improvement program, which has been submitted, I think, even as early as 1974 or 1975. The reason I happen to know that is, that was one of my first requests of Michael Galley, our chief engineer, when I started working for DEP. That was about 1974.

The 1976 appropriation was essentially to implement those things that were really needed to keep the Canal from falling apart because it had been totally neglected for several decades.

Part of that money was spent pre-Authority creation. The balance of the money remained available to the Authority without a need to pay it back for the stated projects -- projects that had been stated previously.

ASSEMBLYMAN HOLLENBECK: The need to pay it back by whom?

MR. RICCI: By our ratepayers.

ASSEMBLYMAN HOLLENBECK: Where did that come from?

MR. RICCI: From the Attorney General's opinion. I think--

ASSEMBLYMAN HOLLENBECK: (interrupting) Do you have the number of that opinion?

MR. RICCI: Yes, I have a copy of the opinion. On the Manasquan funds, which came out of the same project, the design--

ASSEMBLYMAN HOLLENBECK: (interrupting) I'm talking about the D&R--

MR. RICCI: (interrupting) I'm just relating it to the fact that the opinion relates to funds appropriated from the same 1976 Bond Act for the design of the Manasquan project, as well as the other question you asked me, which is relative to the 1980 Bond Act. I can provide you with a copy of that opinion.

ASSEMBLYMAN HOLLENBECK: So, in other words, you have a legal opinion that any moneys appropriated from anything other than the 1981 Water Supply Bond Act do not have to be paid back?

MR. RICCI: No. There is an opinion which deals with the repayment of the 1958 bond funds used to construct the reservoir system -- that is, the Spruce Run/Round Valley reservoir -- and also the 1969 bond funds, which were used to construct the outlet pipeline from Round Valley. That is a different opinion, and we can provide you with copies of that as well.

ASSEMBLYMAN HOLLENBECK: Do you have a second opinion dealing with the 1976 Clean Water Bond Act?

MR. RICCI: As it relates to Manasquan? There was never anything specific--

ASSEMBLYMAN HOLLENBECK: (interrupting) What about the D&R Canal?

MR. RICCI: There was never anything specifically related to that in writing.

ASSEMBLYMAN HOLLENBECK: You have just extended that to the D&R Canal?

MR. RICCI: I didn't extend it.

ASSEMBLYMAN HOLLENBECK: Did the Authority extend that same opinion to the D&R Canal?

MR. RICCI: Yes, sir.

ASSEMBLYMAN HOLLENBECK: What about the moneys used from the Natural Resources Bond Act?

MR. RICCI: That is covered specifically in the opinion I just referenced.

ASSEMBLYMAN HOLLENBECK: In other words, from the 1980 Natural Resources Bond Act, it is not within your projected rate base to repay those particular loans.

MR. RICCI: That is correct. There is a good reason for that, Mr. Chairman, aside from the legal reasons, which is what the opinion states. The fact is, the existing ratepayers do not need that interconnecting pumping station. It is there essentially to provide the Authority with the ability to transfer water from the Raritan Basin -- that is, the river -- from the reservoirs into the Canal whenever the State makes a judgment that water has to be diverted up into the northeastern part of the State.

As I referenced before, when Lake Hopatcong is activated at 25 million gallons a day, and the George Washington Bridge would be activated at 20 million gallons a day during a drought, the amount of water we could take-- The Canal will be reduced from 65 million gallons down to 20 million gallons because you deduct the 45 million gallons a day.

We would then have to operate the pumping station in order to provide our Canal customers with sufficient water. That is a technical rationale to point out that that is really drought insurance for the larger part of the State.

ASSEMBLYMAN HOLLENBECK: The point is, at the last hearing, we were led to believe others of the Department. There was quite a discussion with reference to how we were going to pay the money back to those acts. There was also quite a discussion about dealing with the policy of the Legislature, as set, that those who use, pay. It was reaffirmed by the Department; they understood it. They went through some explanation as to how this was going to occur and how it was going to be paid back. I questioned how it would be done without some legislation.

MR. RICCI: Mr. Chairman, if I--

ASSEMBLYMAN HOLLENBECK: (interrupting) That was the impression left with us. There was quite a discussion about it. Now we are finding out that they are not going to repay it.

MR. RICCI: Mr. Chairman, if I may-- First of all, I wasn't here when that part of it was discussed. Ed and I had to leave during the afternoon.

There is a very important distinction. The customers of the Raritan Basin -- our customers -- do not benefit from this particular pumping station during drought periods.

ASSEMBLYMAN HOLLENBECK: They benefit from the D&R Canal, and you spent money for the D&R Canal.

MR. RICCI: That is being paid back. The 1981 bond issue is being paid back.

ASSEMBLYMAN HOLLENBECK: No, I'm talking about the other issue.

MR. RICCI: That, sir, as I mentioned--

ASSEMBLYMAN HOLLENBECK: (interrupting) The clean water issue.

MR. RICCI: As I mentioned before--

ASSEMBLYMAN HOLLENBECK: (interrupting) The 1976 clean water issue.

MR. RICCI: As I mentioned before, that appropriation--

ASSEMBLYMAN HOLLENBECK: (interrupting) What about the 1976 appropriation for the feasibility study of Manasquan? Is that being paid back?

MR. RICCI: That is what I just referenced. That will not have to be paid back.

ASSEMBLYMAN HOLLENBECK: What about the D&R rehabilitation? Isn't that being used by the people who use the water? Isn't that for their purposes?

MR. RICCI: Which funds are you referring to? Are you talking about--

ASSEMBLYMAN HOLLENBECK: (interrupting) I'm referring to the $6.4 million.

MR. RICCI: I was trying to answer your question by pointing out again that that appropriation was passed prior to the creation of the Authority. It was a judgment of the Legislature and others that the capital improvements identified in 1974/75 had to be carried out posthaste. It is just that some of these projects are continuing.

ASSEMBLYMAN HOLLENBECK: The $2.9 million wasn't done at the same time, was it?

MR. RICCI: Pardon me?

ASSEMBLYMAN HOLLENBECK: The $2.9 million was done by the Public Laws of 1981.

MR. RICCI: I said that some of these projects are continuing. We still have some--

ASSEMBLYMAN HOLLENBECK: (interrupting) What about the outstanding debt dealing with the Round Valley reservoir and the initial construction in 1969?

MR. RICCI: Well, that is what I referenced before. We have a totally different legal opinion on that, and we have a repayment schedule and agreement with the Treasurer. Our ratepayers, in fact, are paying back.

ASSEMBLYMAN HOLLENBECK: That is for the initial construction of the two reservoirs.

MR. RICCI: And, also the released pipeline from the--

ASSEMBLYMAN HOLLENBECK: (interrupting) And, the released pipeline from it.

MR. RICCI: From the 1969 Bond Act.

ASSEMBLYMAN HOLLENBECK: But, that did not include anything for the D&R Canal in 1969?

MR. RICCI: No, sir. That appropriation was specifically for the released pipeline, and then there was a subsequent appropriation, which is identified in here, for the Dam Safety Program, which is essentially to upgrade some features of the dam. Much of that, if I am not mistaken, was committed pre-Authority creation.

ASSEMBLYMAN HOLLENBECK: Basically what you are saying is that-- Your position, other than the two reservoirs, is that the original bonds for the construction of the reservoirs, which are

Authority obligations, are in the rate base. The emergency projects that were done -- some for the improvement of the D&R Canal -- are not the in rate base.

MR. RICCI: Well, let me make sure I understand what you--

ASSEMBLYMAN HOLLENBECK: (interrupting) For everything that would be taken out of the 1981 Bond Act, the water supply would be in the rate base.

MR. RICCI: Everything from the 1981 Bond Act will be in the rate base, and it is, as a matter of fact. We have just gone through a seven-month rate-making process, and the new rate to repay the money spent on the Canal dredging has resulted in a $41.98 per-million-gallon increase effective October 1 of this year.

ASSEMBLYMAN HOLLENBECK: What about the Manasquan River feasibility study -- the $2.8 million -- out of the 1976 Clean Water Bond Act?

MR. RICCI: And, some money out of the 1980 Bond Act.

ASSEMBLYMAN HOLLENBECK: Is that in the rate base?

MR. RICCI: That is not in our rate base.

ASSEMBLYMAN HOLLENBECK: That is a Water Supply project, isn't it?

MR. RICCI: It is a project that we were asked to study by DEP to determine whether it was feasible or not. We have to keep in mind that we cannot incur debt unless--

ASSEMBLYMAN HOLLENBECK: (interrupting) Well--

MR. RICCI: (continuing) --If I may just complete it, Mr. Chairman, we can't incur debt unless we can be assured of the revenue flow.

The Manasquan project is really not an obligation of our current water users. The appropriation for the feasibility study, again, was made pre-Authority, and the DEP asked us to determine whether this project was--

ASSEMBLYMAN HOLLENBECK: (interrupting) It was created at the same time as the Authority -- in 1981.

MR. RICCI: The design money was received from the 1976 and the 1980--

ASSEMBLYMAN HOLLENBECK: (interrupting) I'm talking about-- The $2.6 million--

MR. RICCI: (continuing) From the 1976 and the 1980 bond funds.

ASSEMBLYMAN HOLLENBECK: Yes, it was from the 1976 bond funds, but it actually was incurred in 1981. You are saying that that--

MR. RICCI: (interrupting) That is correct. It was a source of funding to implement a priority recommendation of the Water Supply Master Plan.

ASSEMBLYMAN HOLLENBECK: But, you're saying that should be a general obligation from the State. That Water Supply project is--

MR. RICCI: (interrupting) I didn't make that judgment, Mr. Chairman. That is a judgment that was made by others.

ASSEMBLYMAN HOLLENBECK: I'm just trying to correct an impression that was made at the last hearing. It was just the other way around.

MR. RICCI: Let me just make a point, if I may. Let's assume that the Manasquan project, through the feasibility study -- there are a lot of complex issues -- was judged not to be feasible. Would our ratepayers in the Raritan Basin be expected to pay that amount of money? That is really what the question boils down to.

ASSEMBLYMAN HOLLENBECK: Well, it is the same question as, should the person who lives down in South Jersey who has his own well water -- ground water -- pay for it?

MR. RICCI: Well, all I can answer there is that there--

ASSEMBLYMAN HOLLENBECK: (interrupting) You see, it is--

MR. RICCI: (interrupting) But, there are a lot of studies being funded incorrectly, in my opinion, out of the 1981 bond issue to develop the basic water plan for this State. As far as the decision of whether a project is or is not feasible is concerned, if it is judged to be feasible, then unquestionably -- this is my personal opinion -- it should be totally self-supporting, which is exactly what will happen now with the Manasquan project.

The actual engineering design, construction, and financing during construction, which is now estimated to be about $72 million, will be part of the rate base for the beneficiaries of that system. I think, without a doubt, that is the correct way to go.

ASSEMBLYMAN HOLLENBECK: I think that was the policy, which said, "Those who benefit should receive, and they should pay for it." That was the policy set, except we find out that not all of it is being done that way. That is the question we have, and that is not the impression which was left by the Department at the last hearing.

MR. RICCI: If I may, I shouldn't try to interpret--

ASSEMBLYMAN HOLLENBECK: (interrupting) I know you left the hearing early. Possibly you would have corrected their testimony.

MR. RICCI: Well, I don't think I should try to interpret that. The remainder of the emergency projects is probably what they were referring to, such as the expenses of the various interconnections within the northeastern systems. The interconnection with Elizabethtown, as an example -- between Newark and Elizabethtown -- has published regulations, and they are attempting to get repayment of those moneys. As I understand it, they have, in fact, gotten some of the money almost exclusively from private utilities. Please don't hold me to that as being factual. I think that might have been the distinction that was being drawn.

ASSEMBLYMAN HOLLENBECK: What is the total amount of water sold by the New Jersey Water Supply Authority? What is that figure?

MR. RICCI: We have contracts, in round numbers, of 150 million gallons per day. I would like to refer you, Mr. Chairman, to our annual report. In there, you will find a listing of all the water customers of the Authority. It is on Page 20. We tabulate all of the contractual customers of the Authority for the Delaware and Raritan Canal water and the Spruce Run/Round Valley reservoir system. It is rounded off to about 150 gallons from the Raritan Basin system.

Some of it listed there is really in the Delaware Basin, and we don't have to account for that in terms of our taking from the Delaware River.

The other part of that question might be, what can we safely deliver from the system, and not overuse it, as has been done in northeastern New Jersey? The answer to the question as to how much we could safely deliver, even during a drought, is 225 million gallons per day, which means that there is an unsold block of water currently without any capital investment of 75 million gallons per day.

ASSEMBLYMAN HOLLENBECK: I have a question with reference to the payback and the Attorney General's opinion. It is on Page 3 of Chapter 131, Section B, Line 22: "In order that all costs, whether direct or indirect, of implementing the purpose of the Water Supply Bond Act of 1981 shall be paid from the Water Supply Fund established therein, the Director of the Division of Budget and Accounting, whenever appropriate and practical, shall charge to the Water Supply Fund, and credit to the General Fund, an appropriate expenditure source, whatever sums that may have been expended from other State appropriations for the direct or indirect costs related to the Water Supply Bond Act of 1981."

What you are saying, of course, seems to be contrary to the Attorney General's opinion.

MR. RICCI: Any moneys that we use out of the 1981 Bond Act have to be paid back. As I mentioned, that is already reflected by the rate increase that has been put into effect for the D&R project.

ASSEMBLYMAN HOLLENBECK: It says, "It may have been expended from other State appropriations for direct or indirect costs."

MR. RICCI: I'm sorry. I misinterpreted what you said. You are talking about the Appropriations Act of 1981. Okay.

ASSEMBLYMAN HOLLENBECK: Yes.

MR. RICCI: Okay. I thought you were talking about the Bond Act.

ASSEMBLYMAN HOLLENBECK: That seems to fly against what you are saying is happening. That is why we are questioning it now.

MR. RICCI: Do you have the--

ASSEMBLYMAN HOLLENBECK: (interrupting) That is why when the Department was putting that position forth at the last hearing, we didn't disagree with it, except for the mechanics of how it was being done. Now, we find it is a little different.

MR. RICCI: The key thing-- There are a lot of pages here from the Attorney General. I take it you are looking at the September 8 letter from the Attorney General?

ASSEMBLYMAN HOLLENBECK: We do not have a copy of the Attorney General's opinion.

MR. RICCI: Oh, I'm sorry. I thought that was forwarded to you.

ASSEMBLYMAN HOLLENBECK: I'm looking at Chapter 131 of 1981.

MR. RICCI: Forgive me. I thought you were looking at the letter. We have -- in fact, I have it here. I thought it was sent to you by the Department.

ASSEMBLYMAN HOLLENBECK: Is there any reason why the Authority, because it has an Attorney General's opinion to divert moneys -- even after its creation -- would not use moneys from the 1981 Water Supply Act, but would use them from the Clean Water Act or one of the other bond acts?

MR. RICCI: I'm sorry, Mr. Chairman. Could you be more--

ASSEMBLYMAN HOLLENBECK: Has there been any recent actions by the Authority where they would direct that the moneys be taken out of the 1976 Clean Water Bond Act or the 1980 National Resource Bond Act for water supply? They would pull the moneys and say, "Well, we'll take it from there because we don't have to pay it back."

MR. RICCI: No, because we are still dealing with the same capital program.

ASSEMBLYMAN HOLLENBECK: On September 10, 1984, there was an appropriation for what I just cited to you.

MR. RICCI: About what? You'll have to forgive me. I can't--

ASSEMBLYMAN HOLLENBECK: (interrupting) Also, on August 6, 1984--

MR. RICCI: (interrupting) But, dealing with what project?

ASSEMBLYMAN HOLLENBECK: There is the same thing. Taking moneys from-- "Well, we are going to charge this to the other bond act because we don't have to pay it back."

MR. RICCI: I don't necessarily think that is what the minutes say. The projects we have proceeded with were identified previously under the capital program, or the Dam Rehabilitation Program. When you see that referenced in the minutes, we say that the moneys are available from--

ASSEMBLYMAN HOLLENBECK: (interrupting) August 6 and September 10.

MR. RICCI: That is correct. The moneys are available. We identified the source of funding, which we always have to do, as being available from 1976. In the case of the Dam Rehabilitation Program, it was from the 1969 Bond Act. Those are not new projects that we found just to use up excess funds. They were previously identified, and that is exactly what we are using the money for.

ASSEMBLYMAN HOLLENBECK: This was in 1984. You knew you had problems, you knew you had to do something to correct it, so you charged it to the 1976--

MR. RICCI: (interrupting) Mr. Chairman, I keep saying--

ASSEMBLYMAN HOLLENBECK: (continuing) --Clean Water Act, rather than going back to the 1969--

MR. RICCI: (interrupting) They are not the facts. The facts are that these projects-- As an example, the Siren Program -- I don't even know which project you are referring to -- for the dams was identified as being required to implement the Federal Safe Dam Act. It so happens that by the time we got through design, procurement, and everything else, these projects had gone well beyond the creation of the Authority. The same thing is true of a number of projects on the Canal.

ASSEMBLYMAN HOLLENBECK: Storm water from the D&R Canal?

MR. RICCI: That is correct. Is that the Route 1 conduit project?

ASSEMBLYMAN HOLLENBECK: Yes, the Route 1 conduit.

MR. RICCI: That was one of the identified projects. It actually goes back to a study that was undertaken by Rutgers University, which started around 1974 or 1975 -- maybe a little bit later. It came out of my initial direction to Mike Galley to find out

what we needed to keep the Canal from falling apart. They understood the study, and they identified a number of key projects.

One of the projects, as I recall, was the fact that we should be looking at things such as storm water introduction into the Canal. That was one of the projects to implement those recommendations, and it was one of the projects previously identified for the 1970--

ASSEMBLYMAN HOLLENBECK: (interrupting) This was an implementation. That was a feasbility study that was--

MR. RICCI: (interrupting) Yes, but it is the implementation -- the first step in the implementation.

ASSEMBLYMAN HOLLENBECK: Well, one is a feasibility study that you have already identified.

MR. RICCI: The feasibility, in this case, is to judge what alternates you have to solve the problem.

ASSEMBLYMAN HOLLENBECK: When you dealt with the installation of additional drainage blankets at the north and south dams--

MR. RICCI: (interrupting) Yes, that is exactly--

ASSEMBLYMAN HOLLENBECK: (continuing) --that was charged to the 1969 Bond Act.

MR. RICCI: Correct. It has been identified for quite a few years as a project that is needed to implement the recommendations of the Safe Dam Act. It goes back to days prior to--

ASSEMBLYMAN HOLLENBECK: (interrupting) You know that that was taken from the issue, and it doesn't have to be paid back?

MR. RICCI: That is correct, because that was an appropriation made to make -- it was under the State Department at that time -- those dams safe and consistent with the Federal requirements. It was a project identified for quite some years as being needed to accomplish that.

ASSEMBLYMAN HOLLENBECK: So, for anything that was identified before the creation of the Authority, we don't have to pay it back? I mean, the whole Water Supply Master Plan was done before the creation of the Authority.

MR. RICCI: Anything that was--

ASSEMBLYMAN HOLLENBECK: (interrupting) They recommended a whole mess of projects in there. I mean, don't we have to pay them back?

MR. RICCI: That is not what we are referring to. There were a series of clearly identified projects in order to improve the safety of the dams. They resulted from an inspection by the Corps of Engineers, and subsequently by consultants hired by the DEP -- through, I don't know if it was Purchase and Property or DBC -- to make specific recommendations for the installation of such things as monitoring wells in the dams to see that they are not sliding, that there is no movement of water through them, and that there is an emergency response program of which the sirens happen to be a key part. Those are all identified projects.

I wasn't here then, but I presume that was the laundry list that was submitted to the Legislature for the stated appropriation.

I might also say that-- Mike just gave me a note which points out something very important. One of the things that was not listed in the previous laundry list, so to speak, was something which came to light within the past couple of years -- that is, the need to install certain types of relief walls at the 200-foot-high south dam at Round Valley to improve its safety. That is being funded out of Authority funds, not any bond issue.

ASSEMBLYMAN HOLLENBECK: Why is that differentiated from the others? Was it identified back--

MR. RICCI: (interrupting) To make the distinction. To refute the point you were making before, when we come up with a new project, we try to pigeonhole it out of 1969 or 1976 bond money. This is being paid, as a matter of fact, out of our own funding.

As a matter of fact, if you look at the Capital Improvement Program, which is included in the annual report, on Page 15, we clearly identify all of the specific projects and the various sources of funding. The one I just mentioned is identified as Item #16.

ASSEMBLYMAN HOLLENBECK: It becomes very confusing to me sometimes as to what is and what isn't now part of the rate base that

is being considered as part of the debt service rate base of the Authority.

MR. RICCI: I guess, in simple terms, Mr. Chairman--

ASSEMBLYMAN HOLLENBECK: (interrupting) I assume you must have those numbers because you went through what is in a rate base, what made up that rate base, and what expenditures--

MR. RICCI: (interrupting) Yes, absolutely. There are several rate increases when speaking of debt service. The first rate increase went into effect, I think, on July 1, 1983. That is the one that--

ASSEMBLYMAN HOLLENBECK: (interrupting) Rate increase? Was that the first increase in rates, or the first rate applied?

MR. RICCI: No, no, it was the first increase associated with debt service. That debt service was related to our agreement for the repayment of the outstanding 1958 bonds, which were used to construct the reservoirs, as well as the folding in of the outstanding debt for the 1969 bonds used for the released pipeline. That was the first debt-service-associated increase.

The second one was proposed by the Authority last fall. We went through an elaborate hearing process, and the rate increase of $41.98 per million gallons, which is almost a 50% increase, is directly associated with the funds needed to repay the 1981 bond issue, which were used for the Canal dredging.

ASSEMBLYMAN HOLLENBECK: Who does the cost of the Lake Hopatcong interconnection? Who does that pumping station? Is that under your jurisdiction? Who pays for that?

MR. RICCI: It is under our jurisdiction. We have a contract with DEP where they will provide the funding.

ASSEMBLYMAN HOLLENBECK: They pay for it?

MR. RICCI: Absolutely.

ASSEMBLYMAN HOLLENBECK: Start and rate base?

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: The first new rate was in 1982?

MR. RICCI: I'm almost certain it was July 1, 1983.

ASSEMBLYMAN HOLLENBECK: That was your original rate in 1982.

MR. RICCI: There were several rate increases.

ASSEMBLYMAN HOLLENBECK: On November 1, 1982, the new rate was $81.80 per million gallons?

MR. RICCI: No, no, that is the operation and maintenance rate increase, the initial increase that became effective on January 1, 1983. The reason for that increase was because the Authority must be self-supporting. Therefore, the operation and maintenance expenses were not being covered by the then existing O&M rate. That took place on January 1.

The debt service that I referenced went into effect six months later -- on July 1.

ASSEMBLYMAN HOLLENBECK: Does everyone pay the same rate?

MR. RICCI: Everyone pays the same rate now. That was one of the major--

ASSEMBLYMAN HOLLENBECK: (interrupting) Let's talk about the beginning.

MR. RICCI: All right. In the beginning--

ASSEMBLYMAN HOLLENBECK: (interrupting) When the Authority first took over.

MR. RICCI: In the beginning -- not to make this biblical-- Pre-Authority, and right up until January 1, 1983, the Delaware and Raritan Canal was handled as a totally separate system as opposed to the Spruce Run/Round Valley reservoirs.

On the Delaware and Raritan Canal, everyone paid the same, except for the Middlesex Water Company at that time, and even today, as a matter of fact. In the mid-1970s, I think it was, the contract was signed, which said that their rates for our operation and maintenance couldn't be increased more than once every five years. In other words, there had to be a five-year term before it could be increased again. That contract is still in effect until the end of 1988, I think.

ASSEMBLYMAN HOLLENBECK: So, they set the rate of $50.00 per million gallons for Middlesex, and everyone else was $81.80.

MR. RICCI: No, we were able to increase their rates to, I think, $75.00 per million gallons.

ASSEMBLYMAN HOLLENBECK: Because of the five-year period?

MR. RICCI: Because of that five-year term. That is correct. My recollection is that on January 1, 1987, we will raise their rates again. But, then a year later, they will have to sign a new contract with the Authority, and there will be no differential treatment.

ASSEMBLYMAN HOLLENBECK: We are now using the same rate? You are using the same rate whether the water comes from the D&R Canal or whether it comes from--

MR. RICCI: (interrupting) That is the part I was leading up to. At that same time -- let me give you some of the earlier history -- separate contracts were signed for the use of the Spruce Run/Round Valley water when the system went into operation back in the late 1960s. There were really only two contractual customers in those days. They were the Middlesex Water Company for 10 million gallons per day and the Elizabethtown Water Company for 70 million gallons per day.

You may recall that the intent, at that time, was that a large block of water was going to be purchased by communities up in North Jersey and delivered by them to--

ASSEMBLYMAN HOLLENBECK: (interrupting) There was no way of getting the water.

MR. RICCI: But, in those days, they agreed to build a pipeline. That never came about, as you know.

When the Authority went through the initial rate-making, or rate adjustment, to make itself self-supporting -- the January 1 rate adjustment -- we said that there was no distinction between the Raritan Basin and the D&R Canal water, because from a technical point of view, a utility point of view, we were going to operate them as one system. Therefore, the rate schedule would be one and the same. That was the first time that all of the rates came together. Since that time, we have been operating in that fashion.

ASSEMBLYMAN HOLLENBECK: If the Raritan pipeline was built, would the engineering and design of that have to be paid for by ratepayers, or would that be absorbed by another bond issue?

MR. RICCI: Do you mean if there was a recent proposal to build the Raritan pipeline?

ASSEMBLYMAN HOLLENBECK: Yes.

MR. RICCI: That is a very, very difficult question to answer in this sense--

ASSEMBLYMAN HOLLENBECK: (interrupting) Well, the engineering was done prior to the creation of the Authority, and the authorization for the engineering--

MR. RICCI: (interrupting) Again, it goes back to the basic question: What is the purpose of that pipeline? If it is drought insurance for northeastern New Jersey, and not for the Raritan Basin customers, there is a basic policy issue that would have to be addressed by the Legislature and the Administration as to how you would pay for drought insurance. Do you apportion it by virtue of the benefits to be derived from that drought insurance, or do you just accept it as a general benefit to the State? That is the policy issue which would have to be answered before your question could be answered.

ASSEMBLYMAN HOLLENBECK: Yes, but, you see, that is not very consistent. I don't disagree that those are questions you have, but those inconsistencies in dealing with the construction of that pipeline-- There were statements made by the Department with reference to opposition because people didn't want to pay for the pipeline through insurance. That was one of the problems in considering the construction of the pipeline.

MR. RICCI: I'm not in a position to respond to that question.

ASSEMBLYMAN HOLLENBECK: Let's talk about Manasquan because that is a project I wholeheartedly support, and I know you are proceeding with it. Has the engineering design of that been completed, or just all of the feasibilities and--

MR. RICCI: (interrupting) We fast-tracked that project, Mr. Chairman, to the extent that a reasonable amount of some of the engineering is done as it relates to geological work -- soil borings, analysis for earthquakes, and those types of things. Basically, we have completed all of the environmental studies, all of the preliminary engineering studies, and all of the preliminary financing studies. We are now ready to proceed to the actual design of the project.

ASSEMBLYMAN HOLLENBECK: When you go into those types of studies, I assume there is one major firm that is doing the engineering study or feasibility study -- not the design; there is obviously some engineering work with that -- of that particular project. Do they bring their consultants in to do work for them to complete their study, or do you hire separate consultants to do that?

MR. RICCI: When we solicited proposals -- we had a very elaborate solicitation process -- every respondent-- I think we had about 16 or 20 groups. I have to say groups because every one of the submissions was a joint venture of several different firms dealing with expertise in various areas because of the complex issues that had to be looked at in the Manasquan project. The contract was signed with the head firm of that team.

ASSEMBLYMAN HOLLENBECK: Camp Dresser & McKee?

MR. RICCI: No, in this case, it was Metcalf & Eddy.

ASSEMBLYMAN HOLLENBECK: Metcalf & Eddy?

MR. RICCI: It was Metcalf & Eddy. They used Woodward & Clyde, who are located in Wayne, New Jersey, Arthur Young, and Holt & Ross as their team. They had several other subcontractors they used as well. That is the way the project was approached.

ASSEMBLYMAN HOLLENBECK: Is Camp Dresser & McKee a firm from Boston?

MR. RICCI: Camp Dresser & McKee has its corporate headquarters in Boston. They have a rather large office in Edison, New Jersey as well. They have one of the contracts; in fact, it is the one you asked about before. The storm water and Route 1 conduit is a job they have undertaken for us.

ASSEMBLYMAN HOLLENBECK: I don't know what made me think the other way.

MR. RICCI: Well, they were one of the finalists.

ASSEMBLYMAN HOLLENBECK: I know they were one of the final firms involved.

MR. RICCI: They were.

ASSEMBLYMAN HOLLENBECK: I questioned Camp Dresser & McKee, and I found out that they are known worldwide and have had experience

worldwide with regard to reservoir construction. It seems to me that it was finalized that they were--

MR. RICCI: (interrupting) No, no. As a matter of fact, they were one of the final four or five firms that we interviewed.

ASSEMBLYMAN HOLLENBECK: Who is the fellow named Garbisch?

MR. RICCI: (asking person in audience) Is it Dr. Garbisch?

UNIDENTIFIED PERSON IN AUDIENCE: Yes.

MR. RICCI: He is a consultant who DEP wanted to retain to do some initial work in the estuary of the Manasquan project. Basically, his expertise is in, as I recall, vegetation in the marine estuary. That was really before our consultants-- I think it was even before we retained our consultants. DEP was anxious to get an initial readout as to what the potential impacts might be of reducing fresh-water flows in the Manasquan River regarding vegetation in the estuary.

ASSEMBLYMAN HOLLENBECK: In January, 1983?

MR. RICCI: Pardon me?

ASSEMBLYMAN HOLLENBECK: January, 1983?

MR. RICCI: Well, I think there was an initial contract that predated that. Then there was an expansion, as I recall.

ASSEMBLYMAN HOLLENBECK: Who is Dr. Frank Daiber?

MR. RICCI: He is an expert in marine fisheries and that type of thing -- again, estuary matters -- who DEP wanted to retain as part of their preliminary studies of the Manasquan project. In that case, the Authority simply acted as a contracting agency for DEP.

ASSEMBLYMAN HOLLENBECK: Who is Albert Depman?

MR. RICCI: Al Depman is a recognized geological expert and was retained by the Authority with the encouragement of DEP to make some preliminary judgments as to geologically whether or not a dam and reservoir could, in fact, be built in that particular area.

Just as an example: I am sure you are aware of this, but the Hackettstowns Reservoir, which for many, many years was identified as New Jersey's contribution to solving the problems in the Delaware, was finally studied at some expense by the DEP. It was judged that it was not a feasible site for a dam and a reservoir. We wanted to make sure we avoided that case.

ASSEMBLYMAN HOLLENBECK: Who is Dr. Dan Raviv?

MR. RICCI: Okay. He is a recognized-- The people you are asking about eventually became members of our Board of Experts who advise our chief engineer, Mr. Galley, and myself on areas of expertise such as water quality, ground water geology, geology in general, and specifically dam design.

So, we have Dr. Raviv, who is a recognized expert, particularly in ground water hydrology and geology. Al Depman has many years of experience in dams with the Corps of Engineers; he is now retired, but he is a consultant. Also, we have Dr. D'Appolonia -- I think he is probably the next one on your list -- who is a worldwide recognized expert in dam design and safety. Those three members actually serve as our Board of Experts. If you are interested, we could provide you with their biographical sketches.

ASSEMBLYMAN HOLLENBECK: I'm questioning-- Doesn't the engineering firm that is doing the feasibility studies hire their experts? Don't they do that? Don't they have experts involved?

MR. RICCI: They do all of the design work and all of the report writing for any major project. That is almost without fail. It is considered extremely proven to hire a couple of experts -- a very limited number of people -- to review the output of the consultants to make sure all of the issues are addressed properly and thoroughly.

The Merrill Creek project here in New Jersey is a major project, but it goes without saying that for any major project, particularly one as complex as Manasquan, you would take that approach.

ASSEMBLYMAN HOLLENBECK: We had the engineers-- We were already in the engineering phase by the time we hired those experts. We have gone through the feasibility phase; we have also--

MR. RICCI: (interrupting) This was during the feasibility phase.

ASSEMBLYMAN HOLLENBECK: Pardon?

MR. RICCI: This was during the feasibility phase.

ASSEMBLYMAN HOLLENBECK: Well, we already had $3.3 million to deal with the design, didn't we?

MR. RICCI: That is the total--

ASSEMBLYMAN HOLLENBECK: (interrupting) For Manasquan?

MR. RICCI: That is the total budget available for all of the expenses, including the expenses of Dr. Daiber, Dr. Garbisch, and the Board of Experts I mentioned.

ASSEMBLYMAN HOLLENBECK: That is for the design?

MR. RICCI: We are in a feasibility environmental study.

ASSEMBLYMAN HOLLENBECK: But, that wasn't for any design? That was only for the feasibility?

MR. RICCI: Except, as I mentioned earlier, we went somewhat further in determining what the geology was of the area. We spent a lot more money on soil borings, for example, to find out what was underneath the reservoir to make sure it would, in fact, hold water, which is a major concern in the coastal plain.

ASSEMBLYMAN HOLLENBECK: Let's just check your minutes of 9/12/83, all right?

MR. RICCI: Sure.

ASSEMBLYMAN HOLLENBECK: Let's see what they say. They say, "Executive Director Ricci also mentioned in an August 3, 1983 memo from Deputy Commissioner Arbesman, dealing with the question of the Authority's obligation to repay moneys appropriated for the design of the Manasquan water supply project..." He noted that the Attorney General's opinion stated that "The Authority would not have to pay back the $3,330,000."

MR. RICCI: That is what I just provided you with.

ASSEMBLYMAN HOLLENBECK: So, we are not talking about feasibility; we are talking about design. That word was "design."

MR. RICCI: Right, engineering design. Included in that are these engineering feasibility studies and environmental studies which are part of every major--

ASSEMBLYMAN HOLLENBECK: (interrupting) "To repay moneys appropriated for design." Those are two different words -- design and feasibility study. This says "design."

In this particular case, it doesn't fall true with what you said earlier about designs that would be within the rate base, would it?

MR. RICCI: We have not done the design on the Manasquan project because the first step that had to be completed--

ASSEMBLYMAN HOLLENBECK (interrupting): So, the intent is that the design of the Manasquan project, regardless of what these minutes say, is going to be in rate base -- the $3.3 million?

MR. RICCI: The $3.3 million will not be in the rate base. That is the engineering feasibility and--

ASSEMBLYMAN HOLLENBECK (interrupting): The minutes are wrong.

MR. RICCI: No, the minutes are not wrong.

ASSEMBLYMAN HOLLENBECK: The minutes say "design."

MR. RICCI: Well, if one wants to--

ASSEMBLYMAN HOLLENBECK (interrupting): What brought this up, of course, is, when I went through your minutes after the last hearing and I found this inconsistency, because of the impression left with us by the Department-- I have gone through the minutes, and Lord knows how long it took me to go through them. I found that this policy is not what they stated. I found the word "design" in there. Now you are saying it is not design.

MR. RICCI: Well, it really depends upon how one defines it. The fact is, there is no major project that can proceed unless the engineering -- I'll use that word; maybe that is a better word to use -- pays a lot of attention to whether or not a project is feasible, not only from a financial point of view, but from, in this case, a geological point of view. This was very important regarding the Manasquan project, and whether or not it was considered prudent to have a water supply downstream of two Superfund sites, namely Lone Pine Landfill, and Bog Creek Farm Landfill. Last, but certainly not least, you have to touch base on an extensive environmental analysis and present the entire package before you actually get the permits from the State and Federal governments to go to final design -- we consider this preliminary design, if you want to use that term -- and actually prepare the plans and specifications, which are used to solicit bids from contractors. That is the phase we have just completed.

ASSEMBLYMAN HOLLENBECK: The engineering firm now is Metcalf & Eddy? Is that what you said?

MR. RICCI: The engineering firm that we have a contract with is Metcalf & Eddy, who uses the three firms I mentioned before.

ASSEMBLYMAN HOLLENBECK: Are there moneys they are going to use for feasibility studies if the other projects are not designed, as I was led to believe by the language?

MR. RICCI: The preliminary engineering, environmental studies, and financial studies are all part of our contract with Metcalf & Eddy.

ASSEMBLYMAN HOLLENBECK: In other words, Metcalf & Eddy did the feasibility of it? They decided it was feasible and then they designed it?

MR. RICCI: We have not designed it as yet.

ASSEMBLYMAN HOLLENBECK: You ordered the contracts for the design.

MR. RICCI: We did not. We don't have the money yet for the actual preparation of plans and specifications.

ASSEMBLYMAN HOLLENBECK: On 10/3/83, it says, "This is the authorization to award the engineering contract for Manasquan of $2,680,000 to Metcalf & Eddy."

MR. RICCI: That is for the feasibility studies I have just gone over.

ASSEMBLYMAN HOLLENBECK: What we are talking about is not design; we are talking about feasibility studies.

MR. RICCI: Yes, except that, as I mentioned to you before, in terms of geological studies, we went beyond what is normally included in feasibility studies.

ASSEMBLYMAN HOLLENBECK: Then on 4/16/84, you increased the scope of that feasibility study?

MR. RICCI: That is correct. There have been a couple of increases as a direct result of new requirements by different agencies and/or findings during the study.

ASSEMBLYMAN HOLLENBECK: I think we have a question, probably because of changes in the language. There is a difference in what your minutes say and my understanding of what you say is feasibility and what feasibility includes. I assume feasibility includes the people who are doing it and hiring consultants to help them in the process. In the meantime, the Authority also hires consultants for the same work.

MR. RICCI: It is not a duplication of the effort of the consultants, Metcalf & Eddy. Let me give you a specific example.

ASSEMBLYMAN HOLLENBECK: In other words-- Let's do it this way. For every one of those consultants you have, you have a written description of what they are doing for the amount of money they are receiving.

MR. RICCI: We have a contract and a detailed scope of work which--

ASSEMBLYMAN HOLLENBECK (interrupting): And, the scope of work includes what each of those were for?

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: Can that be compared against the feasibility study requirements for Metcalf & Eddy to see that they are not being duplicated?

MR. RICCI: Without question.

ASSEMBLYMAN HOLLENBECK: They are not being duplicated. They weren't in the first document, so you had to add them in yourselves?

MR. RICCI: There is no duplication. Can I give you an example of what I am referring to? Specifically, this is the Board of Experts. One of the major concerns in any dam design is in the preliminary engineering, or preliminary design, if you want to use that terminology. It is whether or not the geology is adequate to safely support such a structure without a movement of water beneath the structure and actually weakening the structure. We are also concerned about the proper design -- the configuration -- of the dam. How is it built? What are its safety features? Can it withstand earthquakes? All of those very detailed analyses in those areas that I just mentioned are included in the scope of work and the contract of Metcalf & Eddy. In that particular case, it was primarily done by Woodward & Clyde, a world-renowned firm in this particular area.

Those reports were then submitted to the Authority, and we, in turn, gave copies to our three members of the Board of Experts -- Dr. D'Appolonia, Al Depman, and Dr. Raviv. We asked them to review the reports as we were reviewing them, but neither Mr. Galley, our chief

engineer, nor I -- I am also an engineer -- have expertise in that highly specialized area. So, we asked them to review them, as members of the Board of Experts, and attend a couple of meetings with our consultants where they queried the work of the consultants. Ultimately, after a lot of discussion, we received a clearance from them that the work was, indeed, satisfactory and would stand a test of scrutiny by everyone. More importantly, it was a good design which was quite safe.

That is the role of the Board of Experts.

ASSEMBLYMAN HOLLENBECK: I keep looking at my notes. Excuse me. (Assemblyman Hollenbeck peruses his notes)

Two million, two hundred eighty-six million by Metcalf & Eddy. Do you have a copy of that particular resolution?

MR. RICCI: Which resolution is that, Mr. Chairman?

ASSEMBLYMAN HOLLENBECK: It is part of the minutes of October 3, 1983 dealing with the appropriation.

MR. RICCI: Oh, yes. That was the original award of the contract. Yes, surely. I don't have it with me, but I can provide you with a copy.

ASSEMBLYMAN HOLLENBECK: Would you supply us with a copy of that resolution?

MR. RICCI: Surely.

ASSEMBLYMAN HOLLENBECK: Then we can look at the scope and see if it was for design or for engineering.

MR. RICCI: Absolutely. It is a very detailed description of the scope of work.

ASSEMBLYMAN HOLLENBECK: Is the $2,680,000 different, or it is part of the $3.3 million?

MR. RICCI: It is part of the total budget; that is correct.

ASSEMBLYMAN HOLLENBECK: Of the $3.3 million?

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: So, when you enter the design, there is going to be another--

MR. RICCI: (interrupting) There has to be a-- We have to have a new source of funding.

ASSEMBLYMAN HOLLENBECK: You'll have another resolution then?

MR. RICCI: For award of the design contract to prepare plans and specifications.

ASSEMBLYMAN HOLLENBECK: Where will the appropriation of that money come from?

MR. RICCI: We are looking for an appropriation from the 1981 bond issue, as it was identified in the bond issue, with repayment, obviously.

ASSEMBLYMAN HOLLENBECK: Regarding the particular contracts you have with these consultants, will you supply that information to the Committee so we can see what their scope was?

MR. RICCI: Absolutely.

ASSEMBLYMAN HOLLENBECK: Will you supply the original one with Metcalf & Eddy so we can see that there was no duplication?

MR. RICCI: Sure. I would be happy to assist you in going through it because it is pretty extensive.

ASSEMBLYMAN HOLLENBECK: I'm not looking forward to going through it, but I will. (laughter)

MR. RICCI: As a matter of fact, Mr. Chairman, if you have an interest, we can provide you with a copy of the Summary Engineering Report and the Environmental Assessment Report.

ASSEMBLYMAN HOLLENBECK: I don't want to be inundated.

MR. RICCI: They are only the summaries. We have about 32 different reports on this project.

ASSEMBLYMAN HOLLENBECK: Your rate basically is a two-part rate. You have a two-part rate; one part is for debt service; one part requires that everyone pay equal, except for a few conditions.

MR. RICCI: Right, except for the Middlesex Water Company contract.

ASSEMBLYMAN HOLLENBECK: So, actually the rate is one when you look at it.

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: "X" amount of it is for--

MR. RICCI: (interrupting) No, we actually identify--

ASSEMBLYMAN HOLLENBECK (interrupting): I know you identify which part of your rate is for debt service and which part is for operation.

MR. RICCI: We always do. As a matter of fact, we have a published rate schedule, which goes through the State Register. It has separate sections for operations and maintenance, and also the different rate components. In fact, in our rate schedule, you will see the rate associated with the repayment of the 1958 bonds and the 1969 bonds, and also a separate rate associated with the 1981 bonds.

ASSEMBLYMAN HOLLENBECK: That is the way I read it. I saw it that way in your minutes.

Elizabethtown, which now diverts raw water-- Are you putting raw water into Elizabethtown at that rate? Elizabethtown, of course, processes water, retreats it, and sends it through their interconnection, which is not owned by the Authority?

MR. RICCI: No.

ASSEMBLYMAN HOLLENBECK: Who is it owned by?

MR. RICCI: Quite frankly, I don't know who owns it.

ASSEMBLYMAN HOLLENBECK: Who paid for it?

MR. RICCI: I can't answer that question. Are you talking about the connection between Elizabethtown and--

ASSEMBLYMAN HOLLENBECK: (interrupting) Yes, the Elizabethtown interconnection.

MR. RICCI: Elizabethtown and Newark. I know there are representatives here from Elizabethtown, so perhaps they can answer that question.

ASSEMBLYMAN HOLLENBECK: But, they treat it, and then they sell it to Newark.

MR. RICCI: They sell treated water.

ASSEMBLYMAN HOLLENBECK: They sell treated water through that interconnection.

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: All right. From the viewpoint of the Authority, is it better for the Authority to use water from the D&R Canal than from Spruce Run/Round Valley? They are the same, right? That water is drawn down from--

MR. RICCI: (interrupting) Well, that is a good question. It is a question that we answered when we first made the policy judgment that we wouldn't look at the systems as two different systems, but that we would integrate the operation of the systems. We, in fact, have the capability of maximizing the use of the Delaware & Raritan Canal water, because, in effect, it doesn't come from a reservoir, although New York City would say differently. Hopefully, when the project is completed, we will withdraw 100 million gallons per day. The intent will be to maximize the use of the D&R Canal water and reserve as much water as possible in our reservoirs. That is advantageous.

ASSEMBLYMAN HOLLENBECK: But, those two sources of water, to a consumer, mean nothing -- whether it is drawn from one or the other.

MR. RICCI: Except -- it is very dependent upon the time of the year -- it means something different to our customers, the water companies, because each one has its own peculiar treatment requirements.

ASSEMBLYMAN HOLLENBECK: Does one then have a better quality of water?

MR. RICCI: Again, it varies from time of year to time of year.

ASSEMBLYMAN HOLLENBECK: Round Valley water is expensive water, isn't it?

MR. RICCI: Round Valley is more expensive water because it is pumped.

ASSEMBLYMAN HOLLENBECK: Pumped storage?

MR. RICCI: That is correct.

ASSEMBLYMAN HOLLENBECK: As compared to Spruce Run, which is a natural drainage?

MR. RICCI: It is a run-of-the-river reservoir, meaning that the dam is right across the river, so Mother Nature fills that by gravity, and we release it by gravity. As a matter of operational procedure, we will maximize the use of Spruce Run before we start releasing water from Round Valley because of the energy costs associated with that water.

ASSEMBLYMAN HOLLENBECK: Does the Authority have a project consisting of a recent pipeline off the reservoir there?

MR. RICCI: Off--

ASSEMBLYMAN HOLLENBECK: (interrupting) I am trying to think of the name of the community. It is a small water company. Is it Bridgewater Water?

MR. RICCI: Do you mean a pipeline that--

ASSEMBLYMAN HOLLENBECK (interrupting): Yes, there was a bid waiver on the construction of a pipeline just recently for a water line.

MR. RICCI: Well, we recently rejected a bid for the contract on a couple of culverts on the D&R Canal. Perhaps that is what you are referring to.

ASSEMBLYMAN HOLLENBECK: It is the Raritan-- Is there a Raritan Water Company?

MR. RICCI: We can assure you that we don't have any project that--

ASSEMBLYMAN HOLLENBECK (interrupting): There is no pipeline being installed for a water company off of Spruce Run, or anything that has recently gone through a bid waiver procedure?

MR. RICCI: Not by us.

ASSEMBLYMAN HOLLENBECK: Son of a gun; how about that.

MR. RICCI: Do you believe it was associated with the Authority?

ASSEMBLYMAN HOLLENBECK: Yes, I thought it was because it went through Raritan Center. Wait a minute. I have to find it because-- You guys have put me through a lot of reading.

MR. RICCI: Mr. Chairman, perhaps these gentleman might have some information on that.

MR. DEWLING (from audience): Are you talking about the Krysowaty Farm water line that we are running for the Superfund site?

ASSEMBLYMAN HOLLENBECK: I don't think so.

MR. DEWLING (from audience): That is in Raritan Township.

ASSEMBLYMAN HOLLENBECK: You might be right, but it doesn't ring a bell. In May of this year, there was a bid waiver when there was a problem in Elizabethtown.

MR. DEWLING (from audience): Yes.

ASSEMBLYMAN HOLLENBECK: You're right. That is what it was for; it wasn't for the Water Supply Authority. I knew there was a bid waiver on a pipeline; I just couldn't identify for whom.

In the creation of the Water Authority, have there been areas that you find hinder the operation of the Authority, other than, of course, appearances before legislative committees?

MR. RICCI: Well, I wouldn't agree on the latter part. It is always good to air what you are doing. No, quite frankly, I really can't think of anything, Mr. Chairman, that I would identify as a major impediment.

The only thing is the $4,500 bidding restriction, which we still have. We have to do something about that..

ASSEMBLYMAN HOLLENBECK: That has been generally approved for other authorities, hasn't it?

MR. RICCI: It has, and I think the State is in the process of amending theirs as well, but it really should be done for our Authority. Quite frankly, we have just not taken steps to pursue that, but it is something that needs to be done. Other than that, I can't think of anything else.

ASSEMBLYMAN HOLLENBECK: Are you going to supply us with the information I requested?

MR. RICCI: Yes, Mike Galley has made notes, and we'll get that to you just as fast as we can.

ASSEMBLYMAN HOLLENBECK: It will be something for me to do in my spare time.

Mr. Adubato, do you have any questions? Have I raised an interest in anything?

ASSEMBLYMAN SHINN: You have raised an interest in a lot of things from my perspective.

ASSEMBLYMAN ADUBATO: The only question I was going to ask is, when we talk about a level of water in a particular water supply, I have been confused more than once about the effect that has on water quality, particularly as it has to do with the Newark water supply. As Mr. Gaston and Mr. Dewling know, we have struggled for a long time --

those of us who receive water that is owned by the City of Newark, particularly in suburban Essex County, through the Pequannock Water System.

When water supplies are particularly low, what impact, if any, do they have on water supply, if the water supply is affected by the lack of filtration plants? I mean, if heavy doses of manganese and iron, which is what is found in our particular water supply-- When water supplies are lower, does it create any more potential that there is any higher degree of-- Does the water get dirtier?

MR. RICCI: I, frankly, am not going to be able to answer that question because it depends upon-- In a general sense, it is dangerous to answer that question without seeing the characteristics of the particular reservoir and the watershed.

ASSEMBLYMAN ADUBATO: Mr. Chairman, is it possible -- I should have asked this before -- that I could ask, through you, that Mr. Dewling respond to that? I have a feeling he has the answer to it.

ASSEMBLYMAN HOLLENBECK: Surely, if it is all right with him.

MR. DEWLING (from audience): This is no question that as raw water quality changes, the level of treatment and the overview increases. If you have to add more chemicals to remove some additional solids in there -- if there should be additional coliform in there -- from a public health standpoint, it is not as much of a problem because what it does is, it stains white clothes. But, you are still obligated to meet the finished water quality regardless of what your raw water intake is.

If the raw water intake gets so bad that you can't meet your final water quality to the standards of the EPA and the State, then you are prohibited from using that as a source of water.

ASSEMBLYMAN ADUBATO: Well, this particular water supply, as Mr. Gaston knows, does not meet the State's standards. It hasn't for a long time.

MR. RICCI: If I can offer this just as something general to consider, you really have to answer that question, which is good one. You really have to know the characteristics of the reservoir and the watershed, because it could very well affect the quality of the raw water.

ASSEMBLYMAN ADUBATO: Mr. Gaston is very familiar with that situation, probably more familiar than he wants to be. My concern is that as a lay person who has been interested in the water supply in our area from that particular system, it just seems to me that if filtration is a problem, that is, filtering out a lot of particles that come into the supply in a water system that is below State water quality standards at this point-- When the water level is lower, it just seems to me to create a situation where the quality of water goes down.

MR. DEWLING (from audience): Yes, but the iron content is not going to be exacerbated by a drought.

ASSEMBLYMAN ADUBATO: What else could get into it?

MR. DEWLING: (from audience: As you have less water-- This is what we were talking about before with Assemblyman Hollenbeck. As the volume of sewage increases in relationship to the stream flow, the bacterial count may be higher, which means that you may have to apply more chlorine; and, it means you may have to apply different types of treatment systems that will surely knock out those solids.

Again, as John mentioned before, when we had the drought earlier, the Passaic Water Commission had many more problems in dealing with the raw water problems because they were having problems with ammonia and chlorine. They have not had that problem this year.

From the standpoint of iron, the iron in the water is due to a corrosive action of the water if you are getting it from the soil. Its chemical characteristics of a drought don't change.

ASSEMBLYMAN ADUBATO: Okay. Thank you, Mr. Chairman.

ASSEMBLYMAN HOLLENBECK: Mr. Shinn? (negative response) All right. Thank you very much, Mr. Ricci, for your testimony. I know it was kind of tough, but that is part of the game.

Ladies and gentlemen, we are approaching our lunch hour. I wanted to try to get Elizabethtown in, but they are going to take a little while.

At this time, I would like to break for lunch. Hopefully, we will get back by 1:30 or 1:45. I'm sorry, Mr. Cawley; I tried to get to you this morning. I know you have been waiting patiently, but we will hear from you first thing this afternoon.

We will adjourn now until 1:30.

(LUNCH BREAK)

AFTER LUNCH

ASSEMBLYMAN HOLLENBECK: Mr. Cawley from Elizabethtown Water Company?

THOMAS CAWLEY: My name is Thomas Cawley from the Elizabethtown Water Company. We weren't requested to be here. If I may, I would like to give a water purveyor's viewpoint -- the situation as we see it within the State of New Jersey at this time.

We believe that the State is moving in the right direction by expanding the reservoir capacity in the northeastern section of the State, and by taking other measures to meet the water needs of the State of New Jersey.

The other measures are described in a June, 1985 DEP document entitled "Improvements in New Jersey's Ability to Withstand Future Droughts and Water Emergencies." I think that document was referred to this morning in testimony. I think the members of the Committee have already received a copy of it.

The improvements mentioned in this document are based upon a Statewide Water Supply Master Plan that was originally commissioned in 1977 by the past Administration. The draft document was ready in 1980, and the final master plan was ready in 1982.

In 1980/81, we had a drought in the State of New Jersey, and there were a series of bills passed at that time: the New Jersey Water Supply Bond Act -- the New Jersey Water Supply Authority was created -- the New Jersey Water Supply Management Act, and the New Jersey Small Water Companies Act. During this drought, there were some emergency projects that were constructed.

The goal of the State, the Administration and staff, and DEP, in my opinion, is to develop long-range planning and management of the water supply and to spend the available funds wisely. These available funds were made available through the New Jersey Water Supply Bond Act, and the funds amounted to $350 million.

Some projects and some studies are under way, but unfortunately, these types of projects and studies take a long time to develop. The State and the water purveyors are committed to improving the water supplies of the State. During the present stress situation in the State of New Jersey, as was mentioned this morning, Elizabethtown Water Company is supplying 30 million gallons of water per day to Newark through an interconnection that has existed since 1965. It was improved in 1981.

That is my opening statement. I would be happy to answer any questions that the Committee members may have.

ASSEMBLYMAN HOLLENBECK: Who owns the interconnection between Elizabethtown and Newark?

MR. CAWLEY: It is owned by the City of Newark and Elizabethtown Water Company.

ASSEMBLYMAN HOLLENBECK: Both the City of Newark and Elizabethtown Water Company paid for the expansion of its size?

MR. CAWLEY: We paid for the initial construction of it.

ASSEMBLYMAN HOLLENBECK: The original one?

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: Then it was increased in size. The original construction of that was not to carry that amount of water. Is that correct?

MR. CAWLEY: No, the interconnection and the present arrangement between Newark and Elizabethtown is that they purchase water on an off-peak basis. By off-peak, I mean during those periods when Elizabethtown has water that isn't needed by its customers, so it could be transmitted to the City of Newark. The arrangement is for 3.65 billion gallons per year to be transmitted that way.

Before improvement, it had the capacity of about 17 million to 20 million gallons a day. During the drought, a survey of both systems was undertaken. Within the Elizabethtown section, there was a section of pipe that curtailed the supply of water, and this was improved under the emergency projects.

Also, within the City of Newark, there was more work that had to be done, mainly a booster station to transport the water from the

Wanaque system into the Pequannock system, and to improve a section of 60-inch line, which was the main transmission system of the City of Newark. The total project cost was about $6.5 million, and about $800,000 was within the Elizabethtown system.

ASSEMBLYMAN HOLLENBECK: Elizabethtown paid $800,000?

MR. CAWLEY: We did not pay that money. The State advanced the money through the Emergency Bond Act. This money is now being repaid to the State by Elizabethtown.

ASSEMBLYMAN HOLLENBECK: So, after it is paid for, the interconnection will be fully owned by Elizabethtown and the City of Newark.

MR. CAWLEY: The pipeline-- Yes, it will be fully owned by both parties. The only portion owned by Elizabethtown is the pipeline within the system.

ASSEMBLYMAN HOLLENBECK: It is not now a State-owned pipeline?

MR. CAWLEY: It is owned by Elizabethtown Water Company.

ASSEMBLYMAN HOLLENBECK: Owned by Elizabethtown Water Company. Elizabethtown Water Company has a contractual arrangement with the City of Newark? You, of course, are transmitting treated filtered water, right?

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: Is that based upon your normal rate scheduling?

MR. CAWLEY: Yes, we are supplying water at this time through our off-peak rate schedule.

ASSEMBLYMAN HOLLENBECK: Your off-peak rate schedule?

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: Do you know what that is right now?

MR. CAWLEY: Dollarwise?

ASSEMBLYMAN HOLLENBECK: Dollarwise.

MR. CAWLEY: Subject to variation, I think it is $480.

ASSEMBLYMAN HOLLENBECK: Four hundred eighty dollars?

MR. CAWLEY: Per million gallons.

ASSEMBLYMAN HOLLENBECK: Per million gallons?

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: You are purchasing that from the State Water Supply?

MR. CAWLEY: Correct.

ASSEMBLYMAN HOLLENBECK: At a rate of what?

MR. CAWLEY: Presently $105 per million.

ASSEMBLYMAN HOLLENBECK: One hundred and five dollars per million.

MR. CAWLEY: This is raw water--

ASSEMBLYMAN HOLLENBECK (interrupting): Which is raw water, right.

MR. CAWLEY: (continuing) --which will go to $147, in some sense, on October 1 of this year.

ASSEMBLYMAN HOLLENBECK: On the projected rate increase.

MR. CAWLEY: It is not projected; it is the rate increase.

ASSEMBLYMAN HOLLENBECK: It is the rate increase; I'm sorry. You're making about $30,000 per day with this arrangement, I guess?

MR. CAWLEY: No, I think the difference is between the cost of water and the cost of selling it.

ASSEMBLYMAN HOLLENBECK: Well, all water has that problem.

MR. CAWLEY: You can appreciate that there are costs involved with the treatment of water. It is raw water we are purchasing.

ASSEMBLYMAN HOLLENBECK: Yes, sure. The treatment cost of water-- I understand that you are treating the water and then transmitting it. It is financially advantageous to transmit this amount of water.

MR. CAWLEY: It would be more advantageous for Elizabethtown, at this time, to be selling retailed water to customers.

ASSEMBLYMAN HOLLENBECK: Because it is not going at off-peak rates?

MR. CAWLEY: Yes. One is a retail rate, and the other is a wholesale rate. It is an off-peak wholesale rate.

ASSEMBLYMAN HOLLENBECK: So, what would that mean to-- Do you have any customers who are being curtailed because of the 30 million gallons per day that are being delivered off-peak?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: So, although you would like to be selling to private customers, you don't have those particular customers?

MR. CAWLEY: At this time, no, because of the new requests for water conservation throughout the State of New Jersey, and also the restrictions that apply within the adjacent service areas in central New Jersey.

ASSEMBLYMAN HOLLENBECK: Elizabethtown Water Company is the largest user of water from the State Water Supply?

MR. CAWLEY: From the Authority? Yes.

ASSEMBLYMAN HOLLENBECK: You are running about 155 million gallons a day in Elizabethtown, using approximately what? This shows 32 million, but, of course, that is not right because--

MR. CAWLEY: (interrupting) It is 102 million.

ASSEMBLYMAN HOLLENBECK: It is 102 million?

MR. CAWLEY: Yes. Our divergence from the Delaware and Raritan Canal is 32 million, and from Spruce Run/Round Valley it is 70 million gallons per day.

ASSEMBLYMAN HOLLENBECK: Oh, I'm sorry; I see it.

MR. CAWLEY: It is probably listed. I don't know what you are referring to.

ASSEMBLYMAN HOLLENBECK: I see it. I am looking at their annual report and it shows two different bonds. So, you are the largest user by far of the State Water Supply Authority.

MR. CAWLEY: At this time, yes.

ASSEMBLYMAN HOLLENBECK: The largest customer we have. Your largest customer is Newark at the moment?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: You have one using more than that?

MR. CAWLEY: Commonwealth Water Company -- an individual customer. It is probably not listed.

ASSEMBLYMAN HOLLENBECK: You see, that isn't listed here. So, Commonwealth Water Company--

MR. CAWLEY: (interrupting) If I may, Elizabethtown is a purveyor in the central portion of the State. We serve 46 municipalities. In addition, we supply water to other systems surrounding us. We have this off-peak arrangement with the City of Newark for the 3.65 billion gallons per day to be taken at off-peak periods.

But, we have other contracts. One is with Commonwealth, which gets a fixed amount throughout the year.

ASSEMBLYMAN HOLLENBECK: What is that? How many gallons?

MR. CAWLEY: It is about 11 million gallons per day.

ASSEMBLYMAN HOLLENBECK: Are there other ones that you also supply water to?

MR. CAWLEY: We supply Edison Township, the City of Elizabeth, and Franklin Township.

ASSEMBLYMAN HOLLENBECK: Are these all under the name of Elizabethtown?

MR. CAWLEY: This is from the Elizabethtown system, yes.

ASSEMBLYMAN HOLLENBECK: Oh, just from your Elizabethtown system.

MR. CAWLEY: There are other smaller ones -- Island Park and Middlesex Water Company.

ASSEMBLYMAN HOLLENBECK: Middlesex Water Company buys from two areas -- you and the State?

MR. CAWLEY: Yes. We only sell finished water to the surrounding communities or purveyors, whereas everyone purchases raw water from the State Water Supply Authority.

ASSEMBLYMAN HOLLENBECK: You don't have an arrangement with the Middlesex Water Company like the State has where you can only raise your rate every five years?

MR. CAWLEY: No, we do not.

ASSEMBLYMAN HOLLENBECK: A unique arrangement?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: You don't have that type of arrangement with what you serve them?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: They take 10 millions gallons from the State.

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: And then you sell them some quantity of water also. Do you sell to any of the other water companies?

MR. CAWLEY: I have a little book here titled "The Glass of Water," which really describes Elizabethtown. It describes our entire service area. In addition, it points out those customers who purchase water for resale. They are the City of Elizabeth, Newark, Edison, Franklin, Highland Park, Rahway, Middlesex Water Company, Winfield Township, and Commonwealth Water Company. Usually, I guess, it is about 30 million gallons a day.

ASSEMBLYMAN HOLLENBECK: The total for these other companies?

MR. CAWLEY: Yes, the total.

ASSEMBLYMAN HOLLENBECK: You have water from other sources. You have some ground water wells, don't you?

MR. CAWLEY: Yes, we have surface water sources -- the D&R Canal, the Mill Stone River, and the Raritan River. In addition, we have wells throughout our service area, which have a yield of about 30 million gallons a day. This is dredged throughout our service area.

ASSEMBLYMAN HOLLENBECK: So, we are talking 102 million gallons from the State, plus you have the capacity of 30 million gallons more.

MR. CAWLEY: In addition, yes.

ASSEMBLYMAN HOLLENBECK: In addition to that, so we are talking about a capacity--

MR. CAWLEY: (interrupting) It gets a little more complicated because 102 gallons is per day, but during the summer, it is a six-month average, so we can go up to 110 million gallons on any particular day during the summer period -- that six-month period. On top of that are the 30 million gallons from the wells.

ASSEMBLYMAN HOLLENBECK: Are there any other water companies that Elizabethtown is tied in with, other than the customers you mentioned?

MR. CAWLEY: No, the ones I listed-- Are you talking about interconnections without selling them?

ASSEMBLYMAN HOLLENBECK: Well, I'm just wondering if there are any other customers that Elizabethtown Water Company, or its holding company-- Do you have a holding company?

MR. CAWLEY: Well, the Mount Holly Water Company.

ASSEMBLYMAN HOLLENBECK: Does the Mount Holly Water Company use State water?

MR. CAWLEY: No, it does not. It is all ground water.

ASSEMBLYMAN HOLLENBECK: I'm looking for the ones that are using State water from the D&R Canal or the--

MR. CAWLEY: (interrupting) We have emergency interconnections with some other communities, but they would only use water on a demand basis. These would be the City of Trenton, Rocky Hill, and the Borough of Manville. Are you referring to that type of arrangement?

ASSEMBLYMAN HOLLENBECK: No, I was talking about other whole companies.

MR. CAWLEY: New Brunswick can also take water on an emergency basis.

ASSEMBLYMAN HOLLENBECK: When you were talking about Raritan earlier on a bid waiver, that is not a--

MR. CAWLEY: (interrupting) No. We serve Raritan Township.

ASSEMBLYMAN HOLLENBECK: That is part of your regular service area?

MR. CAWLEY: That is right. That is within our service area, our franchise area, yes.

ASSEMBLYMAN HOLLENBECK: We were talking about a bid waiver before. Why would that go through the State?

MR. CAWLEY: It wasn't a bid waiver. There is the Krysowaty Farm, which is a Spill Fund site in Hillsborough Township, which you may have read and heard about. The Federal Environmental Protection Agency was involved, as well as the New Jersey State Department of Environmental Protection. The solution to the contamination was to interconnect with our system. There is a pipeline that is being constructed from an existing pipeline on Route 202 in Raritan Township, through a portion of Raritan Township, to a portion of Hillsborough

Township, to the spill site. It is being constructed by Elizabethtown for the State of New Jersey. This was in the newspaper because of the concern of Raritan Township about putting the pipeline in their community.

ASSEMBLYMAN HOLLENBECK: I was just wondering how the State got involved with it because we wouldn't normally go through a bid waiver procedure for something that you are doing.

MR. CAWLEY: I don't completely understand your question. The State became involved because of the Spill Fund. This is something they had to solve. There were a number of homes built where toxic wastes were dumped years ago, and the area has become contaminated.

ASSEMBLYMAN HOLLENBECK: What was the dollar value of that?

MR. CAWLEY: Of the pipeline?

ASSEMBLYMAN HOLLENBECK: Yes.

MR. CAWLEY: About $800,000. That was the total cost of the job.

ASSEMBLYMAN HOLLENBECK: So, Elizabethtown serves quite a few of the big communities there. It is about 150-- No, I'm sorry. It is 130 million; is that what I said? Your system supplies 130 million gallons a day?

MR. CAWLEY: Our average system output is presently about 130 million gallons per day.

ASSEMBLYMAN HOLLENBECK: Of which 30 million is the interconnection?

MR. CAWLEY: Right now, yes. Normally, at this time of the year, Newark would be getting very little water from Elizabethtown because it would not be off-peak water.

ASSEMBLYMAN HOLLENBECK: Does the Elizabethtown Water Company, as a purveyor, have any interest or concern in the proposed Raritan pipeline?

MR. CAWLEY: We would have concern as an interested purveyor regarding the pipeline, yes.

ASSEMBLYMAN HOLLENBECK: What interest is that?

MR. CAWLEY: Well, going back to a statement I made earlier: that the funds be spent wisely. I also mentioned the 1980/81 emergency

drought projects. This was considered one of those projects as a means of conveying water from the Raritan watershed to the Passaic watershed. At that time, pipelines were going to go above ground, and along the right-of-way -- I think it was Route 78 to Route 287 -- and luckily for the State, the rain came. It gave everyone a little time to sit back and do what the State should have been doing in the past -- something they were prevented from doing -- which was to study the projects that I think Mr. Dewling and Rocco Ricci mentioned this morning. The money invested in feasibility studies and preliminary engineering is worthwhile. As an example, the Hackettstown Reservoir that was initially listed in one of the projects for the Statewide Water Supply Master Plan, when they started their feasibility studies and preliminary engineering, found that it wasn't a feasible site for a reservoir.

By having the time to study the alternatives of supply water to the northeastern section of the State, it was determined, after about a year and a half of studying, that the pipeline from the Raritan watershed was feasible, but not needed at that time, and maybe not cost-effective. That is why I say that--

ASSEMBLYMAN HOLLENBECK (interrupting): Which study was this?

MR. CAWLEY: This is an alternative study for projects to supply water to the northeastern section of the State. I'm not sure that the Committee is familiar with it. It was--

ASSEMBLYMAN HOLLENBECK (interrupting): The URS study?

MR. CAWLEY: Yes, it was the URS study. Going back to the--

ASSEMBLYMAN HOLLENBECK (interrupting): Are you talking about safe yield?

MR. CAWLEY: It is a series of studies in connection with that. There were three different studies: the safe yield study, the--

ASSEMBLYMAN HOLLENBECK (interrupting): There is a safe yield; there is one going on that is not completed; there is management by NJIT; there are two that deal with safe yields; and, there is a URS study.

MR. CAWLEY: Yes, going back--

ASSEMBLYMAN HOLLENBECK (interrupting): Oh, do you mean the one where the Department put them all together and made their own internal study?

MR. CAWLEY: No. There was a study undertaken in-- It probably started around 1982. There was a feasibility study for additional water for northeastern New Jersey. I have a copy of it here -- a general summary -- which you have probably seen. In it, it refers to three documents which are the basis for this summary.

ASSEMBLYMAN HOLLENBECK: The one you are looking at is the one that was prepared by the Department, I believe.

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: Yes, the Department took the NJIT study--

MR. CAWLEY: (interrupting) They took the safe yield study. They took this study, the URS proposal.

ASSEMBLYMAN HOLLENBECK: The URS study, right.

MR. CAWLEY: And, a study that--

ASSEMBLYMAN HOLLENBECK (interrupting): One that was dealing with yield analysis.

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: This one dealt with the Raritan pipeline, or its alternatives -- the Longwood Valley and a few others.

MR. CAWLEY: Yes, correct.

ASSEMBLYMAN HOLLENBECK: They ignored that one and came up with their own. They didn't use any of the conclusions that were reached in that one. Is that the study you are talking about?

MR. CAWLEY: No, my understanding is that they used the conclusions in here to develop--

ASSEMBLYMAN HOLLENBECK (interrupting): No, the conclusion was that they should build a southern portion of the Raritan pipeline or, in lieu of that, they should start building on the other reservoirs -- Longwood Valley and a few others.

MR. CAWLEY: No, I think--

ASSEMBLYMAN HOLLENBECK (interrupting): They haven't done any of them.

MR. CAWLEY: I think if you take all of the conclusions--

ASSEMBLYMAN HOLLENBECK (interrupting): No, no, that was the conclusion and the recommendation of that particular study.

MR. CAWLEY: That was the most feasible. The pipeline was the most feasible alternative, if it was necessary.

ASSEMBLYMAN HOLLENBECK: I don't think that--

MR. CAWLEY: (interrupting) This study didn't say that, but if it was necessary, then you would have to take the other two studies, because this didn't take into account--

ASSEMBLYMAN HOLLENBECK (interrupting): Except that they also had the NJIT study when they did that one.

MR. CAWLEY: You see, all of the studies before that, if I may--

ASSEMBLYMAN HOLLENBECK (interrupting): But, they had the one-- You know, when they made that report, they had the study, which the Department said you didn't need. They reached a different conclusion.

MR. CAWLEY: Well, I think I understand what you are saying. This outlines the alternatives, and it gives prices for the alternatives.

The other study undertaken by the Department was the population projections, where the need is in the State of New Jersey, and where it is going to be in the next 40 years.

ASSEMBLYMAN HOLLENBECK: Is your concern that the water should be saved so that the people in that valley can use the water, and that there should be enough of a capacity that it could be used for an expansion area as a purveyor?

MR. CAWLEY: Well, as a purveyor, we certainly are concerned about our own water--

ASSEMBLYMAN HOLLENBECK (interrupting): I think that is probably more the answer.

MR. CAWLEY: Oh, no. If you are an interested citizen of the State, I think you have to be concerned about the whole State. We, as a company, and me personally, as an individual, are concerned about the whole State.

If you look at the growth projections -- I think you have to take those into consideration -- the growth is going to be greater in the Raritan watershed than, as I understand it, in the northeastern section of the State.

When all the preliminary work was done, Wanaque South didn't exist, but it is being constructed at this time. I think I am correct in saying that the water needs of the northeastern section of the State, until the year 2020, will be taken care of by the Wanaque South project, and possibly other projects that will come along.

The Raritan watershed has a demand upon its system, and that will grow in the future. It is not only a demand because of growth in the area, but it was mentioned this morning with regard to the studies which are under way. These studies were also mentioned in this improvement report.

One is the South River water supply study, which you may be familiar with in the Middlesex County area. With the projected demand in that area, in the year 2010, it is going to have a deficit of 54 million gallons a day -- the average demand. It has to come from some place, and the "some place" will be the available water within the Raritan watershed.

ASSEMBLYMAN HOLLENBECK: What is the additional safe yield right now on the reservoirs?

MR. CAWLEY: In New Jersey?

ASSEMBLYMAN HOLLENBECK: Yes.

MR. CAWLEY: In the Raritan watershed?

ASSEMBLYMAN HOLLENBECK: Yes, on those two State reservoirs. What is the safe yield?

MR. CAWLEY: It was mentioned this morning that Round Valley/Spruce Run has a safe yield of 160 million gallons. The D&R Canal has a safe yield of 65 million gallons. The total safe yield for the whole area is 225 million gallons.

The allocations from that supply at this time are: Spruce Run/Round Valley is 80 million, and the D&R Canal is 75 million, so the available safe yield will be 70 million gallons a day. There is an exception. If Lake Hopatcong becomes necessary, that will be reduced

by 20 million. If the George Washington Bridge becomes necessary, the safe yield will be reduced by 25 million more. We are supplying to the City of Newark 20 million more than our off-peak contract. So, the available safe yield at this time is maybe five million gallons a day from the Raritan watershed.

ASSEMBLYMAN HOLLENBECK: What does URS say about that?

MR. CAWLEY: I don't know.

ASSEMBLYMAN HOLLENBECK: Their figure came out to 93 million gallons a day.

MR. CAWLEY: Yes, but they didn't take into account Lake Hopatcong; they didn't take into account the George Washington Bridge; and, they didn't take into account the water going to the City of Newark.

ASSEMBLYMAN HOLLENBECK: Of course, you are referring to the decreased takings off of the Delaware River where we are wheeling the water out. That is where it drops down.

MR. CAWLEY: Oh, that is right. Of course. But, that has--

ASSEMBLYMAN HOLLENBECK (interrupting): It is because of the wheeling; that is all.

MR. CAWLEY: But, you can't take the water. It is not available. You are talking about safe yield, and my understanding of safe yield is water that is available during periods of drought.

ASSEMBLYMAN HOLLENBECK: If the Raritan pipeline was constructed, where would that water go?

MR. CAWLEY: Today?

ASSEMBLYMAN HOLLENBECK: Yes, if it was constructed.

MR. CAWLEY: Into the ocean.

ASSEMBLYMAN HOLLENBECK: What if it is constructed two years from today?

MR. CAWLEY: Two years from today -- under the report that I think is in the URS, it is just the southern portion of this pipeline -- it could be picked up by Wanaque South.

ASSEMBLYMAN HOLLENBECK: All right.

MR. CAWLEY: Because the Jersey City portion is not going to be built.

ASSEMBLYMAN HOLLENBECK: Whose water supply is Wanaque South?

MR. CAWLEY: Who gets water from Wanaque South?

ASSEMBLYMAN HOLLENBECK: Yes.

MR. CAWLEY: Newark, Passaic Valley-- No, Passaic Valley isn't included in Wanaque South.

ASSEMBLYMAN HOLLENBECK: No, Passaic Valley sometimes draws from there through interconnections.

MR. CAWLEY: Right, but they are not part of it.

ASSEMBLYMAN HOLLENBECK: It takes from a polluted river. The water you mentioned that goes into the sea, a lot of it is--

MR. CAWLEY: (interrupting) No, right now. I said right now because no one can use the water.

ASSEMBLYMAN HOLLENBECK: Well, right now, if you put it in there, Passaic Valley wouldn't be taking up quite as much sewage through their system. That is all.

MR. CAWLEY: Well, that is true. It would be diluted at this time.

ASSEMBLYMAN HOLLENBECK: The sewage would be diluted, so the Passaic Valley wouldn't be picking up as much sewage from the raw water.

MR. CAWLEY: Yes, that is correct. As was mentioned earlier today, their treatment capacity is down to 50 million gallons because of the renovation of their plant. That should go back to 75 million gallons or 80 million gallons in a few years.

ASSEMBLYMAN HOLLENBECK: So, your statement about it going out to sea is not really true.

MR. CAWLEY: No, I said right now.

ASSEMBLYMAN HOLLENBECK: But, if they put it in right now, it wouldn't just go to sea. It would improve the quality of the water from Passaic Valley for the Passaic/Clifton/Paterson area. Wouldn't it?

MR. CAWLEY: It may. I don't know what the flows in the river itself are right now. But, the concentrations-- I think a statement was made today that the quality of water in the Passaic is comparable to other years.

ASSEMBLYMAN HOLLENBECK: One of the communities complained about the odor of the water in the Passaic River.

MR. CAWLEY: That was untreated water, wasn't it?

ASSEMBLYMAN HOLLENBECK: Yes, that is the stuff that ends up down in the Passaic Water Commission's plant.

MR. CAWLEY: No, I thought today they were talking about the water coming through the--

ASSEMBLYMAN HOLLENBECK: (interrupting) Passaic Valley water takes off around Little Falls.

MR. CAWLEY: Were they talking about Passaic Valley this morning?

ASSEMBLYMAN HOLLENBECK: Yes, sure.

MR. CAWLEY: I'm sorry. I thought it was another system that was untreated.

ASSEMBLYMAN HOLLENBECK: Well, Passaic Valley takes its water from the Passaic River.

MR. CAWLEY: Oh, I understand that, yes.

ASSEMBLYMAN HOLLENBECK: In 1981, they took 80% of the sewage through their water plant, treated it, and fed it to people. When you talk about water going to sea, it really doesn't go to sea.

Even if they had Wanaque South--

MR. CAWLEY: (interrupting) If Wanaque South was constructed--

ASSEMBLYMAN HOLLENBECK: (continuing) --that water could be wheeling out to Wanaque. From there, of course, we know we can move it through Newark, Passaic, Hackensack, Jersey City, and the Commonwealth Water Company.

MR. CAWLEY: The question I would raise--

ASSEMBLYMAN HOLLENBECK (interrupting): I'm just saying that that would be a way you could run the water in another direction. Couldn't you?

MR. CAWLEY: Yes, you could if there was a need for the water. The question I would raise is, when Wanaque South is completed, it is my understanding that the safe yield of that area will be met until the year 2010 or 2020.

ASSEMBLYMAN HOLLENBECK: That is strictly based upon how much water they can get out of one river there, isn't it?

MR. CAWLEY: It is all of their sources brought together.

ASSEMBLYMAN HOLLENBECK: That is all based upon one thing. We forgot about one thing, that is, the water quality. It is based upon the water quality that they are going to pick up, isn't it?

MR. CAWLEY: Well, that is true, yes.

ASSEMBLYMAN HOLLENBECK: They are allowed to draw so much when the water is at a certain quality, but then it decreases, doesn't it?

MR. CAWLEY: No, I think the problems that come about are treatment costs and the difficulty in treating the water when it is not diluted.

ASSEMBLYMAN HOLLENBECK: Let's assume that water was going up to Wanaque through a Raritan pipeline.

MR. CAWLEY: Going into the Passaic?

ASSEMBLYMAN HOLLENBECK: Yes, and then being picked up by Wanaque. Then Newark could pick up this water in that direction. What would the cost be to Newark for the 30 million gallons per day if it went in that direction, rather than coming through your interconnection?

MR. CAWLEY: Well, the safe yield of the Raritan diversion, as I understand it, is 34 million gallons a day. The cost of that water on an annual basis is $6.4 million, and that amounts to $515 per million gallons for untreated water. That is whether or not they use it. They pay that on an annual basis.

ASSEMBLYMAN HOLLENBECK: Come back to the figure and how you arrived at that? I would like to hear this one.

MR. CAWLEY: All right. These are the figures that came from these reports. They are not my figures. Would you like me to refer you to the--

ASSEMBLYMAN HOLLENBECK (interrupting): No, just give the figures to me again.

MR. CAWLEY: Wanaque South-- Excuse me. The Raritan/Passaic diversion's safe yield is 34 million gallons per day.

ASSEMBLYMAN HOLLENBECK: All right.

MR. CAWLEY: The cost estimate in 1983 for the southern section only was $6.388 million. Divide the 34 times 365 days a year into that, and it comes out to $515 per million gallons.

ASSEMBLYMAN HOLLENBECK: What would it be if it were divided by 155? Why would there be a different rate for State water on one project and not on another?

MR. CAWLEY: This is not the same project.

ASSEMBLYMAN HOLLENBECK: The State Water Authority says they are going to have a common rate. One part is for debt service, and one part is for O&M.

MR. CAWLEY: Correct.

ASSEMBLYMAN HOLLENBECK: If the State Water Authority constructs the Raritan pipeline, the divisor is not 34 or 35; it is 155, isn't it?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: Why not? That many people are using the water, aren't they?

MR. CAWLEY: No. As it was explained this morning-- I think Mr. Ricci explained it this way: Each project which stands on its own, and the customers of each project, would pay the cost for the project. For the Raritan Basin, it is $105 and $147 now, broken up into O&M and debt service expenses.

ASSEMBLYMAN HOLLENBECK: That is not my impression.

MR. CAWLEY: Excuse me?

ASSEMBLYMAN HOLLENBECK: That is not my impression of what Mr. Ricci testified to this morning. I think he said that one rate is their goal. It would be one rate.

MR. CAWLEY: Did he also say that the Manasquan project would be treated separately, and that the rates would be developed for that project? The Manasquan rates will not be the same as the rates for the Raritan watershed or any other projects they build in the future.

ASSEMBLYMAN HOLLENBECK: Under what-- I can't conceive any authority having separate rates. I don't think it is allowed, and I think it has been to court. I think they have to have a common case, and I think it was satisfied in a case down in Franklin or Edison -- a sewage case dealing with Authority rates.

MR. CAWLEY: Well, this is an Authority--

ASSEMBLYMAN HOLLENBECK (interrupting): I think it was satisfied in AirChem, et al. v. Carlstadt Sewerage. This is an example of a rate case dealing with an authority. You can't have separate rates; you can't have dual rates. You have to have one rate. You can have separate classes, such as residential rates and industrial rates, but not with the product itself.

MR. CAWLEY: Well, my understanding is quite different from yours, quite different from what Mr. Ricci mentioned this morning.

In going back to my explanation, presently there is a cost of water from the Raritan watershed. On October 1, it is going to be $147 per million gallons. The cost of the pipeline itself, I think, was $53 million in accountable costs, and then the operational costs associated with that. That is how I developed the--

ASSEMBLYMAN HOLLENBECK (interrupting): Except, I think you used the wrong divisor. I personally think you used the wrong divisor.

MR. CAWLEY: May I ask a question? Why should the customers of one system underwrite the water costs of another system?

ASSEMBLYMAN HOLLENBECK: I'm glad you asked that because I have the same question. Why should the customers using private wells in South Jersey use their general obligation moneys to do work on the D&R Canal? Why are the moneys that were spent on the two reservoirs being charged to general obligation rather than to users? I might ask why--

MR. CAWLEY: (interrupting) I don't think that is true.

ASSEMBLYMAN HOLLENBECK: (continuing) --the salaries of 100-plus employees of DEP dealing with water are not being charged to the customers, but are being charged to everyone else in the State. I might question why there are other bond issues where moneys were taken -- general obligation bonds -- and used for Water Supply projects and are not being charged within their rates to hold those rates down. I might question that since your company is the biggest user, it has to be the biggest benefactor of the low rate.

MR. CAWLEY: Elizabethtown Water Company, from its inception, and its use of the Spruce Run/Round Valley system, has paid its full share of all operating and maintenance costs and all debt service for

that facility. In addition, we have paid for the cost of water from the Delaware and Raritan Canal for years. When the funds being paid by Elizabethtown for the water were not used for the maintenance of the D&R Canal, they went back into the General Treasury of the State of New Jersey, and Elizabethtown received nothing.

ASSEMBLYMAN HOLLENBECK: Did you pay for the match that would prolong the dam?

MR. CAWLEY: Excuse me?

ASSEMBLYMAN HOLLENBECK: Did you pay your share for the match that they put along the dam?

MR. CAWLEY: Well, if it was allocated to us by the Authority, we paid for it.

ASSEMBLYMAN HOLLENBECK: It wasn't.

MR. CAWLEY: Excuse me?

ASSEMBLYMAN HOLLENBECK: It wasn't. It was charged through an act. They said they have an Attorney General's opinion that says they are not obligated to pay for it.

MR. CAWLEY: I don't think they did that work yet, did they?

ASSEMBLYMAN HOLLENBECK: But, it was allocated that way. That is the way it is drawn, and that is the position they have taken. There are other areas, of course, where these bond issues and others were used for the General Obligation Bonds--

MR. CAWLEY: (interrupting) Well, I think--

ASSEMBLYMAN HOLLENBECK: (continuing) --and moneys were taken for Water Supply projects. What it does is, it keeps down the debt service portion of the basic rate of the water. The same thing is true if they put in an expensive pipeline -- the Raritan pipeline. It will probably have to be charged to everyone, using the big divisor rather than the small divisor. There would be a difference in the rate, and the rate would have to increase to recover that cost. All users would have to pay for it.

MR. CAWLEY: It is my understanding that the Authority's position is that those users who benefit from a project will pay for it. Spruce Run/Round Valley and the D&R Canal is a project. Those users who take water from the Manasquan Reservoir project will pay for it, not the users of Spruce Run/Round Valley.

If the Raritan diversion is constructed, those users who will benefit from it will pay for that project. You pay for it whether or not you use it -- whether it is for water going into a reservoir for future storage, or whether it is water going for dilution. The present users of Spruce Run/Round Valley pay for the dilution of water that is going down to the Raritan River every day. Ninety million gallons a day is the required diversion into the River, and they pay for it as part of their general obligation for using that facility.

ASSEMBLYMAN HOLLENBECK: I'm just trying to say that when you are dealing with a private user, a private company as you are, there are advantages. One is to hold the State projects down -- to hold down the whole rate that you are being charged for raw water. Two, of course, is for selfish reasons, and you can't argue with that -- making sure there is enough of a supply for your future needs. Three is that there could have been alternate ways for Newark to get its water through other systems and, of course, helping the Passaic Valley water system by improving it.

MR. CAWLEY: I think what you are talking about are more expensive ways of getting water to the northeastern section of the State. Many people feel -- and, this is based upon reports -- this is not necessary at this time.

You talk about selfish reasons -- reasons for keeping the water in the Raritan watershed. Most of the reasons I mentioned will not benefit Elizabethtown because Elizabethtown is in the southern section of the Raritan watershed, the Middlesex County area. This is an area of concern to the State and the residents who live in this section of the State if they need a supply for the future.

ASSEMBLYMAN HOLLENBECK: What would happen if Newark decided they didn't want to take any water through the interconnection and they wanted to go back to their own system?

MR. CAWLEY: I think they will eventually. As I said, this is an emergency interconnection between Elizabethtown and Newark. We have this off-peak arrangement that is renewed every five years. It has been renewed three times so far. It was developed during the drought of the 1960s, and it has been a resource that has been utilized

by the City of Newark during emergency times. It also has the residual benefit of serving other communities in the northeastern section of the State because the water that is not taken from Wanaque South can be used by other parties. That is what is happening. So, this is an emergency interconnection.

ASSEMBLYMAN HOLLENBECK: I am trying to find out if, in the long run, it would be cheaper for Newark to take water from its own system rather than the Elizabethtown system.

MR. CAWLEY: As I said earlier, I don't think it would be the cheapest solution.

ASSEMBLYMAN HOLLENBECK: I was asking if it would be cheaper for Newark to take water through its own system -- Wanaque -- and through its own filtration system rather than through your system.

MR. CAWLEY: Well, whether it is cheaper or not, I think they will do that when Wanaque South is completed.

ASSEMBLYMAN HOLLENBECK: Right now, the break-even point will be $480 per million gallons. That will be their break-even point.

MR. CAWLEY: They will be paying-- I shouldn't make a statement like that because I'm not sure of my facts. I just assume they are going to be paying more than $480 when they treat their water and share in the cost of Wanaque South. You should ask the people from the City of Newark to answer your question because I am not in a position to answer it.

ASSEMBLYMAN HOLLENBECK: We will find out about the rate scheduling, etc. because the other purveyors are going to testify.

I'm trying to find out-- I disagree with the specific question regarding the divisor and whether or not the Authority can have separate rates, but I think we are going to get some clarification from the Authority. I think we should have an opinion regarding that because that happens to be a very valid key point. I am very concerned about the answer to that because of the Manasquan Reservoir, and you could easily be liable for picking up part of your costs of the Manasquan Reservoir also.

MR. CAWLEY: Who will be picking up our costs?

ASSEMBLYMAN HOLLENBECK: It is part of the State Water Supply Authority that is doing it. I question whether or not they can have separate rates.

MR. CAWLEY: I understand that, but I think you ought to check with the Authority again.

ASSEMBLYMAN HOLLENBECK: I think you had better check that one out yourself because--

MR. CAWLEY: (interrupting) I have attended every Authority meeting since its inception. My position has been stated many times. Whether that is correct or not-- I reported their position to you. I asked the question many times selfishly for the customers of Elizabethtown and the customers who are within the Raritan watershed. I'm concerned about them picking up the costs of the Manasquan project.

ASSEMBLYMAN HOLLENBECK: That is a very key point regarding what we are talking about and the construction of other projects. If that is the case, you should scream about every project because every project they put in can add to your costs, unless their income from a particular project will surpass the debt service of the operating costs.

MR. CAWLEY: I wouldn't say "scream," but--

ASSEMBLYMAN HOLLENBECK (interrupting): Express a concern.

MR. CAWLEY: (continuing) --we expressed our opinions at the public hearings held on these projects.

ASSEMBLYMAN HOLLENBECK: I assume then that you would express for--

MR. CAWLEY: (interrupting) If it comes before that Board, yes.

ASSEMBLYMAN HOLLENBECK: As far as the Elizabethtown Water Company is concerned, you cited the ones you own that are using State water, or have control over the stock interest in them, or are joined by common directorships.

MR. CAWLEY: I'm sorry. I don't understand the question.

ASSEMBLYMAN HOLLENBECK: Elizabethtown Water Company-- Regarding the other users within the system, do you have any tie-in with any of the other water companies that use it, other than the ones

you cited -- through directorships, holding companies, or anything like that?

MR. CAWLEY: We don't have any tie-in with any of the companies I mentioned. I indicated that Mount Holly is part of the Elizabethtown system. That is the end of our ties to anyone.

ASSEMBLYMAN HOLLENBECK: But, Mount Holly takes its water through you rather than--

MR. CAWLEY: (interrupting) No, it has its own well supply.

ASSEMBLYMAN HOLLENBECK: It is not State water?

MR. CAWLEY: It is not State water.

ASSEMBLYMAN HOLLENBECK: I'm only interested in State water. Do any of the other water companies in the drought area have cross-directorships or anything dealing with the Elizabethtown ownership?

MR. CAWLEY: The Chairman of the Board of Elizabethtown is a director of the Hackensack Water Company.

ASSEMBLYMAN HOLLENBECK: He is on the Board of Directors of the Hackensack Water Company?

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: That is going to be an interesting question when we ask the same question of the Hackensack Water Company regarding the pipeline.

MR. CAWLEY: True.

ASSEMBLYMAN HOLLENBECK: That might create a little problem within the Board. (laughter)

There are no other ownerships of any of the others?

MR. CAWLEY: Not to my knowledge.

ASSEMBLYMAN HOLLENBECK: There are no other directorships of any of the holdings? You have applied for a holding company, haven't you?

MR. CAWLEY: Yes, Elizabethtown Water Company.

ASSEMBLYMAN HOLLENBECK: It is very common now. Is that a formed corporation? Is that formed yet?

MR. CAWLEY: That has not officially been approved by the Board of Public Utilities.

ASSEMBLYMAN HOLLENBECK: Has it been incorporated yet?

MR. CAWLEY: Yes, I think so.

ASSEMBLYMAN HOLLENBECK: Which one is that?

MR. CAWLEY: What is the name of the corporation?

ASSEMBLYMAN HOLLENBECK: Yes.

MR. CAWLEY: It is E-Town Corporation.

ASSEMBLYMAN HOLLENBECK: E-Town Corporation. That is the name of the holding corporation?

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: As compared to the Elizabethtown Water Company?

MR. CAWLEY: Correct.

ASSEMBLYMAN HOLLENBECK: Within your area, have you done any growth projections? What I am leading up to, of course, is your internal expansion of growth.

MR. CAWLEY: We have an extremely active service area, predominantly the Route 1 Corridor, and maybe all of the corridors in the State: Route 1, Route 287, Route 202, and Route 78. This is because they crisscross our service area. If you travel to Trenton along those routes, you know it becomes quite difficult because of development. That is within our service area.

Also, I think the water quality issue was mentioned this morning. Ground water is becoming a concern, as I mentioned, in the South River Basin. It is becoming a concern in the fringe area of the South River Basin and throughout other areas of the State. We have to turn more and more to service water as the solution to those problems, or to the construction of processing of ground water. We are undertaking that in our company, and I know some of the surrounding areas in our service area are also experiencing problems with ground water. That is a growth that is there.

ASSEMBLYMAN HOLLENBECK: Did the proposed Washington Valley Reservoir do anything to your area?

MR. CAWLEY: No.

ASSEMBLYMAN HOLLENBECK: What is the Washington Valley Water Company?

MR. CAWLEY: There was a Washington Valley Water Company that existed in Bridgewater Township about three or four years ago. It is no longer in existence.

ASSEMBLYMAN HOLLENBECK: Where is it?

MR. CAWLEY: Along the Route 202--

ASSEMBLYMAN HOLLENBECK (interrupting): No, where is it now?

MR. CAWLEY: It is within Elizabethtown.

ASSEMBLYMAN HOLLENBECK: Elizabethtown took that over?

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: But, that wouldn't have been a service area of the proposed Washington Valley Reservoir.

MR. CAWLEY: I think Morris County has a Washington Reservoir. Is that the reservoir you are referring to?

ASSEMBLYMAN HOLLENBECK: Yes, that is the one I am referring to.

MR. CAWLEY: Oh, that is outside of our service area. It is a utilities authority.

ASSEMBLYMAN HOLLENBECK: All right. That is the one I was referring to.

MR. CAWLEY: There is a Washington Valley Water Company.

ASSEMBLYMAN HOLLENBECK: It seemed kind of far away.

MR. CAWLEY: Oh, yes.

ASSEMBLYMAN HOLLENBECK: Of course, you have Peapack and Gladstone Water Companies. They are part of yours too, aren't they?

MR. CAWLEY: Yes, they are part of our system.

ASSEMBLYMAN HOLLENBECK: They were required also?

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: Are they on State water or are they on well water?

MR. CAWLEY: Surface water.

ASSEMBLYMAN HOLLENBECK: State?

MR. CAWLEY: Well, it was State before we treated it.

ASSEMBLYMAN HOLLENBECK: It came through the State. It was part of the State allocations. (laughter)

MR. CAWLEY: Yes.

ASSEMBLYMAN HOLLENBECK: You sell to 47-plus municipalities?

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: To?

MR. CAWLEY: Well, that is retail in our service area. There are that many municipalities within our service area.

ASSEMBLYMAN HOLLENBECK: There are two investor-owned companies that you supply?

MR. CAWLEY: That is correct.

ASSEMBLYMAN HOLLENBECK: You said the Mount Holly Water Company. Of course, you were consolidated under the Plainfield/Union Water Company.

MR. CAWLEY: Well, the Elizabethtown Water Company goes back to 1854. It is really a conglomeration of smaller water systems that started in Elizabeth and moved out through the years. It moved out mainly because of the problems with the other companies. I suppose the most recent is-- Well, there are two: Kingston Water Company and the Peapack/Firestone Water Company. They both had problems.

ASSEMBLYMAN HOLLENBECK: I didn't want to leave you with the impression that I thought you were a very small company. That is all. (laughter)

MR. CAWLEY: Well, we are not large by comparison.

ASSEMBLYMAN HOLLENBECK: I didn't want to leave you with the impression that I thought you were small. I know you are a rather large water purveyor in the State. As some people may think, you are not just a little water company serving the City of Elizabeth; you are much larger than that. In fact, you serve quite a bit of the State. Of course, your biggest customer is Commonwealth; isn't that what you said?

MR. CAWLEY: Commonwealth is probably our largest individual customer.

ASSEMBLYMAN HOLLENBECK: Then, of course, Newark through the interconnection.

MR. CAWLEY: Yes, they are a large customer through the interconnection.

ASSEMBLYMAN HOLLENBECK: If any efforts by the State-- The question we had earlier, which I think you may have heard, dealing with

the bonds that were used and the funds that were used from the State that do not have to be paid back is an advantage to your corporation.

MR. CAWLEY: It is a small advantage, yes.

ASSEMBLYMAN HOLLENBECK: The debt service is a large portion of the rate, isn't it?

MR. CAWLEY: No. Dollarwise is what I am referring to, because many of the items you listed this morning are small by comparison with the cost of the D&R Canal renovation itself, such as the sediment removal project, or the outward pipeline from Spruce Run/ Round Valley itself.

ASSEMBLYMAN HOLLENBECK: Except that a lot of the D&R project was also charged to accounts that wouldn't be paid back.

MR. CAWLEY: Yes. As I indicated before, we paid money to the State for a long time, and we received nothing for it.

ASSEMBLYMAN HOLLENBECK: You received water, didn't you?

MR. CAWLEY: No, but that money-- Yes, we did receive water. But, the work that should have been done on the D&R Canal wasn't undertaken. The funds went into the General Treasury instead.

ASSEMBLYMAN HOLLENBECK: I think it is pretty well-known that the revenues to the State at the time-- The rates were held low. They in no way covered the cost of debt service, and the DEP--

MR. CAWLEY: (interrupting) Where is that?

ASSEMBLYMAN HOLLENBECK: (continuing) --for years was hiding their costs within their operation. Everyone knows that. It came out very thoroughly in 1980 about the State and DEP hiding a lot of the costs.

MR. CAWLEY: Well, I am not aware of that at all. As I said earlier, Elizabethtown has paid the debt service. At one time, we paid all the operation and maintenance expenses for Spruce Run/Round Valley -- since 1965. They were allocated directly to the user of the facility, and we were the only user.

ASSEMBLYMAN HOLLENBECK: I guarantee you that that water was not paying off the full debt service of the bond issue because it was hidden.

MR. CAWLEY: I said it was the water taken by Elizabethtown -- that portion of it.

ASSEMBLYMAN HOLLENBECK: Thank you very much, Mr. Cawley.

MR. CAWLEY: You're welcome.

ASSEMBLYMAN HOLLENBECK: It is always fun to appear before a Committee. Thank you very much for your testimony. You were under no obligation to testify before this Committee, so I want to thank you.

MR. CAWLEY: I understand that. If the Committee wants or needs any more information and we can supply it, we would be happy to do so.

ASSEMBLYMAN HOLLENBECK: Thank you. Next is Dr. John Buzzi from the Natural Resources Citizens Advisory Committee. Dr. Buzzi, you are a patient gentleman.

DR. JOHN BUZZI: I have a short prepared statement to give to you. I can provide copies to you, and then perhaps you would like to ask questions.

My name is Jack Buzzi. I am a member of the Natural Resources Citizens Advisory Committee. I am going to present a position paper statement which has been concurred with by the following members of the Natural Resources Citizens Advisory Committee: Associated General Contractors Association, the Association Management Corporation, the Utility and Transportation Contractors Association, the League of Women Voters of New Jersey, the New Jersey Alliance for Action, South Jersey Industries, the Association of New Jersey Environmental Commission, and Kupper Consultants, which is the firm I represent.

The Natural Resources Citizens Advisory Committee was established in 1980 to provide oversight and advice to the Department of Enviromental Protection on the implementation of programs funded through bond issues. Quite simply, we wanted to see that the bond issue moneys were being spent expeditiously.

The Committee had input into the final draft of the Water Supply Master Plan and worked for the passage of the 1980 Water Supply Bond Act, which provided $350 million to assure New Jersey of an adequate water supply. Stated more succinctly, I think it was through the efforts of the Natural Resources Citizens Advisory Committee that hopefully, prodded the DEP to complete the Water Supply Master Plan, at

least in final draft form prior to the voters approving the $350 million bond issue.

The Committee has met regularly since its inception and has been kept informed regarding the spending of the Water Supply Bond Act funds, as well as those from other bond issues. We believe that DEP has moved ahead on the "Action Program" of 1981-85, as attached to my statement and contained in the Water Supply Master Plan.

The only major project not under way on the list of projects is the Raritan/Passaic pipeline, which is to carry water from the Raritan Basin to northeastern New Jersey. Following the drought of 1980/81, numerous questions were raised about the need for this pipeline. In response, DEP retained consultants to review future water supply for northeastern New Jersey. The findings were that the Wanaque South/Monksville project would take care of that region's water needs well into the future. Construction of Wanaque South was started in 1981, and completion of the major components is expected in early 1986. Furthermore, it was estimated that the water in the Round Valley/Spruce Run and Delaware and Raritan Canal systems would be needed to handle the projected growth in the region that could be served by the Raritan/Delaware system.

By means of interconnections completed or initiated in the 1980/81 drought, it is now possible to get significant amounts of water from the Delaware and Raritan system into northeastern New Jersey on an emergency basis. Elizabethtown Water Company's interconnection with Newark has been increased from roughly 15 million gallons a day to 35 million gallons a day.

Delaware water, which would normally have reached central New Jersey through the Delaware and Raritan Canal, can be diverted to northeastern New Jersey via Lake Hopatcong, that is, 25 mgd and the pipeline across the George Washington Bridge -- 20 mgd. These three interconnections total 60 mgd, a substantial amount when one considers that the additional 80 mgd to be provided by the Wanaque South/Monksville project will satisfy the needs of northeastern New Jersey for some time.

Conservation, either through reducing water loss from leaky systems or cutting back on non-essential uses, is the quickest and most cost-effective method of increasing yield from already existing water supplies. Therefore, loans for rehabilitation of inadequate or aging water supply systems were regarded as a high priority. The program is now well under way, even though initial progress was slowed down by negotiations with the State Treasurer on lowering interest rates on the loans or by the red tape involved in processing the applications.

Our Committee has become aware over the past several years that moving water projects forward is not a simple, nor a speedy, matter. Feasibility studies, environmental impact statements, and State and Federal permits require several years to complete. For instance, the New Jersey Water Supply Authority, which was created in 1980 to own, operate, and construct State-owned water facilities, is responsible for two of the projects listed for immediate action. They are the dredging of the Delaware and Raritan Canal and the construction of the Manasquan Reservoir system in Monmouth County. Even though the Authority has fast-tracked both of these projects, the process still takes years. The dredging started in 1982 will be finished by the end of 1985, thus restoring the Canal to its full capacity to bring 100 mgd of Delaware River water to central New Jersey.

In the case of Manasquan, the feasibility study and the environmental impact statement have been completed, and the State permits have been granted. However, the Federal permit process could take as long as another year or two. Even if design could start immediately, the most optimistic projection for completion is 1990, and it could be one or two years more depending upon the length of time needed for Federal permits. In the meantime, ground water in the area is being steadily depleted.

As an aside, I believe that the Authority is looking into dual-tracking the design, along with the completion of the EIS statement that is required for the project.

A unique and valuable feature of the 1980 Water Supply Bond Act was its provision that the funds might be used for basic data studies, rather than being restricted to feasibility studies on

specific projects. For instance, this makes possible the valuable cooperative long-term study with the U.S. Geological Survey on ground water in various parts of the State. Such studies are essential for the optimum management of a finite resource.

In closing, this Committee reiterates its belief, based on its oversight role, that DEP has been moving forward responsibly on implementation of the Water Supply Master Plan and the spending of the $350 million Water Supply Bond Act funds. The organizations that I mentioned at the beginning of my presentation, who have representation on the Committee, concur with this statement.

That is our prepared statement, Mr. Hollenbeck.

ASSEMBLYMAN HOLLENBECK: Were you aware of the Attorney General's opinion dealing with the past debts and that some of the emergency supply projects were not obligations of the Authority?

DR. BUZZI: I have heard that.

ASSEMBLYMAN HOLLENBECK: You have heard that before?

DR. BUZZI: Yes.

ASSEMBLYMAN HOLLENBECK: Do you concur with the question I raised regarding the Authority having separate rates?

DR. BUZZI: I have not followed that opinion. As far as separate rates are concerned, it is my understanding that separate rates could be charged. However, I didn't come here to testify to that one way or the other.

Our role was simply to see if the bond issue moneys that the voters voted on, and which many of our constituent members of the Natural Resources Citizens Advisory Committee pledged themselves and their organizations to support, were being spent expeditiously. Hopefully, through our oversight role here, we can make a similar recommendation should further bond issues be required. That is basically our frame of reference.

As far as the Raritan/Passaic pipeline is concerned, our reference basically for the position we took on that was, we thought we should spend $65 or $70 million on storage rather than distribution. We think the problem in the State is the lack of adequate storage rather than distribution.

ASSEMBLYMAN HOLLENBECK: But, it doesn't necessarily handle the question of inter-basin transfer.

DR. BUZZI: No. As a matter of fact, many of us on the Citizens Advisory Committee are not necessarily thrilled with inter-basin transfer as a means of adequate storage where it is needed.

ASSEMBLYMAN HOLLENBECK: You don't agree that inter-basin transfer is good a management system?

DR. BUZZI: Oh, I think it is a good management--

ASSEMBLYMAN HOLLENBECK (interrupting): But, you disagree with the transfer of moving surplus from one area to another area when there is need?

DR. BUZZI: I think the basic thought was that it is better to provide additional storage with that money in the area where the storage is required, so you won't need the distribution. If, indeed, there are emergency connections to smooth out distribution problems, which are basically rainfall distribution problems, then, of course, that makes plenty of sense. But, with the limited resources we have to work with, $65 or $70 million dollars is not a small amount of money. We thought that storage might be a better answer.

ASSEMBLYMAN HOLLENBECK: You don't agree with the interconnection between Elizabethtown and Newark?

DR. BUZZI: Oh, certainly. Again, that is something which was conceived as an emergency situation when the rainfall situation was different than they would have liked.

ASSEMBLYMAN HOLLENBECK: You don't agree with the Great Notch interconnections?

DR. BUZZI: We agree with all of the above, but you are talking about $5 million or $10 million each, as opposed to an interconnection which may be used only several months a year.

ASSEMBLYMAN HOLLENBECK: You don't agree with the interconnection between the Hackensack Water Company and the Jersey City Water Company in Secaucus?

DR. BUZZI: I will give you the same answer to the same question.

ASSEMBLYMAN HOLLENBECK: Do you agree with Wanaque South and the pipeline that was constructed from Wanaque South to the Hackensack Water Company? Those are all inter-basin transfers. I'm using the broad term of "inter-basin transfer," and I just cited a whole mess of them.

DR. BUZZI: Okay. Yes, we agree with that. However, each of the areas you are talking about basically has its own storage capacity.

ASSEMBLYMAN HOLLENBECK: You don't agree with the George Washington Bridge project? That is another inter-basin transfer.

DR. BUZZI: It is an emergency transfer system because right now the D&R Canal is not functioning. We can basically steal the water from the top of the Delaware.

ASSEMBLYMAN HOLLENBECK: The D&R Canal is an inter-basin transfer, isn't it?

DR. BUZZI: Pardon?

ASSEMBLYMAN HOLLENBECK: The D&R Canal is an inter-basin transfer, isn't it?

DR. BUZZI: It doesn't replace--

ASSEMBLYMAN HOLLENBECK (interrupting): It is not a storage system. It is an inter-basin transfer.

DR. BUZZI: That is right. I just think that the basic purview is the problem of a lack of storage.

ASSEMBLYMAN HOLLENBECK: You can have a lot of problems dealing with storage; you can also have a lot problems when there is not enough watershed area to supply that storage area, can't you?

DR. BUZZI: That is not the case in New Jersey. We have plenty of water falling in the State of New Jersey.

ASSEMBLYMAN HOLLENBECK: That is not what the figures showed as far as rainfall was concerned. It was less than average for a period of time. Didn't it go down over a period of time?

DR. BUZZI: No, no, no. For the yield we can get from the rainfall--

ASSEMBLYMAN HOLLENBECK (interrupting): Generally speaking,

aren't we talking about the ground water level going down and that we can't keep it charged because of shortages of rainfall?

DR. BUZZI: No, you are not short of rainfall. You are short of storage. That is the point I am trying to make. We have a very serious situation of a lack of storage and, hopefully, we can continue with projects such as Manasquan, etc. to get us the storage we need.

ASSEMBLYMAN HOLLENBECK: How does that take care of a problem if you want to move water from an area where they have plenty to areas where they don't have plenty?

DR. BUZZI: Well, I think you are trying to make a generalization out of a statement I made. Specifically in the Raritan project, we support more storage rather than the very expensive interconnection, which is not going to be used on a daily basis. It may only be used for a matter of weeks or months every year. That is a heck of an investment sitting there and not really producing much, as opposed to maybe that kind of money put into a storage facility where you would have the water available for use on a year-round basis.

ASSEMBLYMAN HOLLENBECK: I think it is a mix of both storage and the ability to move that stored water to areas where we want it.

DR. BUZZI: I agree with you on that wholeheartedly.

ASSEMBLYMAN HOLLENBECK: That is good management. That is called interconnections.

DR. BUZZI: I agree with you on that wholeheartedly, but I don't think we are lacking in interconnections.

ASSEMBLYMAN HOLLENBECK: I think you threw out a general statement, and everyone knows that all general statements are bad, including the one I just made.

DR. BUZZI: I think it must be how they are construed also.

ASSEMBLYMAN HOLLENBECK: Thank you very much for your testimony.

DR. BUZZI: Okay.

ASSEMBLYMAN HOLLENBECK: Ladies and gentlemen, that concludes the testimony for today. Of course, the intent is to have another

hearing. We will probably move to the northern portion of the State -- Bergen, Passiac, Essex, and Hudson Counties -- so we can get testimony from some of the purveyors up there.

Thank you very much.

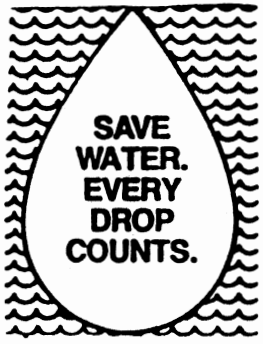
(HEARING CONCLUDED)

APPENDIX

DROUGHT UPDATE ILLUSTRATIONS

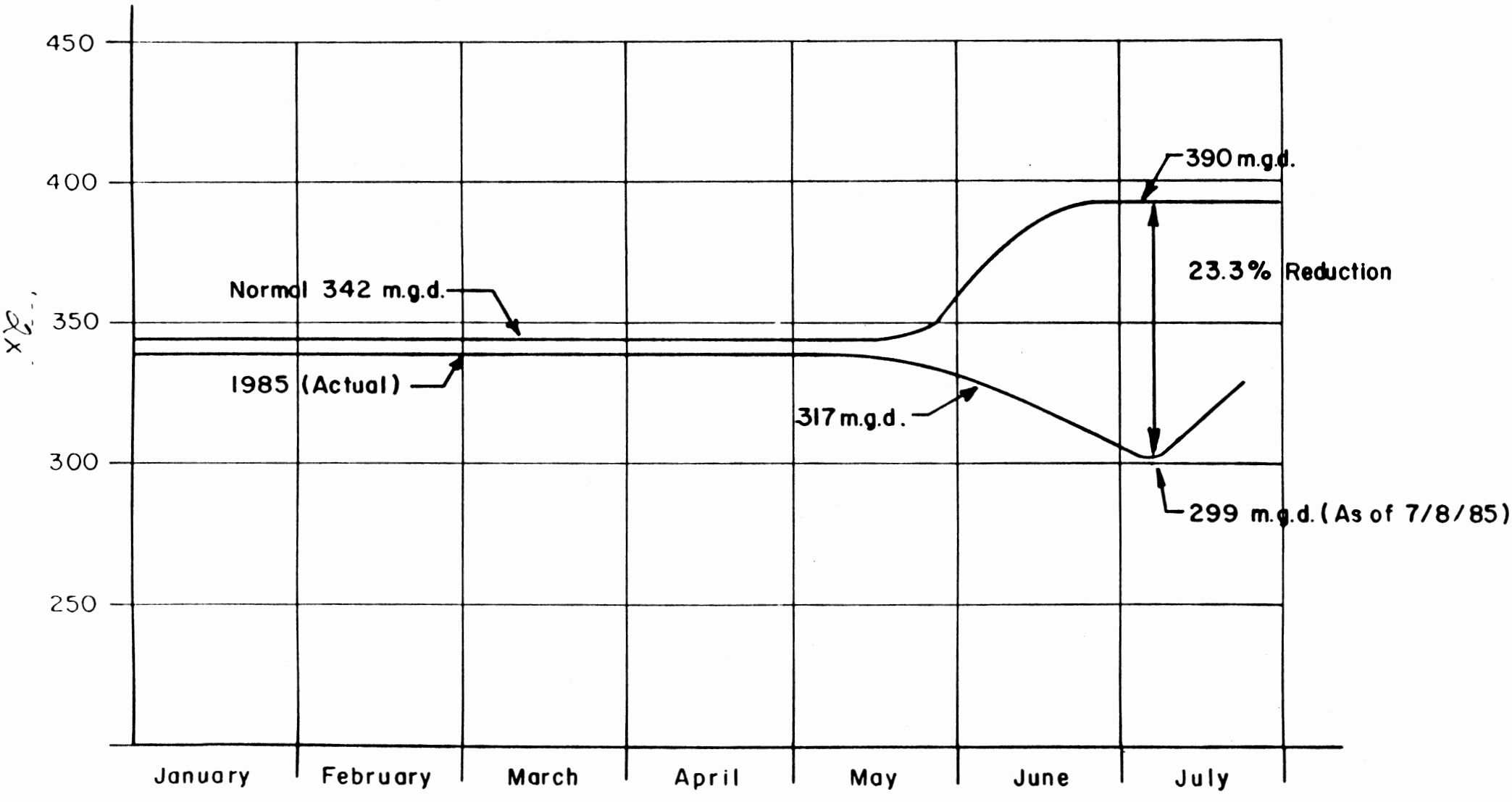
NJDEP

July 31, 1985

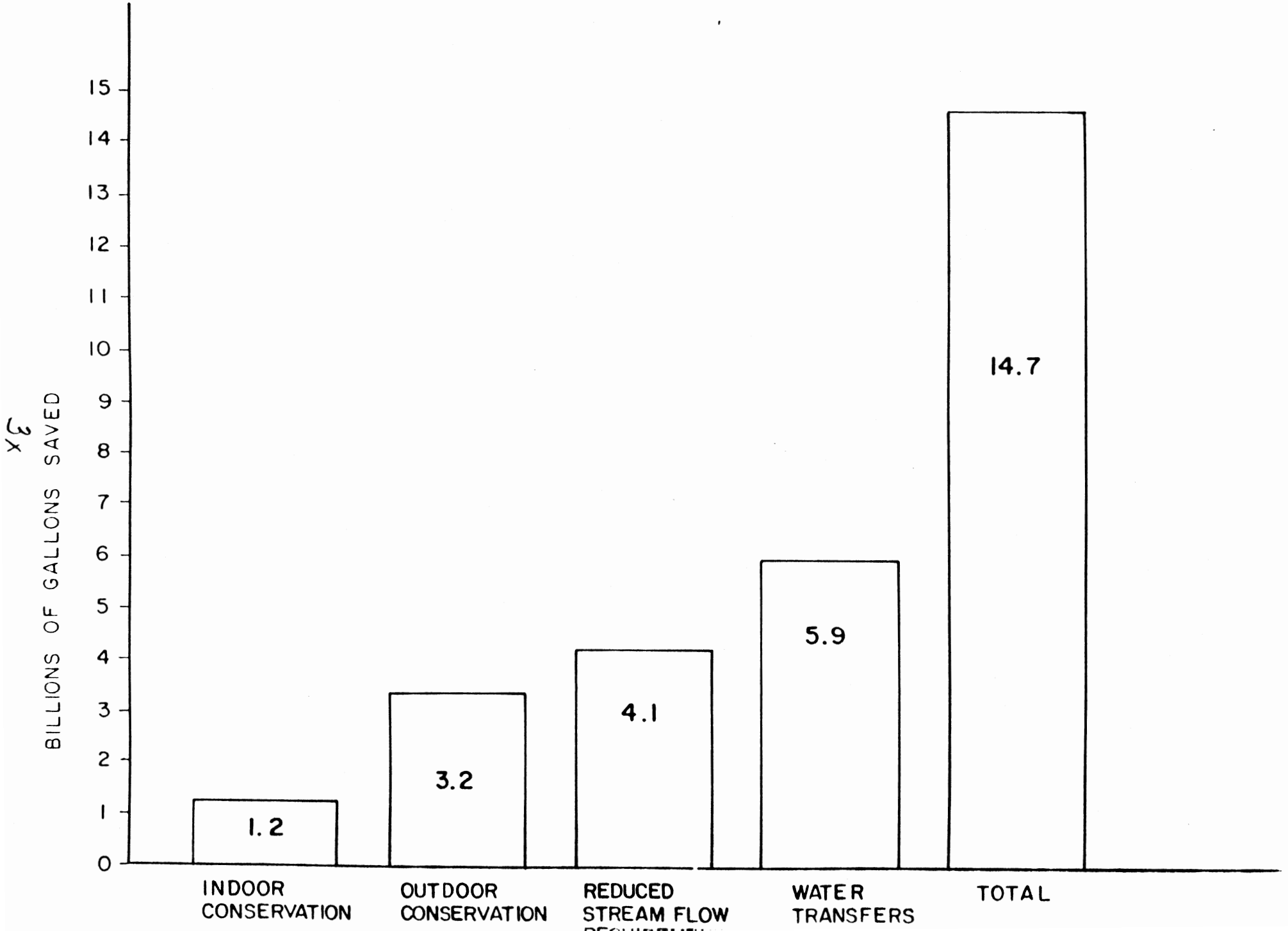


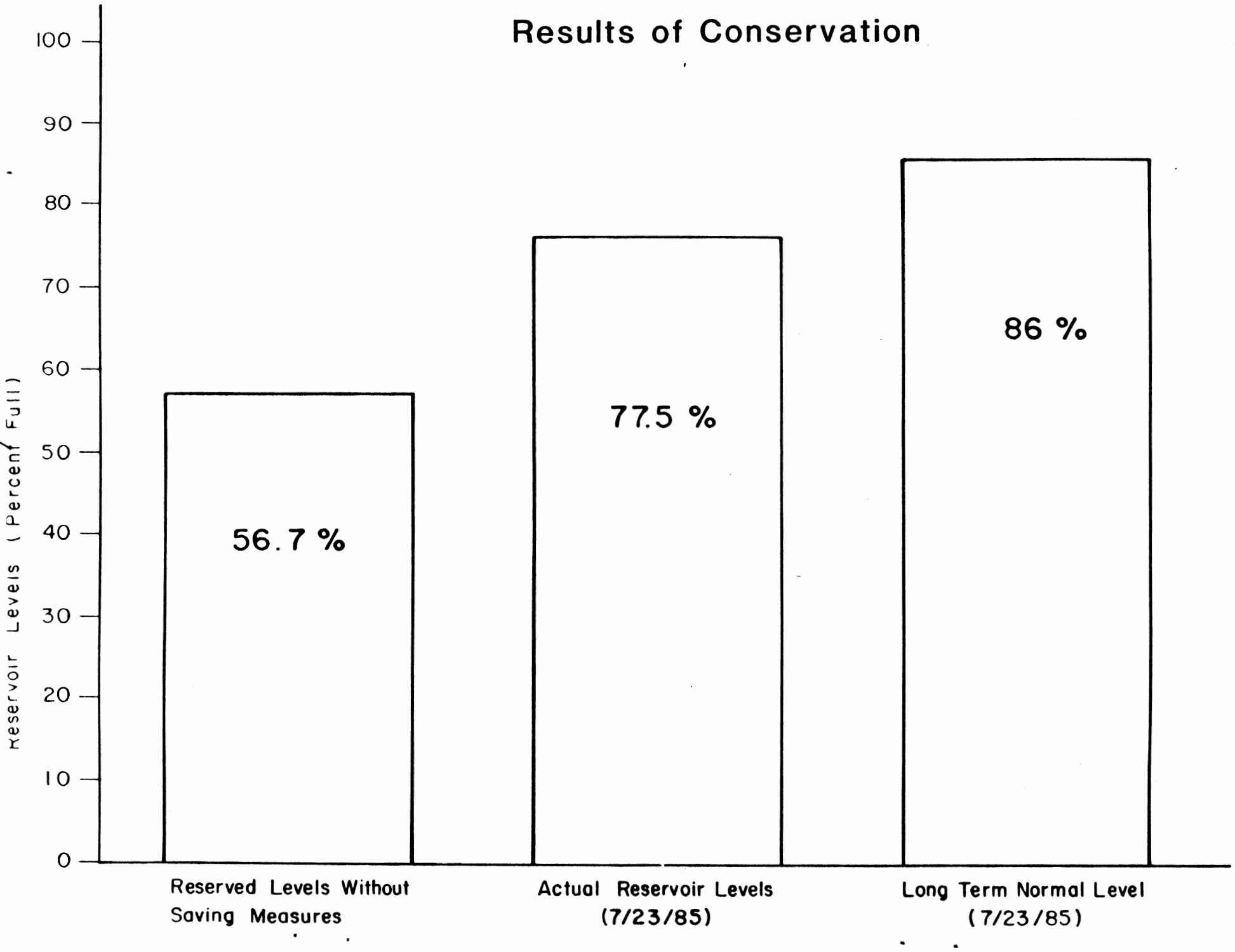
AVERAGE DAILY WATER USE (M.G.D.) ILLUSTRATING CONSERVATION

By Major Purveyors in Northeast New Jersey



Conservation Impact on Reservoir Storage as of 7/23/85




Results of Conservation
100
90
80
70
60
50
40
30
20
10
0
Reservoir Levels (Percent Full)
56.7 %
77.5 %
86 %
Reserved Levels Without Saving Measures
Actual Reservoir Levels (7/23/85)
Long Term Normal Level (7/23/85)

COMBINED STORAGE WANAQUE, JERSEY CITY, NEWARK AND HACKENSACK RESERVOIRS SYSTEMS