Interview with John Boardman
3/13/79
(in Walter Phillips' home)

(WMP: Today is March 13, 1979, and we have with us Jack Boardman and his wife and we're going to ask him to tell us about INCODEL and other related things.)

(BF: He wrote out answers to the questions that we sent to him, and so he handed me these answers. And I'll read the question, and what he'd written down. And then, maybe if you two want to add anything afterward.

The first question was, when did you first become associated with INCODEL and how did that happen?

And he writes.."when it was first organized in 1936. I became an employee September 15, 1943".

What can you tell us about the formation of INCODEL and the forces in favor of establishing it?

"INCODEL was formed in 1936 by the legislative commissions on interstate co-operation of the Delaware River Basin states. When Franklin Delano Roosevelt dedicated the Tennessee Valley Authority, he said if it was successful the government would form other river valley authorities throughout the country. It was planned to have nine such authorities. The council of state governments which consists of the commissions on interstate co-operation of each of the states believed the nine river basin authorities would usurp the rights of the states, as was done by TVA.".

JB: Do you have any further questions to that?

(WMP: Well, who became concerned about this business of the federal government becoming involved?)

JB: Of course, when Tennessee Valley Authority was formed, that area was very depleted. The soils were bad, the forest had been cut off, erosion had taken place, and the federal government, because of the power possibilities there, and for making munitions and so forth in the First World War, came up with Mussel Shoals. So somebody, I don't know who, some federal planning agency developed the idea for the Tennessee Valley Authority.

(WMP: Was Morris Llewelyn Cooke one of those people?)

JB: Morris Llewelyn Cooke was one of them...he was consultant for them.
I think Jim Allen had just gotten out of college at that time, and was working for one of the federal planning groups that was interested in this.

So this thing went through Congress anyway, by Congressional act on the Tennessee Valley Authority. And as I remember it, each department of the government had a voice in operating the Tennessee Valley Authority, and each state had one vote. So by the time you took one vote from the state and one vote from each of the federal agencies, which were about maybe eight or ten agencies...I think there were nine, I'm not sure, but I have that word nine in my mind, and I think there were nine states...I'm not sure.

But they could outvote the states every time anything came up. And that's caused a lot of dissention, right off the bat. This was when the Tennessee Valley Authority was being formed and it was getting the legislation together and everything.

There was a judge from out in ... let's see...Omaha, Nebraska, who had been a senator. He was very much concerned about this because he didn't like this idea of moving into other watersheds, and they started talking about organizing the Missouri River Basin Authority...and then the Columbia River Basin Authority. Judge Stone, I think after he was....

(WMP: Judge Stone was on the United States Supreme Court?)

JB: I don't know whether he was on the Supreme Court or not.

(WMP: There was one.)

JB: There was?

(WMP: I'm quite sure.)

JB: But he had been a United States senator and I think they made him a federal judge anyway...a wonderful man, because I met him on a flight out to Omaha; Henry Ford asked me to represent them with Lloyd Partain. So Lloyd and I went out and Jim told me that Judge Stone was going to be at this meeting in Omaha, and he said, "You look him up. Make yourself known to him".

Well, we had to change planes in Chicago and it was raining terribly hard. We were all just crowded under the airport terminal building, and there was a terrible ruckus there. And the ruckus was Paul Robeson! And he had two or three men with him who were just agitating him and getting him all worked up. And he would stand up on one of the benches and give a speech on communism! And here we were all crowded in; you couldn't get out of the building and you were stuck with
this tirade. And I was standing there and this gentleman was standing next to me and I said, "It's just pathetic what those men are doing to that poor colored fellow". And he said, "Don't you know who that colored fellow is?"

I said, "No". He said, "That's Paul Robeson, the singer".

(WMP: He had a big voice; he had a great voice.)

Oh yes. And he could really talk. His enunciation was wonderful. So finally they called our plane and we got on the plane. This gentleman and I walked out and we sat down together. And I introduced myself and he introduced himself and it was Judge Stone!!

Well, we attended the meeting together in Omaha. It was a meeting on transportation and conservation of natural resources. The basic principle was to get the transportation people and the farmers together, because it was stated that only 23% of all the farm crops produced ever reach the market. The rest are either left in the fields, lost in distribution or processing. So they had all the railroads, all the trucking companies, Chrysler, Ford, General Motors; it was a fabulous meeting!

And Judge Stone was there, and of course, I got to know him over the three days. And when he found out who I was and that I was with INCODEL, then he wanted to know all about INCODEL. And he was one of the people who organized the Council of State Governments. The Council of State Governments asked each state government to set up commissions on interstate co-operation. The various commissions on interstate co-operation would meet two or three times a year. And Elwood Turner, who was speaker of the house in Pennsylvania, was chairman of the Pennsylvania Commission on Interstate Co-operation.

(WMP: He did it a long time, didn't he?)

He died young; he died at 56...it was a shame. He was a wonderful man, And he was the first man to form a sewer authority. He passed the sewer authority laws in Pennsylvania while he was chairman of the state legislature...the house of the legislature. And he formed the four or five sewer authorities in Delaware County in order to get sewerage in Delaware County area, and pollution out of the Delaware River.

(WMP: Did he come from Delaware County?)

Yes, he came from Media...he lived in Media. So he called a meeting at the Warwick Hotel...this was back about 1934, and there was a fellow by the name of David Robinson. He'd been loaned to INCODEL, as the secretary of INCODEL. He
came from the Council of State Government office in Chicago.

(WMP: Well, INCODEL had been formed before this?)

No, Dave Robinson was sent here by the Council of State Governments to organize INCODEL with Elwood Turner and Barrett who was chairman of the Commission on Interstate Co-operation in the state of New York. I don't remember now just who it was in the state of New Jersey.

(WMP: Was Barrett a congressman?)

No, Jim Barrett was president pro tem of the New York state senate, and Raymond Phillips from the state of Delaware was chairman of the Interstate Co-operation. He was a state senator in Delaware. And he represented the state of Delaware.

They all came to the Warwick for this meeting, to organize INCODEL, and Dave Robinson headed it up. And they recruited Jim Allen from this planning agency that he worked with in Washington, as the engineer. So Dave Robinson was the executive secretary and Jim Allen was the engineer, the planner, and they loaned a girl from the state legislative bureau, Norma Rementer. She was with the state legislative bureau. So they loaned her to INCODEL as secretary. And they had no offices, so Elwood Turner put the bee on Pennsylvania Railroad and Pennsylvania Railroad gave them office space free...over in the Broad street station building...the new Suburban Station Building. That was just built; I think it was just being finished up around '34, or something like that.

Well, there used to be meetings and the first committee that was formed was the committee on pollution abatement. And the committee on pollution abatement consisted of the chief engineers of each of the four state health departments...the pollution abatement division of each state health department. And they would meet once a month to establish the INCODEL pollution abatement program. And we were...my father was in hydraulic and sanitary engineering, and a number of other engineering firms and equipment firms financed these meetings. The only money they had was really, contributions the first year or two...until...the state of Pennsylvania...they only had an appropriation every two years, I think. So none of the other states would make any appropriations.

(WMP: They were asked to, but didn't. Is that it?)

Well, what happened was, the Commission on Interstate Co-operations put appropriation money into their budgets, and INCODEL was financed by the Commissions on Interstate Co-operation of each of the four states...by contributions from those commissions.
(WMP: Who were the big leaders in this whole effort?)

Well, Elwood Turner, Ray Phillips, Jim Barrett...there was a Duane Barnard of New Jersey, a lawyer in New Jersey. I think he had been in there; I don't know really what his connection was...I don't remember.

(Mrs. Boardman: Wasn't he in the state legislature at one time in New Jersey. I think it was after that...it might have been during that time. It was my impression that he had been...either was with, or later was in the state legislature.)

His son followed in his footsteps.

(WMP: How did Bill Schnader get into here?)

Well, let's wait to where you get to that on the next question.

(BF: The question was, what were INCODEL's goals and how was it financed?)

Well, of course, its goals primarily...its primary purpose was to clean up the Delaware River which was a mess.

(BF: Why was it a mess?)

Pollution. Everything just went into the river.

(WMP: There were sewage treatment plants at all?)

Well, the city had built an Imhof tank at the northeast plant in 1918. And that was the only plant...in Philadelphia then.

(WMP: And that could only serve a small part of the city.)

That was a very small part...up in the northeast section where most of the industries were. And then, Mr. Grundy, who was from Bristol.....the Dorrance brothers owned the water and the sewer company in the borough of Bristol. So when the river got so bad, Mr. Grundy wanted it cleaned up and the Dorrance people wouldn't spend any money to put in a sewage treatment plant in the borough of Bristol...and they would not spend the money to put in a water filtration plant.

So Mr. Grundy had borough council condemn and take the plant and he bought them for the city...and gave them to the city...to Bristol...the borough of Bristol. And he instructed my father to design the most modern water purification plant, the most modern sewage treatment plant that could be built. And he built them and he paid for them...and gave them to the city...Borough.
So the borough of Bristol came in. And then across the river, the city of Burlington built a plant. And then that ended it...because nobody would finance a plant. And that was INCODEL's purpose...to pressure these municipalities into putting in sewage treatment plants.

(WMP: Who were the staff at that point at INCODEL?)

Well, Jim Allen was the staff, but the moving factors were the four chief engineers in each of the state health departments...which was the INCODEL pollution control committee. And it was these people who would bring orders against these towns...cities...to abate pollution. And then they'd cite them to the attorney general's office and take them to court.

(WMP: Jack, I don't think, for the record, we've made clear what INCODEL stands for. What was the name derived?)

It was the Interstate Commission on the Delaware River Basin. I-N-C-O-D-E-L. We just took the first couple of letters of the Interstate Commission on the Delaware River Basin, and nicknamed it INCODEL. Everybody knew it as INCODEL. Most people didn't know what INCODEL stood for.

And of course, they got wide publicity, because of all these cities being cited before the attorney generals...being taken to court. One of the first and biggest was the city of Camden. INCODEL, through the New Jersey Department of Health got a citation against the city of Camden in which the court said,"You can't spend any money for public improvements until you've put in a sewage treatment plant".

It was illegal for them to issue a bond issue for anything but a sewage treatment plant.

They got to be a real powerful committee...those four men...working with Jim Allen and Dave Robinson. And it was in...and then they formed the water quality committee, which consisted of the chief engineers of each of the four states...were supply agencies. And that was the committee that Dave wrote a law that never made it passed into legislation...and I might say the water quality committee...there was a law written in each state and passed by each state legislature. It was what they called reciprocal legislation; the same law was passed in each of the four states, which made it legal in all four states.

(WMP: That's Pennsylvania, New Jersey...)

New York and Delaware. And they divided the river into zones, similar to the same zones that are in existence today. And they wrote water quality standards, where discharge of any waste into the river in any of those zones...and of course,
the further up the river you got, the higher the requirements were for treating of waste. And that became almost a national standard. And it's an outstanding pollution abatement law. And it held up in the courts too.

So they formed a water quantity committee...same type of a committee...with four chief engineers of the water resources departments of each state. And they wrote a similar law which said that if you wanted to divert water out of the stream, you could divert water out of the stream, but you had to build enough capacity into the reservoir to make low-flow releases, so you wouldn't dry up the stream during drought periods.

Now that law was written and it was passed by all the states, but the law had to be certified by the secretary of state of each state, that these three other state laws were substantially the same as the state law each state passed. And Old Goldstein, in New York, would never submit it; it had been passed by the legislature, signed by the governor, but he would never submit it. He was attorney general...he'd never submit it to the secretary of state for certification.

So the thing...The law was based on Oliver Wendell Holmes' decision in 1931...Supreme Court case in New York, New York City, state of New Jersey...and in which Pennsylvania intervened. And that went to the United States Supreme Court. And the Supreme Court ruled that New York had filled the reservoirs in the Delaware. But that each reservoir had to have the capacity to make low-flow releases, to maintain the flow in the river at Montague.

Now, when Pennsylvania intervened in that case, that's when the Schnader law firm was appointed to represent the state of Pennsylvania. And William H. Schnader handled that case himself...the 1931 Supreme Court case. That's how Schnader came into it...as legal representative of the state of Pennsylvania.

I guess it was 1954 that New York came back for additional water out of the Delaware. No, wait a minute...it's in there, I think; it would be under question 5...where William A. Schnader...what role was played by William A. Schnader.

(BF: How about if I read this whole answer to question 5.

It says,"If I'm correct that there was a proposal to have Philadelphia's water supply come from the Lehigh River Basin, would you describe that plan and tell who were the authors of that plan and what was the role played by William A. Schnader".)
And you wrote down..."about 1945, Philadelphia had to make a decision whether to upgrade its water purification plants or find a better source of water from the upper Delaware. The Herring and Fuller of 1884..."

Herring and Fuller...they were two prominent engineers. They were employed by the city of Philadelphia in 1884 to study a future water supply for the city of Philadelphia. The Herring and Fuller report of 1884 suggested a number of upland sources of supply. One of them was the Lehigh River and one was taking water out of the Delaware River at Point Pleasant and bringing it down to Philadelphia.

(WMP: By the canal?)

Well, the canal at that time was not owned by the state. It was owned by the Delaware Canal Company.

(BF: "The Herring and Fuller report of 1884 had recommended, among other sources, a water supply from the Delaware River at Point Pleasant. The report, if I remember correctly, also considered, among other sources, a supply from the upper Lehigh River. The Lehigh Coal and Navigation Company maintained it owned the water rights of the Lehigh River, under legislation passed about 1830, when the state developed the canal system to haul coal from the mines to the cities. The legislation authorized the canal companies to use the water for navigation and production of power.

When these uses were no longer performed, the rights reverted to the state. The Schuylkill Navigation Company returned the property back to the state about 1945, but the Lehigh Coal and Navigation Company, which had taken over the Lehigh Navigation Company, maintained they owned the water of the Lehigh River and tried to sell these water rights to the city of Philadelphia as a source of water.

INCODEL had John Murdoch, Esquire, make a legal research of the situation. Murdoch wrote a brief which denied the Lehigh Navigation and Coal Company's claim. William A. Schnader, Esquire, was counsel for the commonwealth of Pennsylvania in the 1931 New York-New Jersey water supply case before the U.S. Supreme Court, in which Pennsylvania asked to intervene.

I believe he and his law firm also represented Pennsylvania in the 1953 Supreme Court case, when New York petitioned to increase its diversion from the Delaware, from 440 m.g.d.* to 800 m.g.d."

(WMP: Jack, the Murdoch you speak of...there was a Frank Murdoch...)

Frank Murdoch...that's the fellow. I couldn't think of his

* million gallons per day
first name, and I don't know what law firm he was in.

(WMP: He's in what is now Dilworth's law firm...Dilworth, Paxon and Kalish...and Green.)

Is he still alive...Frank Murdoch?

(WMP: Yes...well, he was a year ago; I saw him then.)

Well, he did that legal deal for INCODEL, in which he denied that Lehigh Coal and Navigation Company owned the waters of the Lehigh River. He said that when they stopped using the canal, it reverted back to the state. And it was on that basis...on his arguments...he'd gone back and gotten out all these old laws...that when INCODEL and the Corps of Engineers and the state of Pennsylvania cleaned up all the coal silt out of the Schuylkill, it was then that the Schuylkill Navigation Company turned all their land and all that...back to the state. But the Lehigh didn't. I don't know what the status of that is. That would have to be looked into.

(WMP: As of today.... Well, Murdoch's still alive and around...and there are still other people over there in that office that probably worked on it....like Bill Strauss is over there.)

(BF: When did INCODEL work out the agreement between Pennsylvania, New Jersey and New York on their respective rights to draw water from the Delaware River?

Shall I read what you wrote first?)

Yes, maybe you better had, because there may be some question about this answer.

(BF: Well, you have written..."When it became apparent that New York City was going to ask for more water from the Delaware and New Jersey was going to need more water from the Delaware, then the Delaware Raritan Canal could supply to northeastern New Jersey and Philadelphia, and the southeastern counties in Pennsylvania were going to need additional water from the Delaware, INCODEL asked the respective state legislatures for an appropriation for a comprehensive study to resolve the problem.

In 1949 the legislatures of New York, New Jersey and Pennsylvania authorized INCODEL to prepare a plan for the control and development of the Delaware River Basin.

Perney and Friel Report)... Malcolm Perney and Frank Friel...they were the two engineers that made the INCODEL study and report...the Perney-Friel Report for the comprehensive water supply for the Delaware River Basin. That resulted in the Walpack Bend...the
proposal.

(WMP: Do you want to tell what that proposal was?)

Well, generally speaking...I might be able to dig out a summary or something on this and send it to you, but gen­erally speaking, it permitted New York to build the Cannonsville Reservoir, and take the additional water...from 440 to 800,000,000 gallons a day. New York didn't want to do that. They were not getting the water through the Delaware Tunnel that they were supposed to get.

(WMP: This is a tunnel from the Delaware River going across from New Jersey to New York City.)

...across New York State into New York. The Perney-Friel Report proposed that this water supply commission, Delaware River Water Supply Commission, would build the Cannonsville Reservoir and would build a low-diversion barrier at Narrowsburg...I guess it was above Hancock...which would divert water from the Delaware River over into a reservoir near Ottsville, New York. And that was a big reservoir.

And then there would be a tunnel in that reservoir, which would go across northeastern New Jersey, and into New York City...across northeastern New Jersey, and into downtown Manhattan Island. That would supply water...I think it was 250,000,000 gallons a day to northeastern New Jersey, and the additional 440,000,000...because New York was to get 800,000,000 a day. They needed authorization for 440, so they had four hundred and forty more coming to them...coming out of the Cannonsville Reservoir.

But the Cannonsville Reservoir would not be built until after the tunnel from the Ottsville Reservoir into lower New York Manhattan, and feed all the New York area from that tunnel...that way they could shut down the Delaware Tunnel and get in and repair it because their studies had indicated that that tunnel...part of the tunnel had collapsed. And they were not able to get the water through that it was designed to take.

Now New York was willing to go along with INCODEL on this water supply for that reason. It would have given New York two tunnels. One went down and they would have the other as reserve. It had, but so far as I know, I don't think they've been able to shut it down yet.

So New York City Board of Water Supply was very much in back of this program. There were 250,000,000 gallons a day to New Jersey...New Jersey was in back of it because, although the Supreme Court had authorized it....the 1931 Supreme Court had authorized 100,000,000 gallons per day through the Raritan Canal. They never did get it. You couldn't get...even today, when they made the opening of the bridges and all the conduits bigger, they're not getting more than 75 or 80,000,000 through
it now, although they've got authorization to take 100. But they've never been able to get 100,000,000 through it.

(WMP: Is there a tunnel in New York State itself?)

No, this is northeastern New Jersey. You see, under the New York Supreme Court decision in 1931, New Jersey was allocated 100,000,000 gallons of water a day out of the Delaware, without releases, based on the premise that they had been given the right to take the water through the Delaware and Raritan Canal, back in the 1830s. So they had a preemptive right to that water. So the Supreme Court recognized that as being 100,000,000 gallons a day. New Jersey asked for...I think around 200,000,000, because they figured they'd get authorization to take it. But as I say, even today, they can't get over 80,000,000, so they never got 100,000,000 or even 200. They had a pretty sharp pencil when they did the calculations.

So this INCODEL plan gave them 250,000,000 gallons a day into northeastern New Jersey, from this tunnel. And then it provided for low-flow releases from Wall-Pact...then, which would have maintained 4200 cubic feet per second, minimum flow, at Trenton...from which the area around Trenton and that area would get an additional 100,000,000 a day, I think it was, and there would be water for, of course, the city of Philadelphia and the surrounding counties of the city of Philadelphia.

(WMP: Were the rights of Philadelphia defined as a certain amount of flow, or how was that done?)

No, this minimum flow of 4200 cubic feet per second would allow Philadelphia to take what water it needed, treat it, and put it back in the river again. You see, that was what they call a temporary diversion. Now a permanent diversion is one where the water is taken out of the Delaware River Basin into New York City and goes into the Hudson...back into the Hudson River. It's gone; it doesn't come back. So the New York diversion and the New Jersey diversion...northeastern...they were both permanent diversions. And that's where the low-flow releases for maintaining the 4200 cubic feet at Trenton, would come from those reservoirs...which met the requirements of the 1931 Supreme court case.

(WMP: Those reservoirs are still in operation, I presume.)

The New York reservoirs are in operation now. The new commission, through agreements with the Corps of Engineers...the Corps of Engineers have built several reservoirs and have built in water supply and low-flow releases into those reservoirs...for the Delaware River Basin Commission, which the states pay the interest and amortization of the portion of those reservoirs that the Corps of Engineers built into them, over and above the flood control.
(WMP: How recently were they built...these reservoirs that you're speaking of?)

Oh, I think...since the commissions been formed.

(WMP: The present Delaware River Basin Commission?)

The present Delaware River Basin Commission has...well, I'd have to look it up...there's one up on the Lehigh, one on the Reading...I think on the Tulpehocken Creek...that may be just under construction now; I'm not sure. But...what's the one we used to stop at when we came down...up around New Hope....that was the first one built. But the Delaware River Basin Commission is.....

(WMP: These are all on the streams coming from the....)

From tributary to streams....which gets us ahead of one of your questions.

(Mrs. B.: That wasn't on the Naskahomy, was it?)

No, that wasn't on the Naskahomy. Naskahomy was the creek we did the stag dust studies on....I'll think of it.

(BF: Why don't you talk about the flood and why that was significant.)

Well, I couldn't put my fingers on my flood file. The thing is people borrow things from me, and never give them back. And I couldn't find my file on the floods in the Delaware River and I looked. But the '55 flood was; I think the answer to that was...

(BF: "It was in August 1955 that Hurricane Diane hit the Delaware River Basin. The Corps of Engineers had just finished their review of the 308 Report, which had not considered floods in the Delaware Valley a serious problem. INCODEL had the U.S. representatives from the Delaware Basin states submit a resolution to Congress which called for the Corps to review their report, in view of the results of Hurricane Diane." I guess that was a fairly devastating flood?)

Yes.

(WMP: People suffered a large loss.....$100,000,000 in damages.)

Over a $100,000,000 in damages.

(BF: "Their report was returned to the division engineer for review. INCODEL also intensified its efforts to have flood control projects constructed in the Lehigh, Brandywine, Lackawaxen and other watersheds in the basin where floods..."
had been a problem. In 1972, Hurricane Agnes hit the Susquehanna, Schuylkill and Lehigh River Basins. This also intensified the program for a re-study of the Schuylkill Basin recently done by the Corps of Engineers.

Now, that's off the top of my head because I couldn't find my file to have a reference to it.

(WMP: Well, all the materials on that that INCODEL had in its office, are they now in the Delaware River Basin Commission office?)

They're up in the Delaware River Basin Commission. Everything that INCODEL had was moved up to the new commission.

(Mrs. B.: Except what Mrs. Jordan destroyed.)

Except what Theresa Jordan decided was not of interest to the commission and she chucked an awful lot of it out.

(Mrs. B.: Their librarian came down to the INCODEL office.

She had no conception of the value of a lot of the stuff that she threw away. Jim and I, after she would leave, we'd go through more of the waste paper baskets, and load them up into cardboard boxes and take them home with us. Now, of course, Jim got first choice; he was the top guy. And....

(WMP: Jim died not so long ago.)

Jim died; both he and Alice are dead now.

(WMP: How long ago did he die?)

About seven or eight years ago. He died of emphysema. He had a very horrible death. Jim offered to sell all his stuff to the commission. And the commission was in a mind to buy it, but he asked more than they thought it was worth. So he had it in his basement. And when he died, his son got it. His son's an engineer. He graduated from Villanova. He worked for Sam Baxter in the Philadelphia Water Department for a long while.

I met Jimmy.....oh, maybe a year or so ago......or two or three years ago......and I asked him......I said, "Jimmy, what'd you ever do with all the stuff your father had on INCODEL?"

He said, "Oh, I guess it's still down in the basement"!

"Well, what are you going to do with it?"

Well, he says, "Do you want to buy it?"
And I said, "No, But the Delaware River Basin Commission ought to have it. Rather than let it stay down in your basement and get moldy, you ought to talk to them. I think they might be of a mind to pay you something for it".

But he had all the bound copies of the reports and everything. Most of the stuff that I have are the work-up material.

(WMP: Well, I'm not sure we've talked as much as I'd like to get from you...the proposal that Mr. Schnader seemed to be the spokesman for, in regard to getting water from the Lehigh River for the city of Philadelphia, by means of the I think it was a pipe or a tunnel that led to the city.

What happened?)

Well, when INCODEL came up with the INCODEL project, which I have just described, the Lehigh people, they don't know whether they formed water supply corporations or something, but anyway....

(WMP: They claimed that they owned the water, didn't they.)

They claimed they owned the water. Now they had a report written on the water supply from the Lehigh and they submitted that to the city of Philadelphia to get the city of Philadelphia to buy....I don't know who made that report, and I haven't been able to find any reference to it, who made it or what it was all about...in my files. Now, they may have copies of that report up at the Basin Commission. I would presume they would.

(WMP: Well, remember the Bureau of Municipal Research...well, Buck Sawyer was the executive at the time. He looked at the water supply problems of the city. And he was looking into the question of whether it would be better for Philadelphia to pipe in water from the Lehigh, which is what I think you proposed by INCODEL at the time, or whether it could be taken right out of the Delaware at Torresdale, if they would put in more adequate treatment.)

Water treatment, that's right.

(WMP: And that was what was done, as I remember.)

Well, of course, the INCODEL program provided this minimum flow at Trenton of 4200 cubic feet per second, which was a diluted....the water at Hannew River and made it a much better water to treat.

Now, the Lehigh River water, where it comes into the Delaware, isn't really good water...for water supply.
No, but there were some streams, I guess, that had been flowing into the Lehigh, which they might have gotten some pretty good water from.

Well, you had Bear Creek, which was developed by the city of Bethlehem. And Bethlehem wasn't for having the Lehigh River water piped into Philadelphia. Allentown and Bethlehem...that area was against that 100%.

(WMP: I see. So that was just a pie-in-the-sky.)

*** Interruption due to changing of the tape ***

(WMP: Committee was composed of the water resource people of the four states and the city of New York and the city of Philadelphia.)

That was when Jim Kerney was on it.

(WMP: Kerney was on it, yes.)

But this DVRB is not right. That should have been Delaware River Water Resources Committee. Wasn't it?

(BF: No...no. Delaware Valley....)

(WMP: Advisory Committee; that's what it was called.)

Advisory Committee on water resources....Delaware River Basin.

(WMP: They had no power; they were just advisory.)

See, the Delaware Valley Water Resources...there's a Delaware Valley Water Resources Association. And Delaware River Basin Water Resources......

(WMP: Yeah, yes, there is.)

I wasn't quite sure what this DVRB was; I assumed it was the advisory committee.

(WMP: Well, the advisory committee went out of business when the Compact was enacted.)

Yes.

(WMP: But there is an association...Water Resources Association which is still going.)

Yes, that's what Paul Feldman's doing.

(WMP: Yeah, right.)
Yes, I work with Paul occasionally.

(BF: Why don't we skip down to question 10 then, because you did write a little something about that.

Did INCODEL concern itself with the tributaries of the Delaware, such as the Lehigh River, the Schuylkill and the major creeks which flow into the streams?

And you wrote, "Yes, INCODEL did concern itself with the tributaries or sub-tributaries in the entire basin. Because of limited financial resources, it endeavored to establish watershed organizations, conservation districts, and land management organizations to work for and manage the various watershed management projects required."

(WMP: Is there a question asked whether you did work on the Schuylkill?)

Yes, we were responsible for the legislation and the appropriations....that's $35,000,000....for removing the silt.

(WMP: Judge Ladner's project.)

That was Judge Ladner's....he was the Schuylkill River Restoration Association.

(WMP: That's right; he was a big noisy guy!)

Yes. And he was in the legislature then...

(WMP: Then became a judge.)

And later, after he got out of the legislature, he became a judge. But he was all in favor of this cleaning up the Schuylkill River. And then INCODEL got in back of him and we got the appropriation through in the Martin administration. And then, they appointed....put it in the hands of the Department of Forests and Waters....Water Resources. And they messed around with it for two years, and they had appropriations... for two years, appropriation of $5,000,000. And so they weren't getting anywhere. So INCODEL put me onto it, and Kell, Jim Kell was secretary of forests and waters then. And INCODEL loaned me to the Department of Forests and Waters as the project engineer on the Schuylkill River cleanup.

(WMP: How do you spell Kell's name?)

K-E-L-L. So I got up there and I opened an office in Philadelphia and one in Reading. And I hired engineers. I got things really moving.

(WMP: You really were in charge of it, then.)

I was in charge of it, yes.
Well, that was only the beginning. But I needed some good designing engineers. And I got a fellow who taught hydraulics and dam design from Tufts University. His home was Reading and his family lived in Reading and he was willing to come to work for me for...oh, $3,000 a year less than he was making teaching because he was spending that living away from home. And he would be home in Reading with his family.

So I hired him. And then, Governor Martin, well the condition I took the job was that I could hire and fire, without....

...political...I said, the minute I have to clear with the county chairman, or anything....see, I had been in politics.

So, when I got into this haggle, I needed real men that I could depend on, because I was ready to award contracts. I was ready to award the contract on the dredging of the Black Rock Dam above Phoenixville.

And I had nobody....if I had awarded a contract, I'd have nobody to supervise it; I would have been at the mercy of the contractor...who would have taken the state like Grant took Richmond. So I had been having trouble getting this engineer that I'd hired from Tufts. The Republican County chairman started bugging me. I had to fire him! He hadn't been approved! He hadn't passed any examinations!

So finally we stopped his paychecks.

And...they didn't really stop them...what they did...was...his check came down and there was a note pinned to it that if I wanted to keep him, I'd have to pay him myself...that this was the last paycheck.

So I went up to see Governor Martin...Elwood Turner and I. I said, "I think this is the wrong way to handle a job".

He backed me up and then he said, "Well, you people study it; you know more about it...and make some recommendations".

So Duff came in after Martin. Of course, Duff was Martin's attorney general. And I got along fine with Jim Duff. So then we recommended that there'd be turning the work over to
a group of consulting engineers to do the design and the contract and everything.

(WMP: You poke the stuff through a great big steel whatcha-callit?)

Steel pipe.

(WMP: Yeah, but the things'd be about this big around, wouldn't they?)

No, they weren't great, because you had to keep the pipe as small as possible, because you had to keep the velocity moving fast enough to...ever...it had to flow through the pipes about three feet a second, or it would sit in the pipes. And you had to pump 16 cubic feet of water for every cubic foot of silt that you moved.

(WMP: It's a wonder you didn't drown South Philadelphia with all that water!)

Well, we started up around Schuylkill Haven and up Tamaqua.

(WMP: You did it all the way down.)

We did it from Tamaqua all the way down. And we had these silt basins all along, where we pumped the water and the silt and the silt settled out and the water ran back into the river, and...I don't know...there must be at least 20 of those basins up there that have...oh, 50 or 60% fine coal.

(WMP: Did you not also put some of that stuff down into Eastwick?)

That was the Corps of Engineers that sponsored all that. The state cleaned everything from Norristown up to Auburn...about 83-84 miles.

(WMP: Whoever had that idea sure made trouble for the airport, because it made no base for the...heavy...it all had to be removed again, so we could build an airport there.)

But the Corps of Engineers pumped...well, they took some at Norristown...below Norristown...and filled up Shawnee Valley and Fairmount Park and stuff like that...where they could find a place to put it, but they pumped the most of it down into Eastwick.

Now that could be stabilized.

(WMP: Maybe it has been; I don't know.)

It might be costly.
Well, a lot of houses have been built down there in that area, so I think something must have been done.

Well, I think a lot of those...those housing developments and all...down at that side of the airport..... I think caught a lot of that material.

But gosh, that's all 50% coal...you could reclaim the coal out of it; it's pulverized coal!

(WMP: Well, did they manage to do that?)

Lehigh Coal and Navigation has the basic patents on reclaiming the coal from the silt, and ....oh, when was it we put the Penn Oil pipeline across the Schuylkill? Was that three years ago?

(Mrs. B.: You mean the last one or the first one?)

The 18 inch...the big one.

(Mrs. B.: The 18 inch? Oh, that's about four years ago.)

About four years ago, we came through the silt basin at Crombie.

(WMP: Yes, there must have been quite a few basins like that, weren't there?)

Oh, I think there ....this is off the top of my head, but I think....between 20 or 30 of them. They all have anywhere from 1 to 5,000,000 cubic yards of coal and silt...most of it runs about 50% coal.

(WMP: Isn't there a company that takes that silt and turns it...)

There's one company that's doing it now.

(WMP: ....into briquettes for outdoor.....)

(Mrs. B.: Charcoal briquettes...for barbeques.)

(WMP: Actually it's coal, isn't it?)

Well, of course, Lehigh Coal and Navigation Company sold it to Pennsylvania Power and Light. Pennsylvania Power and Light burned it under their boilers at Martins Creek and out near Steelton...

(Mrs. B.: They mix it with pine oil or something.)

Yeah, when the patent....they mix the silt...first you run it through a Chance comb, which separates it out...a lot of the bigger slate...and the bigger sizes of coal, like rice
and buckwheat. Then they mix it with a mixture of pine oil and fuel oil. The coal takes a coating of the pine oil. Then they stir it all up with air and paddles and make a froth out of it, and the fine coal becomes part of the froth. And then they skim that off and de-water it.

(WMP: They use centrifuges, I guess, to de-water them, do they?)

Yes, after they run them through what they call a vacuum...pulls the bigger part of the water out. Then they run it through centrifuges, but they bring it down to 12% water. It has to be around 12% or less, and then when it's blown in under the boilers, the fuel oil ignites first, and then burns the coal. It burns at a much higher temperature than just fuel oil alone, or coal alone.

What next do we have here. Anything else?

(WMP: Well, you're nice to stay so long and tell us so much.)

Now, your last question, I wrote something a little facetious.